8-2024

Development and Validation of an Integrated Multidimensional Perfectionism Scale for Use in Multiple Contexts Using Item-Response Theory

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DEVELOPMENT AND VALIDATION OF AN INTEGRATED MULTIDIMENSIONAL PERFECTIONISM SCALE FOR USE IN MULTIPLE CONTEXTS USING ITEM-RESPONSE THEORY

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

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College of Education and Behavioral Sciences
Department of Applied Psychology and Counselor Education
Counseling Psychology

August 2024

This Dissertation by: Jordan Lynn Martell

Entitled: *Development and Validation of An Integrated Multidimensional Perfectionism Scale for Use in Multiple Contexts Using Item-Response Theory*

has been approved as meeting the requirement for the Degree of Doctor of Philosophy
in College of Education and Behavioral Sciences in Department of Applied Psychology and Counselor Education, Program of Counseling Psychology

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ABSTRACT

Martell, Jordan Lynn. *Development and validation of an integrated multidimensional perfectionism scale for use in multiple contexts using item-response theory*. Published Doctor of Philosophy dissertation, University of Northern Colorado, 2024.

Perfectionistic tendencies have increased substantially over the past 30 years (Curran & Hill, 2019), with additional noticeable increases of both perfectionism and mental health issues since the start of the Covid-19 pandemic (Flett & Hewitt, 2020a). Considered a transdiagnostic process that significantly impacts clinical treatment for a wide array of mental health concerns (Limburg et al., 2017), limitations of current perfectionism measurement necessitate the creation of a scale that can inform prevention and intervention as well as further our understanding of this phenomenon. The purpose of this study was to develop and provide initial validation for a new perfectionism measure that has utility in both clinical and research settings. An initial item-pool was generated though focus groups, expert review, and theoretical considerations. Participants (N = 500) were recruited from an online crowd-sourcing platform (www.prolific.co) and both Classical Test-Theory and Item-Response Theory analysis were utilized to develop the scale and provide initial support for its reliability and validity. Thus, the 30-item Multidimensional Therapeutic Assessment of Perfectionism (MTAP) incorporating five core facets of perfectionism was created based on the integration of the 2 X 2 Model of Perfectionism (Gaudreau et al., 2018) and the Comprehensive Model of Perfectionistic Behavior (Hewitt et al., 2017). Results provided initial support for strong reliability and validity as well as measurement invariance across gender, race/ethnicity, and sexual orientation. Implications for counseling

psychologists in both research and clinical practice are discussed, as well as limitations and directions for future research.

ACKNOWLEDGEMENTS

I would like to express my gratitude and appreciation for the following people who have been instrumental throughout my journey to completing my dissertation and PhD First, I am extremely grateful to my advisor and dissertation chair, Dr. Stephen Wright, for his continuous support, guidance, and mentorship over the past 7 years. Thanks should also go to my dissertation committee for their positivity and thoughtful insights into my research. Additionally, I am deeply indebted to Dr. Angela Vaughan and her unwavering mentorship and support as I pursued my passion for teaching and research. I would also like to acknowledge the invaluable supervision and guidance I received from Dr. Marybeth Hallett while completing my internship as well as the mentors who helped me build the foundation on which I built my professional career: Dr. Stephen Dine Young, Dr. John Krantz, Drs. Bill and Ellen Altermatt, and the broader Hanover College community.

I could not have undertaken this journey without the love and support of my husband, Liam, without whom I would not be here today. To our furry family (Tonks, Dr. Watson, Loki, Luna, Nebula, and Iroh) and to the family we found along the way (Kelsey, Ashley, Caroline, and Emily) for gifting me with an endless supply of love and laughter. My deepest gratitude to Katie and Kristin for helping me connect to my Self and love all of my parts. A special thanks to Chris, Morgan, and JP for making internship bearable (and dare I say, *fun*). Finally, to the Fellowship--mornië alantië.

The road goes ever on and on, down from the door where it began, now far ahead the road has gone, and I must follow, if I can.

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LIST OF ABBREVIATIONS

CMPB	Comprehensive Model of Perfectionistic Behavior
CoI	Concealment of Imperfection
D	Dissatisfaction
ECP	Evaluative Concerns Perfectionism
FSS	Fearful Social Striving
FMPS	Frost Multidimensional Perfectionism Scale
FMPS-Brief	Frost Multidimensional Perfectionism Scale-Brief
IRT	Item-Response Theory
MEP	Model of Excellencism and Perfectionism
HMPS	Multidimensional Perfectionism Scale
MTAP	Multidimensional Therapeutic Assessment of Perfectionism
MMMP	Multi-domain Multilevel Model of Perfectionism
PCI-10	Perfectionism Cognitions Inventory-10
PSDM	Perfectionism Social Disconnection Model
PC	Perfectionistic Concerns
PSPS	Perfectionistic Self Presentation Scale
PSP	Perfectionistic Self-Presentation
PS	Perfectionistic Strivings
PSP	Personal Standards Perfectionism

PSS	Positive Self-Striving
RA	Rigid Avoidance
SO	Self-Oriented Perfectionism
SP	Socially Prescribed Perfectionism

CHAPTER I

INTRODUCTION

Background

Perfectionism is currently defined by "striving for flawlessness and setting exceedingly high standards of performance accompanied by overly critical evaluations of one's behavior" (J. Stoeber, 2018a, p. 3). While once originally thought of as a maladaptive unidimensional construct, research over the past 30 years has consistently demonstrated the multidimensional and complex nature of perfectionism as a personality disposition (J. Stoeber, 2018a). From the ever-growing literature base on perfectionism, various aspects that make up the construct have been proposed such as trait or dispositional orientations that differentiate among motivations for perfectionism (Hassan et al., 2012; Hewitt et al., 1991), perfectionistic cognitions (Flett et al., 2018), styles of perfectionistic presentation (Hewitt et al., 2017; Hewitt, Flett, Sherry, et al., 2003), tendencies for emotion regulation or dysregulation (Rice et al., 2018), and various domains in which one can be perfectionistic (F. S. Stoeber & Stoeber, 2009).

A common theme throughout the research revolves around identifying aspects of perfectionistic expression that are more strongly related to either positive or negative outcomes (J. Stoeber, 2018a). Numerous measures have been developed to examine perfectionism and its relationship with various other constructs, resulting in a significant expansion of our understanding and conceptualization of perfectionism. Yet, the many conflicting and inconsistent results found in the research suggests that the existing measures are not sufficient to capture the breadth and depth of the construct as it has grown, necessitating the development of a new

perfectionism scale. While still somewhat debated in the literature, there is overwhelming evidence demonstrating differential outcomes between a more adaptive style of perfectionism and a more maladaptive style (J. Stoeber & Otto, 2006). These differences are best captured by the 2 X 2 Model of Perfectionism first proposed by Gaudreau and Thompson (2010). Other theories and models have been created to account for various facets of perfectionism as well as within and between person differences in perfectionistic expression and experience.

Theories and Models of Perfectionism

As research on perfectionism expanded, various theories and models of perfectionism were created. Two sets of comprehensive models have been developed that survived the rapid expansion of the perfectionism literature and evolved to incorporate important aspects of the perfectionism construct as they emerged. The 2 X 2 Model of Perfectionism and the subsequent Multi-domain Multilevel Model of Perfectionism (MMMP) set a foundation for understanding the adaptive and maladaptive sides of perfectionism while taking into consideration an individual's interaction with their current context and environment across various life domains (Gaudreau et al., 2018). The Comprehensive Model of Perfectionistic Behavior (CMPB) and the Perfectionism Social Disconnection Model (PSDM) outline the specific facets that underlie perfectionism as well as specific pathways for the development and negative consequences of perfectionism (Hewitt et al., 2017). A more detailed description of the theories and models are further elaborated on in chapter two.

While these theories and models have evolved to account for the growing understanding of perfectionism, measurement of perfectionism has not subsequently evolved to assess the field's more comprehensive view of the construct. Additionally, current measurement does not synthesize models and theories but remains disjointed. A new measure is needed to account for

the growing body of knowledge on the construct of perfectionism that incorporates and synthesizes these theories, and that can be used by both clinicians and researchers.

The Problem

Perfectionism as a Transdiagnostic Process

Increased rates of depression (Klibert et al., 2014; Sherry et al., 2015), anxiety (Klibert et al., 2014, 2015), Obsessive-Compulsive Disorder (OCD; Hewitt et al., 2017), eating disorders (Shafran & Mansell, 2001), borderline personality disorder (Hewitt et al., 2017), career and academic problems (Cowie et al., 2018; Gnilka & Novakovic, 2017), non-suicidal self-injury (Ying et al., 2021), and symptoms of physical illness (Hewitt et al., 2017) have all been associated with perfectionism to varying degrees in both clinical and community populations. The psychological turmoil (e.g., psychological pain, severely negative self-concept, social hopelessness, self-alienation, and dissociation) often seen with perfectionism (Hewitt et al., 2017) is particularly concerning given its connection to increased risk of suicide (Flett et al., 2014).

Research demonstrates an overrepresentation of perfectionism in suicides without warning due to high self-concealment and low willingness to disclose distress (particularly suicidal ideation or intention); greater associations with more lethal attempts due to higher likelihood to engage in planning as well as the compounding effect of the perceived shame of a failed attempt; and subsequent increased risk of future attempts with greater lethality (Flett et al., 2014). The scant research exploring perfectionism and trauma also associates perfectionism with exacerbating distress, avoiding seeking help or support, and coping through “seeming perfect” following a traumatic experience (Flett, Molnar, & Hewitt, 2016). Self-criticism, persistent distress, hidden psychological turmoil and anguish, frequent and intense feelings of shame, and a

sense of being an imposter have also been identified as themes of the perfectionist experience (Hewitt et al., 2017).

Given the extensive associations between perfectionism and various psychological disorders, perfectionism began to be explored as a transdiagnostic process. A transdiagnostic process is one that is implicated in the etiology and maintenance of more than one psychological disorder and, therefore, has important implications for prevention and treatment (Egan et al., 2011; Limburg et al., 2017). Transdiagnostic processes can also provide explanations for comorbidity among various psychological disorders through identifying the "maintaining mechanisms" that the disorders share (Egan et al., 2011, p. 207). Initial evidence for perfectionism as a transdiagnostic process for eating disorders, anxiety, and depression (Egan et al., 2011) was further supported by an extensive meta-analysis that additionally explored the link for OCD, self-harm, suicidal ideation, and general psychological distress (Limburg et al., 2017).

There is substantial evidence to support perfectionism as a transdiagnostic process for a variety of psychological disorders and symptoms, but our ability to assess perfectionism accurately, efficiently, and comprehensively is lacking. While research paints a clear picture of the capacity for perfectionism to have significant and detrimental impacts on wellbeing, both contributing to and exacerbating distress, no current measurement is adequately capable of providing a comprehensive assessment of perfectionism that can be used in clinical settings to treat perfectionism. The research demonstrates poorer outcomes when perfectionism is not a specific target of clinical intervention (Egan et al., 2011) while specifically treating and decreasing perfectionism may be more beneficial for individuals than disorder specific treatment and may reduce symptoms across multiple disorders (Kothari et al., 2019; Limburg et al., 2017).

It should also be noted that while perfectionistic strivings (the more typically adaptive form of perfectionism) showed weaker associations with psychopathology than perfectionistic concerns (the more typically maladaptive form of perfectionism), both dimensions were still significant (Limburg et al., 2017). This provides support for the 2 X 2 Model and the Multi-domain Multilevel Model of Perfectionism, the need to account for both dimensions in assessment and treatment (Limburg et al., 2017; J. Stoeber, 2018b), and illustrates the need for a comprehensive and integrated perfectionism measure that can be used by researchers to clarify the many discrepant findings in the literature. Curran and Hill (2019) provide additional support for the need to address perfectionism in clinical mental health settings through their findings that perfectionism has increased in Western societies since the late 1980s and may be directly associated with the coinciding rise in the prevalence of psychopathology. This rise in both perfectionism and psychopathology demonstrates the need for a perfectionism measure that can be easily utilized by mental health professionals to inform treatment, as well as by researchers to continue elucidating the role perfectionism has in mental health concerns.

Recent research has also emphasized the detrimental impact perfectionism has had on individuals in light of the Covid-19 global pandemic. Increased demand and perceived need to be perfect by frontline workers exacerbate feelings of burnout and trauma responses (Flett & Hewitt, 2020a). Perfectionism has also been shown to increase one's vulnerability to Covid-19 related stress including physical health concerns and an increase in levels of perfectionism in an attempt to regain a sense of control during a time of great uncertainty and uncontrollability (i.e., upheavals to routines, work/school environments, and restrictions on leaving home; Pereira et al., 2022). High levels of perfectionistic cognitions pre-pandemic have been associated with higher levels of anxiety during the pandemic and greater overall risk for poor mental health (Molnar et

al., 2022). Finally, the isolation and social disruptions associated with the pandemic intensifies the interpersonal challenges and vulnerabilities experienced by perfectionists contributing to increased feelings of loneliness and poorer mental health (Flett & Hewitt, 2020a). These recent findings convey the dire need to provide psychological support to perfectionists through accurate and efficient assessment and treatment planning (Flett & Hewitt, 2020a; Molnar et al., 2022).

Clinical Considerations

Previous research has found negative impacts on mental health treatment related to perfectionism both at the start of treatment (including increased initial distress upon entering treatment and difficulties in developing a therapeutic alliance from both client and therapist perspective) and in the course of treatment (Bohart & Wade, 2013). Perfectionists are less likely to seek help in times of distress, decreasing their likelihood of entering clinical treatment in the first place, despite experiencing significant distress (Flett, Molnar, & Hewitt, 2016; Hewitt et al., 2017; Kahn et al., 2021). Given that perfectionism is considered a transdiagnostic process, the presence of co-occurring psychological disorders results in a complex and multifaceted presentation to treatment that complicates the treatment planning process (Hewitt et al., 2017). Clinical settings are also not immune to perfectionistic presentation, resulting in continued attempts by the perfectionist to present a more positive picture of themselves and conceal the depth and extent of their distress (Flett, Molnar, & Hewitt, 2016; Hewitt et al., 2017, 2018), but we need to accurately assess this area to treat it.

Perfectionism is related to early dropout, increasing risk for symptom development if not explicitly addressed, and persistent and treatment resistant increased levels of perfectionism that negatively impact treatment outcomes (Bohart & Wade, 2013; Hewitt et al., 2017). In a metanalysis of randomized controlled trials for treatment of perfectionism, any reduction in

perfectionism scores still remained in "high" realms, while interventions did not distinguish between cultivating adaptive characteristics and decreasing maladaptive tendencies, but aimed to reduce both simultaneously (Suh et al., 2019). Despite the widely accepted multidimensional view of perfectionism in the literature, treatment for perfectionism has almost exclusively followed a unidimensional approach, which may explain poor treatment efficacy (Hewitt et al., 2017; J. Stoeber, 2018b). Developing a new scale that allows for a multidimensional approach to the treatment and conceptualization of perfectionism would help clinicians create treatment goals and plans that are tailored to the individuals' unique perfectionistic configurations, thereby likely resulting in greater treatment efficacy and better outcomes. It would also benefit researchers in evaluating the role perfectionism plays in the therapeutic context as well as perfectionism's relationship with other mental health concerns.

In addition to the many detriments of perfectionism, perfectionistic strivings has been associated with positive self-ideals and self-esteem (J. Stoeber & Otto, 2006), greater resilience (Klibert et al., 2014), greater subjective well-being and satisfaction with life (J. Stoeber & Otto, 2006), higher GPA and test scores (J. Stoeber & Otto, 2006), positive future thinking (Hunter & O'Connor, 2003), and greater productivity (Hassan et al., 2012). While perfectionism in a clinical context is largely viewed as maladaptive, the many objective and subjective benefits of perfectionism work to reward perfectionistic tendencies and make clients reluctant to change (Hewitt et al., 2017; J. Stoeber, 2018b). Perfectionism, therefore, seems to contribute to a "double jeopardy" scenario in which perfectionistic tendencies create long-lasting psychological and interpersonal problems, yet they tend to have far less optimal response to therapeutic treatment of problems (Bohart & Wade, 2013; Hewitt et al., 2017, 2018). Using a scale that can demonstrate movement between adaptive and maladaptive tendencies may promote greater buy-

in from perfectionistic clients as treatment can focus on increasing adaptive aspects of perfectionism and decreasing maladaptive aspects, rather than attempting to eliminate their perfectionism entirely. This also promotes a strength-based approach as opposed to pathologizing the perfectionistic client.

Rationale

Foundational to clinical treatment is the use of assessment to diagnose, inform treatment planning, and track client progress over the course of treatment. Since perfectionism is a transdiagnostic process that has serious implications for treatment and research, there is a clear need for a perfectionism measure that can be used in both clinical and nonclinical settings. While there is an abundance of perfectionism measures in the literature, there is currently no single perfectionism measure that is sufficient for use by mental health professionals and researchers that is brief, holistic, multidimensional, and aligns with the theories mentioned earlier.

Research suggests that perfectionism measures that focus on the formation of the two main dimensions, perfectionistic strivings and perfectionistic concerns, through a collection of current measurement subscales rather than simply using the subscales separately provides more accurate findings (Limburg et al., 2017; J. Stoeber & Gaudreau, 2017). Furthermore, the ability to identify various patterns of perfectionism through comparing scores on multidimensional measures is thought to provide a more detailed and accurate picture for each unique individual, and better inform targeted treatment interventions than relying solely on the general perfectionism dimensions (Limburg et al., 2017). A new multidimensional measure will also help provide researchers a more comprehensive understanding when studying various aspects of perfectionism with other constructs. While negative aspects of perfectionism are usually the focus of clinical research, positive aspects should also be included, not only to align with the

multidimensional conceptualization (Hewitt et al., 2017; J. Stoeber, 2018b) but also due to mutual suppression effects (J. Stoeber et al., 2014a).

When assessing both perfectionistic strivings (PS) and perfectionistic concerns (PC) together, they create a "suppressor situation" in which each dimension's predictive validity is enhanced by the inclusion of the other (J. Stoeber et al., 2014a, p. 656). J. Stoeber et al. (2014a) explained that when including PC, PS becomes a stronger positive predictor of psychological adjustment and a stronger negative predictor of psychological maladjustment (with the reverse also seen for PC when including PS). Since the two dimensions are significantly correlated with one another, if the relationship is not accounted for, the positive aspects of PS are masked or diminished by the influence of PC while the negative aspects of PC are clouded by the influence of PS (J. Stoeber & Gaudreau, 2017; J. Stoeber et al., 2014a). Understanding an individual's position on both dimensions is also crucial to understanding the specific presentation and experience of that individual's perfectionism (Gaudreau et al., 2018; Rice & Taber, 2019; J. Stoeber et al., 2014a).

Finally, the foundation of reliable assessment is the theory on which the assessment is built (DeVellis, 2017). While scales have been developed that align with pieces of the models and theories described previously, there is no single scale that holistically captures the many facets of perfectionism. Hewitt et al. have developed a handful of scales that align with the Comprehensive Model of Perfectionistic Behavior (CMPB), yet each scale focuses on only one aspect of perfectionism (traits, cognitions, and presentation) rather than the model as a whole. Brief measures are generally considered preferable for clinical and research utility and repeated use, so using three separate measures to assess perfectionism would be cumbersome and time consuming.

Additionally, following the Multi-domain Multilevel Model of Perfectionism, measures should also incorporate assessment of perfectionism across life domains. While there are a handful of measures that are focused on perfectionism in particular domains, there is considerable variation in their design, introducing uncertainty in consistent conceptual underpinnings. One would also need to administer a handful of domain assessments which would again increase the burden on clinician and client as well as researchers. Some previous research has utilized existing measures of general perfectionism to assess domains by altering the instructions, and while this provides conceptual consistency, it is still lacking holistically in the emphasis on general perfectionism without accounting for the three facets of the CMPB.

Purpose of the Study

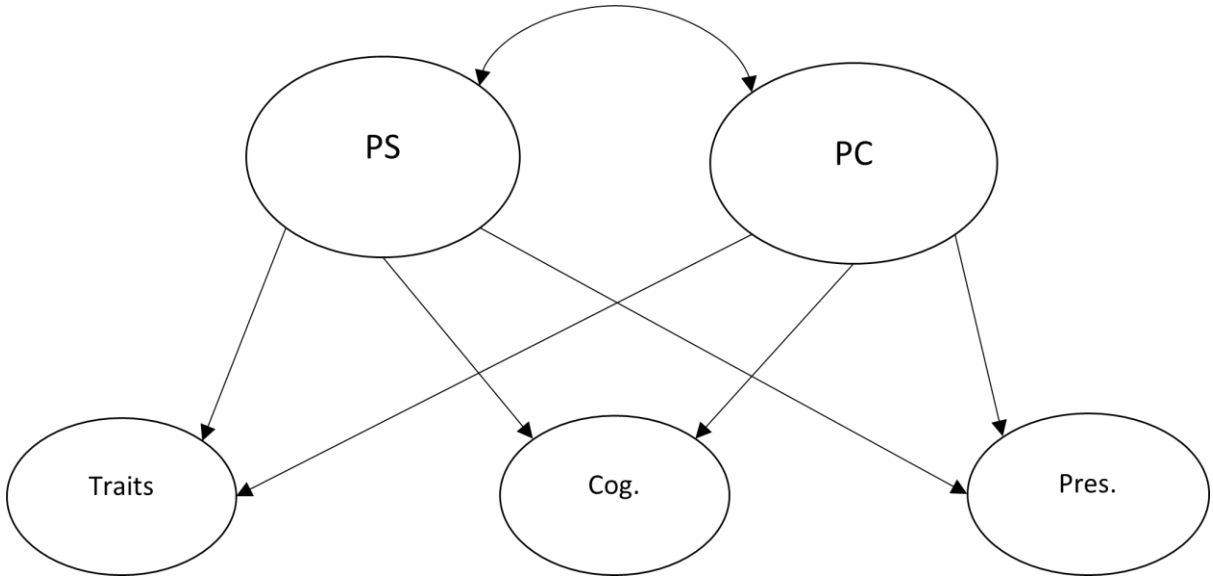
The need for a comprehensive yet brief measure of perfectionism rooted in theory is clear. Wade (2018) argued that the field does not need further specialized measures but rather a "single tool which can inform the development of clinically useful models and interventions" (p. 278). This study aimed to develop and validate an assessment of perfectionism that synthesizes the available models and theories of perfectionism, thereby aiding the much-needed treatment of perfectionism as a transdiagnostic process. This scale also provides researchers with a single holistic and theoretically consistent measure of perfectionism that could be used to clarify our understanding of perfectionism and its relationship with other constructs. In addition, all previous measures of perfectionism were developed and validated through Classical Test Theory, while this study provided additional validation through the use of Item-Response Theory (IRT) analyses. IRT allows researchers to examine a scale's ability to demonstrate reliability independent of the sample used, discrimination across levels of the latent variables in question, and the identification of group differences, therefore, contributing to greater confidence in the

scale's reliability and validity. In summary, the purpose of this study was to develop and provide initial validation for a new perfectionism measure that has utility in both clinical and research settings.

The developed scale guided by theories of perfectionism incorporated the three facets of perfectionism in the Comprehensive Model of Perfectionistic Behavior (traits, cognitions, and presentation) with the two higher order dimensions of the 2 X 2 Model (perfectionistic strivings and perfectionistic concerns; see Figure 1). This enables clinicians and researchers to distinguish both positive and negative aspects of one's perfectionism, identify patterns within one's perfectionism, and develop targeted treatment interventions, as well as develop research questions to study. The scale is also able to be tailored through altering instructions to assess the above components in various life domains following the Multi-domain Multilevel Model of Perfectionism, thereby providing greater specificity for the contexts in which perfectionism impacts one's life.

Figure 1

Proposed Theoretical Model of the Developed Scale



Note. Cog. = Cognitions; PC = perfectionistic concerns; PS = perfectionistic strivings; Pres. = Presentation.

Research Questions

The following research questions guided this study:

Q1 Does the proposed model measuring perfectionism (see Figure 1) fit the observed data?

H1 The hypothesized model will demonstrate adequate fit to the observed data.

H2 The hypothesized model will demonstrate significant differences between various levels of the latent traits being measured in accordance with the 2 X 2 Model of Perfectionism and the Comprehensive Model of Perfectionistic Behavior.

Q2 Is the developed scale a reliable and valid measure of perfectionism?

H3 The hypothesized model will demonstrate internal consistency and split half reliability, with Cronbach's alpha(s) of greater than .9.

H4 The hypothesized model will demonstrate convergent validity with correlations above .50 with established measures of perfectionism, as well as discriminant validity by demonstrating nonsignificant relationships with measures of other constructs.

Definition of Terms

Perfectionistic cognitions (PC). The mindset, schemas, and automatic thought processes that comprise the perfectionistic experience. The mindset of perfectionism is characterized by viewing the self, others, and the world through an extremely critical lens. Self-schemas emphasize the need to be or seem perfect while automatic thought processes contribute to cognitive appraisals of self and others often through dichotomous representations (e.g., Flett et al., 2018). For the purposes of this study, perfectionistic cognitions will be categorized into the two dimensions of perfectionistic strivings (PS) and perfectionistic concerns (PC). PS cognitions emphasize the setting of exceptionally high standards and an approach-oriented mindset ("do better"), while PC cognitions emphasize the negative self-appraisals, worry about failure and other people's evaluations, and avoidance oriented mindset ("avoid mistakes;" J. Stoeber et al., 2014a).

Perfectionistic concerns (PC). One dimension of perfectionism that emphasizes excessive self-criticism and fear of failure. It is generally considered to capture more negative aspects of perfectionism (e.g., J. Stoeber, 2018a).

Perfectionistic self-presentation (PSP). Interpersonal styles emphasizing the display of perfection or concealment of imperfection. Three specific styles have been previously identified: perfectionistic self-promotion (active promotion of oneself as flawless), nondisplay of imperfection (passive avoidance of behavior or situations that would reveal imperfection), and nondisclosure of imperfection (passive avoidance of verbally

revealing or admitting information about oneself that would indicate imperfection). (Hewitt, Flett, Sherry, et al., 2003; J. Stoeber, 2018a).

Perfectionistic strivings (PC). One dimension of perfectionism that emphasizes the pursuit of excellence through setting exceptionally high standards for oneself. It is generally considered to capture more positive aspects of perfectionism (e.g., J. Stoeber, 2018a).

Self-oriented perfectionism (SO). A perfectionistic disposition in which the motivation for perfectionism and the target of perfectionistic expectations stems from, and focuses on, the self. Generally associated with the perfectionistic strivings dimension (e.g., Hewitt et al., 2017).

Socially prescribed perfectionism (SP). A perfectionistic disposition in which the target of perfectionistic expectations focuses on the self, while motivation for perfectionism stems from the perceived expectations of others. Generally associated with the perfectionistic concerns dimension (e.g., Hewitt et al., 2017).

CHAPTER II

REVIEW OF LITERATURE

History of the Perfectionism Construct

The construct of perfectionism was first noted by prominent theorists Alfred Adler and Karen Horney in the first half of the twentieth century yet received little attention until the late 1970s (J. Stoeber, 2018a). Despite an initial differentiation between "normal" and "neurotic" perfectionism (Hamachek, 1978), the conceptualization and measurement of perfectionism in the 1980s was unidimensional and pathologizing, and garnered little research attention (J. Stoeber, 2018a). With the near-simultaneous development of two multidimensional measures of perfectionism in the early 1990s, the conceptualization and measurement of perfectionism radically changed, and research exploded. In the last 30 years, over 1,500 articles on perfectionism have been published with rates of publishing increasing eightfold between the 1990s (roughly 12 per year on average) and 2010s (roughly 100 per year on average; Suh et al., 2021). One of the main topics in the perfectionism research was the assessment of perfectionism and the development of various scales (Suh et al., 2021). Given the rapid evolution of the conceptualization of perfectionism, researchers were hard pressed to maintain theoretical alignment and consistency in developed measures, resulting in a plethora of piecemeal scales attempting to assess a highly complex construct. While existing scales have contributed greatly to the understanding of perfectionism, there is a clear need of a scale that can synthesize the existing theories and models and can be used to inform clinical treatment planning and interventions (Wade, 2018).

Theories and Models of Perfectionism

The 2 X 2 Model of Perfectionism

The 2 X 2 Model of Perfectionism conceptualizes perfectionism as "bidimensional" and incorporates both personal standards perfectionism (PSP) and evaluative concerns perfectionism (ECP; Gaudreau & Thompson, 2010). The PSP dimension focuses on the inclination toward striving for excellence and setting exceedingly high standards for oneself, while the ECP dimension emphasizes the tendency toward excessive self-criticism and fear of failure (Gaudreau & Thompson, 2010). In evaluating an individual's perfectionistic style, scores on both dimensions are mapped onto four quadrants delineating four ways of being a perfectionist: nonperfectionism (low PSP and low ECP), pure PSP (high PSP, low ECP), pure ECP (high ECP, low PSP), and mixed perfectionism (high PSP and high ECP; Gaudreau & Thompson, 2010).

Across a wide array of studies examining a diverse collection of phenomena, pure ECP is more consistently associated with maladaptive tendencies and negative outcomes compared to the other styles, while pure PSP is more consistently associated with adaptive tendencies and positive outcomes compared to the other styles (Gaudreau et al., 2018). These styles have had numerous labels over the years, yet J. Stoeber (2018a) argued for the use of the terms "perfectionistic strivings (PS)" for pure PSP and the more positive tendencies, and "perfectionistic concerns (PC)" for pure ECP and the more negative tendencies, to clarify that the two are dimensions of the same construct rather than two different forms of perfectionism. Following J. Stoeber's suggestion, PS and PC was used here to maintain clarity and consistency with much of the literature.

Research exploring the tendencies and outcomes associated with mixed perfectionism, unsurprisingly, has been mixed, demonstrating more positive aspects at times and more negative

aspects at others (Gaudreau et al., 2018). This may be due in part to the lack of a measure developed using the 2 X 2 Model and, thereby, not allowing for the identification of this mixed style. Despite somewhat clearer associations for PS and PC, there is still considerable overlap between the styles and expression of perfectionism that may be best explained by the differential susceptibility hypothesis. The differential susceptibility hypothesis moves beyond the diathesis stress model to suggest that some individuals are more susceptible to environmental influence, both positively and negatively (Belsky & Pluess, 2009). This hypothesis may explain why perfectionism may at times be an adaptive quality, such as when in a supportive environment or in times of relatively low stress, yet maladaptive in times of adversity or other distress (Dunkley, 2018; Gaudreau et al., 2018). While previous literature has found almost exclusive negative associations with PC, the more inconsistent nature of mixed perfectionism and PS has been characterized as a "double-edged sword" depending on the context (Gaudreau et al., 2018). Existing perfectionism measures do not capture this variability in the perfectionist experience, once again supporting the need for a new and comprehensive scale. While perfectionism is generally considered a stable personality trait, the variability in expression and outcome dependent on an individual's context is also dependent on levels of perfectionism across life domains (J. Stoeber & Otto, 2006).

Multi-Domain Multilevel Model of Perfectionism (MMMP)

Differences in perfectionism across life domains was first demonstrated by J. Stoeber and Otto (2006) and has since been demonstrated in a wide array of inter- and intrapersonal life domains. To accommodate the findings from perfectionism domain research, an extension of the 2 X 2 Model has been proposed to consider differences in perfectionistic expression across domains and intensity of perfectionistic tendencies, referred to as the Multi-domain Multilevel

Model of Perfectionism (MMMP; Franche & Gaudreau, 2016). The model argues that an individual's perfectionistic tendencies vary across life domains and aggregated perfectionism scores across life domains should be used to identify one's general predispositions for perfectionism. The ability to identify between-person differences through the intensity or level of general perfectionism is combined with the ability to identify within-person differences through variations in level of perfectionism across life domains, resulting in unique configurations of perfectionism for each individual (Franche & Gaudreau, 2016; Gaudreau et al., 2018).

Existing perfectionism measures used independently do not account for these unique configurations. While multiple measures might be used in conjunction, the practicality of doing so in a clinical context is a deterrent for mental health professionals, continuing to support the need for one comprehensive perfectionism scale. Developing a scale based upon the MMMP would then provide researchers and clinicians with valuable understanding of an individual's unique perfectionistic experience, clarify the complex relationships perfectionism has with other constructs, and foster the creation of targeted treatment planning and clinical interventions tailored to the individual. While some existing measures have been used or adapted to be used within the 2 X 2 Model framework, no scale has been created to intentionally align with the 2 X 2 Model and the MMMP. To further distinguish unique perfectionism experiences and impacts, one must also consider a more comprehensive model of perfectionism by assessing three core facets: traits, cognition, and presentation.

The Comprehensive Model of Perfectionistic Behavior (CMPB)

The idea of trait differences in perfectionism was included in one of the first multidimensional conceptualizations of perfectionism proposed by Hewitt and Flett (1991). The different trait or dispositional styles have been extensively replicated throughout the

perfectionism literature as a way to understand one's motivation for and target of perfectionistic tendencies. The authors have expanded their initial conceptualization to also include an intrapersonal component (perfectionistic cognitions) and an interpersonal component (perfectionistic styles of self-presentation), collectively referred to as the Comprehensive Model of Perfectionistic Behavior (CMPB; Hewitt et al., 2017). While an emotional component has been suggested as well (e.g., Malivoire et al., 2019), there is currently not enough research to clarify if perfectionism's relationship with emotion (dys)regulation constitutes a facet or an outcome of perfectionism, nor the unique emotional presentations of the PS and PC dimensions. The advantage of the CMPB is its integration of research findings and emphasis on comprehensiveness (i.e., traits, cognition, and presentation), yet unfortunately a comprehensive measurement to match the CMPB has yet to be developed.

Traits

Hewitt and Flett (1991) outlined three different perfectionism traits to describe the motivation for and focus on perfectionistic tendencies: self-oriented (SO), socially prescribed (SP), and other-oriented. Perfectionistic tendencies are self-motivated for both SO and other-oriented perfectionism, yet the focus of the perfectionistic expectations differ with the former focused on the self and the latter focused on other people. While SP shares a focus on the self with SO, the motivation to strive for perfection stems from perceived expectations of others. The three traits are relatively independent of one another and yet individuals can have varying levels of the three traits, contributing to unique combinations and experiences (Hewitt et al., 2017). In their review, J. Stoeber and Otto (2006) identified the SO trait to be most closely associated with perfectionistic strivings and the SP trait to be most closely associated with perfectionistic concerns and this mapping has been generally accepted and consistently replicated in the

research since. Since other-oriented perfectionism is not directed at the self, it has been excluded from much of the perfectionism research yet has recently been associated with narcissistic perfectionism and the dark triad and is viewed as a "dark form" of perfectionism (J. Stoeber, 2014). Given the considerable differences that set other-oriented apart, it was considered a distinct form of perfectionism separate from the two-factor model (J. Stoeber, 2014, 2015, 2018a) and was not used in this study consistent with the bulk of the existing literature.

Cognitions

Perfectionistic cognitions encompass the schemas, automatic thought processes, and mindset that characterize perfectionists (Flett et al., 2018). The "perfectionism mindset," first introduced by Flett et al. (2018) represented the broad cognitive tendencies typical of, and at times unique to, perfectionists. Central to this mindset is an evaluative lens with which perfectionists constantly judge themselves, others, and the world around them, often in categorical terms (i.e., good or bad, perfect or not perfect; Flett et al., 2018). This evaluative lens is often applied globally to contexts that may not warrant a judgement or that are ambiguous and lacking in information to make definitive appraisals (Flett et al., 2018).

Additionally, research has demonstrated that perfectionists have strong inclinations for problematic thought processes such as rigid all-or-nothing thinking, catastrophizing, overgeneralizing, and endorsing irrational beliefs that perpetuate an "overdeveloped sense of personal responsibility," as well as a tendency to ruminate and perseverate (Flett et al., 2018; Hewitt et al., 2017). These negative cognitive patterns are especially activated in times of perceived failure or increased stress and are present for both self-oriented/perfectionistic strivings and socially prescribed/perfectionistic concerns perfectionists, albeit often with greater frequency and intensity for the latter (Dunkley, 2018; Flett et al., 2018; Hewitt et al., 2017).

Finally, perfectionists tend to hold ideal self-schemas that revolve around comparisons between the actual self and variations of an ideal self that emphasizes perfection (Hewitt et al., 2017). Flett et al. (2018) differentiated the ideal self variations into an "internalized ideal self" that emphasizes striving to *be* perfect, and an "internal idealized self" that emphasizes striving to *seem* perfect. These variations are typical of the SO/PS and SP/PC traits, respectively (Flett et al., 2018; J. Stoeber et al., 2014a). While striving to be perfect is generally associated with the more adaptive aspects of perfectionism and can motivate individuals toward greater achievement, it should be noted that, in keeping with the Multi-domain Multilevel Model and the differential susceptibility hypothesis, this can quickly become detrimental at higher levels of perfectionism, in domains where there is a greater discrepancy between the ideal and actual self, and when combined with rigid and ruminative cognitive processes (Gaudreau et al., 2018; Hewitt et al., 2017). Conversely, striving to seem perfect, following the theme of PC perfectionism, is nearly always detrimental (Flett et al., 2018; Hewitt et al., 2017, 2018).

Presentation

Perfectionistic self-presentation represents interpersonal styles that focus on either the display of perfection or the concealment of imperfection (Hewitt et al., 2017). In developing a measure to assess perfectionistic presentation, three forms of presentation were identified: perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection (Hewitt, Flett, Sherry, et al., 2003). Perfectionistic self-promotion involves an active desire and attempt to display to others that one is perfect (Hewitt et al., 2017). This form is considered promotion-focused and characterized by attempts to impress others and present a flawless or faultless image (J. Stoeber, 2018a). Nondisplay and nondisclosure of imperfection are both passive styles that focus on concealment of faults or flaws, either through avoiding action that

would reveal imperfection (nondisplay) or avoiding disclosing or admitting imperfection (nondisclosure; Hewitt et al., 2017; J. Stoeber, 2018a). Both of these styles are considered prevention-focused and are characterized by high levels of avoidance behaviors and concealment (J. Stoeber, 2018a).

These three facets of perfectionism are critical to understanding not only the dispositional qualities of perfectionism but also the processes the underlie the expression and experience of perfectionism (Hewitt et al., 2017; J. Stoeber, 2018a). As previously mentioned, while the trait and cognitive facets have demonstrated various unique relationships to both positive and negative outcomes and ways of being perfectionistic, all are subject to the variabilities of domain and intensity as described by the Multi-domain Multilevel Model of Perfectionism as well as the environmental context as described by the differential susceptibility hypothesis. While there are a handful of existing measures that capture each of these facets independently, there lacks a comprehensive scale that incorporates the three facets of the Comprehensive Model of Perfectionistic Behavior while integrating the considerations put forth by the MMMP.

Somewhat unique in its wholly detrimental consequences, perfectionistic self-presentation has been consistently linked with various aspects of maladjustment and negative outcomes and has been of particular focus in exploring how perfectionism effects interpersonal processes (Hewitt et al., 2017), while some researchers speculate that these presentation styles may uniquely explain the relationship between perfectionism and maladjustment (J. Stoeber, 2018a). Building upon perfectionistic self-presentation, Hewitt et al. (2006) proposed the Perfectionistic Social Disconnection Model to explain and understand the detrimental influence perfectionism can have on one's mental, emotional, and physical wellbeing.

The Perfectionism Social Disconnection Model (PSDM)

The Perfectionistic Social Disconnection Model (PSDM) initially developed by Hewitt et al. (2006) has since been expanded and emphasizes both the developmental origins of perfectionism and the propensity for deleterious outcomes stemming from relational dysfunction (Hewitt et al., 2017). The model incorporates the three components of the Comprehensive Model of Perfectionistic Behavior (traits, cognitions, and presentation) and outlines the pathways from initial attachment disruptions to perfectionistic tendencies, finally culminating in psychological maladjustment (Hewitt et al., 2017). At the core of this model is the focus on the interpersonal antecedents and consequences of perfectionism--social disconnection (Hewitt et al., 2006). The authors argue that perfectionistic tendencies stem from "asynchrony" in early attachment relationships and the attempts of the child to meet attachment needs through the pursuit of perfection (Hewitt et al., 2017, p. 100). The resulting pursuit of perfection in an attempt to achieve social connection and meet emotional needs subsequently compromises the child's developing sense of self, resulting in a lack of cohesive self-identity and belief that the self is inherently flawed (Hewitt et al., 2017).

Perfectionism, once developed, becomes the lens through which the self, others, and the world are seen (Hewitt et al., 2018). The perfectionistic tendencies described previously contribute to interpersonal difficulties, either through the perfectionists' interpersonal sensitivity to rejection or other "off-putting" interpersonal behaviors, that further exacerbates the individual's feeling of social disconnection (Hewitt et al., 2018, p. 308). These interpersonal experiences further solidify the perfectionist's negative view of self and the continued futile pursuit of perfection. The inevitable failure to attain perfection result a "neurotic paradox" in which the perfectionists' attempts to find social connection, instead result in perceived social

disconnection and alienation from others (Hewitt et al., 2018, p. 309). This chronic social disconnection is hypothesized to be the core contributor to the psychological maladjustment associated with perfectionism (Hewitt et al., 2017, 2018), therefore, the PSDM model does not incorporate any "adaptive" qualities.

Ultimately, the Perfectionism Social Disconnection Model describes the perfectionist as having a negative working model of others as inconsistent, unavailable, unable, or unwilling to meet one's needs; a lack of a cohesive sense of self; and chronic shame, anger, and guilt as well as persistent affective states of loneliness, lack of mattering, despair, and humiliation (Hewitt et al., 2017). The PSDM provides a framework for understanding four pathways that connect perfectionism with stress and dysfunction, with a core of self- and social-alienation: stress enhancement, perpetuation, anticipation, and generation. Perfectionists tend to amplify their distress in response to stressful events (enhancement); maintain and exacerbate distress through maladaptive coping, social isolation, and reluctance to seek help (perpetuation); generate distress through anticipating the likelihood of future failures (anticipation); and generate distress through appraising neutral or positive experiences as "not good enough" (generation; Hewitt et al., 2017). Therefore, social disconnection, both objective and subjective, is considered a natural outcome of perfectionism with negative consequences to create, exacerbate, and maintain distress (Hewitt et al., 2017). This has serious implications for understanding perfectionism's role in mental health. Again, despite the existence of perfectionism measures that capture parts of the PSDM, there is a clear need for a comprehensive scale that can be used to generate a more complete picture of an individual's perfectionistic experience that can easily be utilized in both therapeutic and research contexts.

Additionally, the PSDM was based on the diathesis stress model and only explores ways in which perfectionism is a vulnerability factor. Applying the differential susceptibility hypothesis instead, allows for an exploration of ways in which perfectionists are more susceptible to both positive and negative environmental influences, allowing for more consistent theoretical alignment with the research that establishes perfectionism as a "double-edged sword" (Dunkley, 2018; Gaudreau et al., 2018). Developing a scale that synthesizes the theories described here would significantly contribute to a more comprehensive and consistent conceptualization and measurement of perfectionism.

Limitations of Current Measurement

Based on the current theories and models of perfectionism that predominate the literature, there is one major limitation of all current perfectionism scales--the lack of comprehensive measurement. This limitation can be broken down into three main flaws: (a) ignoring perfectionistic strivings (PS) when exploring perfectionism's relationship to psychological maladjustment, (b) only measuring general perfection and ignoring specific measurement of the three components of the Comprehensive Model of Perfectionistic Behavior (CMPB), and (c) only measuring specific components, domains, or processes of perfectionism that cannot be generalized to global perfectionism.

First, measurement of perfectionism in clinical settings has repeatedly relied on scales or subscales that focus solely on the negative aspects of perfectionism captured by the perfectionistic concerns (PC) dimension (J. Stoeber, 2018b). While the PC dimension is more consistently associated with psychological maladjustment and psychopathology (Curran & Hill, 2019; Limburg et al., 2017), the PS dimension cannot and should not be ignored. Perfectionistic strivings have showed significant relationships with various relevant constructs (e.g., Limburg et

al., 2017) and explained variance beyond that accounted for by PC (e.g., J. Stoeber & Gaudreau, 2017). Isolating PC in attempting to explore maladjustment is also vulnerable to misrepresentation due to mutual suppression effects, further supporting the necessity of incorporating both PS and PC into measurement (J. Stoeber et al., 2014a). Finally, the PS dimension, while generally associated with more positive characteristics, is also prone to shift to be more maladaptive depending on the context, as explained by the differential susceptibility hypothesis (Gaudreau et al., 2018), necessitating the measurement of PS to better understand the duality of one's perfectionistic experience and its relationship to distress in various domains and life situations.

Second, studies have repeatedly demonstrated that the specific facets of the CMPB (i.e., traits, cognitions, and presentation) uniquely account for variance in measures of psychological distress and psychopathology, beyond that captured by PS and PC alone (e.g., Flett & Hewitt, 2020b). The ability to discern patterns of perfectionistic experience and develop targeted treatment plans based on multidimensional conceptualizations is essential to developing effective interventions (Flett & Hewitt, 2020b; Limburg et al., 2017). Recent studies have also suggested the use of multiple measures of perfectionism to create the higher order dimensions PS and PC rather than using individual subscales of different measures to obtain the most accurate statistical findings (Casale et al., 2020; Flett & Hewitt, 2020b; Limburg et al., 2017; Sironic & Reeve, 2012)

Using multiple measures may indeed provide a detailed picture of how the various aspects of perfectionism present themselves within the individual, yet one must question whether this would be a realistic practice in a clinical setting. First, the clinician would need to decide which measures to use from the dozens that exist, selectively choosing measures that both

capture the many complex facets of perfectionism and are conceptually similar enough to provide reliable measurement and comparisons. The clinician would also need to consider the burden of time and energy being placed on the client in completing multiple measures to assess perfectionism, not to mention the likely addition of other relevant clinical screeners and progress measures commonly in use. Though short forms of common perfectionism measures exist, the volume of measures needed to obtain a comprehensive picture would quickly outweigh the brevity of any single measure.

Finally, research on perfectionism has greatly benefitted from the many measures that provide a detailed look into the complexities of specific components, processes, and domains of perfectionism (Flett & Hewitt, 2020b; J. Stoeber, 2018b). These diverse and unique scales have allowed the field to better understand and conceptualize perfectionism and the individual experiences of perfectionists, promoting growth as well as the capacity to "zoom out" to see how the various pieces come together to create the "big picture" of perfectionism. While the benefit to research endeavors is clear, the direct benefit to clinical practice is lacking. These pieces cannot be used independently as accurate measures of the whole perfectionism experience and its impact on one's psychological wellbeing. While a measure on sport or sexual perfectionism may have benefits in a very specific clinical context, the problem of perfectionism is a "problem of living" that goes beyond any one context to impact the entirety of one's lived experience (Flett & Hewitt, 2020b; J. Stoeber, 2018b).

In agreement with Wade (2018), the clinical assessment and treatment of perfectionism demands the creation of a comprehensive measurement that synthesizes the existing theories and models to provide a rich understanding of an individual's perfectionistic experience that can be used to inform clinical conceptualizations and treatment planning. Key existing measures most

frequently used and accepted in the literature will be reviewed in the context of the above three flaws, while also noting unique limitations specific to each scale.

Clinical Perfectionism Questionnaire

The Clinical Perfectionism Questionnaire (CPQ) was developed in 2003 as a way to measure a unidimensional conceptualization of perfectionism labeled "clinical perfectionism" (Fairburn et al., 2003; Shafran et al., 2002). This is the only perfectionism scale promoted for use specifically in clinical settings as an outcome measure. The authors argued that multidimensional conceptualizations of perfectionism measure related processes to perfectionism and cloud the core dysfunction of perfectionism seen in clinical contexts (Shafran et al., 2002, 2003). Clinical perfectionism was defined as "the overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed, standards in at least one highly salient domain, despite adverse consequences" (Shafran et al., 2002, p. 778). In maintaining a unidimensional structure, clinical perfectionism was hypothesized to only capture a maladaptive and detrimental form of perfectionism (Shafran et al., 2002).

There are many discrepancies and problems not only with the scale itself, but the theoretical conceptualization behind it. Following publication of their clinical perfectionism conceptualization, debate ensued between prominent perfectionism researchers, with others strongly opposing the unidimensional nature proposed by Shafran et al. (Hewitt, Flett, Besser, et al., 2003; Shafran et al., 2002, 2003). This opposition maintained the multidimensional nature of perfectionism (Hewitt, Flett, Besser, et al., 2003) which has been repeatedly replicated and validated over the subsequent two decades (e.g., Flett & Hewitt, 2020b). Further research on the reliability and validity of the Clinical Perfectionism Questionnaire also found issues with construct validity, as further factor analyses consistently found a two-factor structure consistent

with the two higher order dimensions, perfectionistic strivings and perfectionistic concerns (Dickie et al., 2012; Egan et al., 2011; J. Stoeber & Damian, 2014), directly contradicting the purpose of the initial design.

While interest in using the Clinical Perfectionism Questionnaire as a clinical measure for perfectionism has continued, the lack of alignment with the theoretical underpinnings of perfectionism calls into question the scale's ability to measure the current understanding of perfectionism. Despite current use as a multidimensional scale capturing two independent but correlated dimensions, total scores are used to measure and track perfectionism during treatment, despite the two factors demonstrating unique correlations with various constructs (e.g., Shu et al., 2020). The conceptualization and subsequent measurement of perfectionism relies heavily on the alignment with theoretical foundations, and deviations from those foundations often result in skewed measurement (Blasberg et al., 2016). In addition to the unique flaws of this measure, it conforms to flaw 1 (in theory, even if not in practice) and flaw 2, outlined above.

Frost Multidimensional Perfectionism Scale

The Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990) was one of the foundational measures that shifted the field of perfectionism into the multidimensional realm and inspired the exponential boom in research studying perfectionism (Flett & Hewitt, 2015, 2020a). The initial development resulted in 35 items across six subscales: Concerns Over Mistakes, Doubts About Actions, Personal Standards, Organization, Parental Expectations, and Parental Criticism (Frost et al., 1990). The FMPS has been one of the most widely used perfectionism measures and has consistently demonstrated strong reliability and validity with children, adolescents, and adults in clinical and non-clinical settings (e.g., Flett & Hewitt, 2015).

Over the years, the use of the FMPS has changed in accordance with the progression of the understanding of perfectionism. The Organization subscale has consistently demonstrated poor construct validity from initial development (Frost et al., 1990) and has almost entirely been dropped from use (Flett & Hewitt, 2020b; J. Stoeber & Otto, 2006). Many studies reexamined the factor structure and provided suggestions for combing the parental subscales (Cox et al., 2002; Seipel & Apigian, 2005) although a subsequent meta-analysis argued that parental considerations are antecedents to the development of perfectionism, rather than the perfectionism construct itself and should not be included (J. Stoeber & Otto, 2006). Similar evaluations suggested combining the concerns over mistakes and doubts about actions subscales to capture a maladaptive aspect of perfectionism (J. Stoeber & Otto, 2006). This move toward alignment with the 2 X 2 model to delineate positive and negative aspects of perfectionism resulted in a short form of the FMPS that used the Personal Standards, Concerns over mistakes, and Doubts about actions subscales to create a two-factor version of the FMPS (Burgess et al., 2016).

The two-factor short-form of the FMPS aligns with the 2 X 2 Model and the two higher-order dimensions proposed and has performed just as strongly for various populations and settings as the original (Burgess et al., 2016) yet in a brief 8-item format. While the strength of the FMPS is its ability to adapt along with the progression of the field, it has recently been criticized for possibly measuring aspects of Obsessive-Compulsive Disorder rather than perfectionism (Limburg et al., 2017). While the meta-analysis used the original scale subscales Personal Standards, Concern over mistakes, and Doubts about actions, the authors found substantial overlap between the Doubts about actions subscale and symptoms of Obsessive-Compulsive Disorder and argued for a dimensional approach to measurement rather than using individual subscales. Since the three subscales in question were used to develop the short form, it

is unclear how much of this overlap may also be represented by the brief version. Despite this possible shortcoming, the main problem with the FMPS was its adherence to flaw 2 and the lack of comprehensiveness, therefore, limiting its potential to inform clinical treatment.

Hewitt and Flett Multidimensional Perfectionism Scale

The Multidimensional Perfectionism Scale (HMPS) developed by Hewitt and Flett (1991) arrived concurrently yet independently of the FMPS and is also considered a foundational measurement that changed the nature of perfectionism research to move toward multidimensional measurement (Flett & Hewitt, 2020b). The FMPS and the HMPS are tied as the most widely used perfectionism scales to date. Although the two scales shared a name, the HMPS differed significantly in the multidimensional approach taken. The original HMPS consisted of 45 items across three subscales: Self-oriented perfectionism, Other-oriented perfectionism, and Socially Prescribed perfectionism (Hewitt & Flett, 1991). These subscales represented three distinct trait dimensions that describe variations in personality style and motivation found among perfectionists. Self-oriented perfectionists are self-motivated to pursue perfection while other-oriented perfectionists set perfectionistic expectations for others (Hewitt & Flett, 1991). Socially prescribed perfectionists are driven toward perfectionistic pursuits through the perceived expectations placed on them by others (Hewitt & Flett, 1991).

The trait dimensions of the HMPS have been extensively used over the subsequent decades and have consistently demonstrated strong reliability and validity across age groups and with clinical and non-clinical populations (Flett & Hewitt, 2015; Hewitt et al., 2017). A short form exists containing 15 items across the original 3 subscales that had demonstrated comparable reliability and validity (Cox et al., 2002; Hewitt et al., 2017). While the structure of the HMPS has stayed nearly identical to the original, subsequent analyses have demonstrated relationships

between the trait dimensions and other aspects of perfectionism. The self-oriented subscale is most closely aligned with the perfectionistic strivings dimension and has been considered an indicator of the positive aspects of perfectionism, while the socially prescribed subscale is most closely aligned with the perfectionistic concerns dimension and is considered an indicator of the negative aspects (J. Stoeber, 2018a; J. Stoeber & Damian, 2014; J. Stoeber & Otto, 2006). Other-oriented perfectionism has been identified as a separate construct distinct from the dimensions of the 2 X 2 Model and has shifted to better represent a unique form of "dark" perfectionism associated with narcissism and other antisocial tendencies (Flett & Hewitt, 2020b; J. Stoeber, 2014, 2015).

The HMPS and associated traits represent a core component of perfectionism as defined by the Comprehensive Model of Perfectionistic Behavior (Hewitt et al., 2017). While research has demonstrated associations between the two subscales and the two higher-order dimensions, they more accurately comprise one piece of the holistic conceptualization of perfectionism (J. Stoeber, 2018a). The HMPS traits contributed significantly to understanding the interpersonal facets of perfectionism and are considered independent yet correlated in that perfectionists may be high on one or both traits, with unique outcomes (Hewitt et al., 2017). Although some research using the HMPS committed flaw one by solely using the socially prescribed subscale in clinical contexts, the scale itself only consist of flaw three, thus, representing a segment of the perfectionism construct, albeit a critical one.

Almost Perfect Scale-Revised

The Almost Perfect Scale-Revised (APS-R) is the third most widely used perfectionism measure (Flett & Hewitt, 2015) and was the first multidimensional measure of perfectionism to have a specific focus on delineating the positive and negative aspects of perfectionism (Slaney et

al., 2001). The initial Almost Perfect Scale (Slaney & Johnson) created in 1992 also attempted to separate out positive and negative aspects, but due to the limited research at that time that viewed perfectionism as multidimensional the scale was significantly skewed to assess negative aspects more than positive ones (Slaney et al., 2001). Following the explosion of multidimensional perfectionism research in the 1990s, the Almost Perfect Scale was revised to more accurately assess both positive and negative aspects of perfectionism, as well as have clear implications for use in the context of counseling and treatment (Slaney et al., 2001).

The Almost Perfect Scale-Revised consists of 23 items across 3 subscales: high standards, order, and discrepancy (Slaney et al., 2001). Originally, the high standards and order subscales represented the positive aspects while the discrepancy subscale represented the negative aspects (Slaney et al., 2001) although the order subscale was later dropped following the progression of the field to view order as an associated concept but not capturing the core of perfectionism (J. Stoeber & Otto, 2006). The bidimensional nature of the Almost Perfect Scale-Revised is the earliest representation of what eventually would come to be the 2 X 2 Model (J. Stoeber & Damian, 2014) and has been used extensively to represent the adaptive and maladaptive nature of perfectionism (Flett & Hewitt, 2015; Kahn et al., 2021). Of particular interest is its utility in clinical settings. Rice and Taber (2019) used an 8-item short form of the Almost Perfect Scale-Revised (the Short Almost Perfect Scale [SAPS]; Rice et al., 2014) to identify classes of perfectionists (that closely align with those depicted in the 2 X 2 Model) in a college counseling center setting and track their progress and treatment outcomes. Their findings demonstrated that the Short Almost Perfect Scale was a reliable measure of perfectionism and distinguished between nonperfectionists, adaptive, and maladaptive perfectionists and

differential presentations, associated psychopathology, and treatment outcomes between the classes (Rice & Taber, 2019).

The Almost Perfect Scale-Revised and Short Almost Perfect Scale demonstrate the closest alignment with the 2 X 2 Model, and its development with the specific intention of informing clinical treatment is an obvious strength. Despite its many benefits, it has also been criticized for not truly capturing perfectionism but rather a less extreme variation termed conscientious striving (Blasberg et al., 2016). The authors suggested minor revisions to the item wordings of the High Standards subscale to improve content validity and showed differential associations with related psychopathology between the original and revised versions, demonstrating the importance of accurate measurement that is conceptually sound (Blasberg et al., 2016; Flett & Hewitt, 2015). Unfortunately, research using the Almost Perfect Scale-Revised and Short Almost Perfect Scale have not incorporated the recommended revisions, calling into question ongoing content validity concerns. J. Stoeber (2018b) also argued against creating classes or clusters of perfectionists as it dulls the impact of unique within person combinations of perfectionistic strivings and perfectionistic concerns, and strongly recommends maintaining the dimensional approach of the 2 X 2 Model. Finally, similar to the previously reviewed scales, the Almost Perfect Scale-Revised commits flaw 2 and does not represent a comprehensive measure of perfectionism as described in the Comprehensive Model of Perfectionistic Behavior and Multi-domain Multilevel Model of Perfectionism.

The Big Three Perfectionism Scale

The Big Three Perfectionism Scale (BTPS) is a 45-item measure capturing three higher order global factors: rigid perfectionism, self-critical perfectionism, and narcissistic perfectionism (Smith et al., 2016). While one of the most recently developed scales, it has

garnered significant attention. There are 10 lower-order perfectionism facets assessed: self-oriented perfectionism, self-worth contingencies, concern over mistakes, doubts about actions, self-criticism, socially prescribed perfectionism, other-oriented perfectionism, hypercriticism, grandiosity, and entitlement (Smith et al., 2016). This scale is the result of a recent attempt to synthesize previous research to depict the most salient aspects of perfectionism. Of particular note is the inclusion of the self-worth contingency facet which provides useful insights into a specific pathway through which perfectionism can be harmful, specifically for Self-oriented perfectionists who are generally considered more adaptive (Flett & Hewitt, 2020b). It is also the first scale to provide measurement for the narcissistic aspects of perfectionism (Smith et al., 2016).

While the Big Three Perfectionism Scale opened the door to both the need and benefit of creating a more comprehensive scale, it falls short in a handful of ways. First, while the measurement of the narcissistic aspect is novel and an important consideration of a unique form of perfectionistic expression, it has previously been shown to be distinct (J. Stoeber, 2018a) and is not included in the theories and models previously discussed. Narcissistic perfectionism may be an important distinction in certain clinical contexts but has demonstrated much weaker associations with psychopathology and other forms of psychological maladjustment and distress (Flett & Hewitt, 2020b; Smith et al., 2016). Therefore, it does not provide useful information and guidance for treatment planning for the majority of perfectionists accounted for by previous research.

The main benefit of the Big Three Perfectionism Scale is its usefulness in understanding perfectionism at the facet level and, therefore, gaining greater specificity in understanding the presentation of one's perfectionism (Flett & Hewitt, 2015). Yet the length of the original Big

Three Perfectionism Scale was a deterrent for clinical use resulting in a 16-item short form (Feher et al., 2020). Unfortunately, although the short form gained brevity, it lost the detail and accuracy provided by the original by limiting its use to only assessing the factors (Feher et al., 2020). While the scale was built to incorporate aspects of the FMPS and HMPS into a multidimensional trait measure of perfectionism (Smith et al., 2016), it does not provide a complete picture of perfectionism as outlined by the Comprehensive Model of Perfectionistic Behavior and Multi-domain Multilevel Model of Perfectionism. Specifically, Casale et al. (2020) found that perfectionistic cognitions and perfectionistic self-presentation accounted for unique variances in depression and anxiety beyond that of the Big Three Perfectionism Scale, demonstrating the need to incorporate these components into future measurement. Therefore, while the Big Three Perfectionism Scale is a significant contribution to the field, a more comprehensive and balanced perspective integrating all models must be taken with future measurement (Casale et al., 2020).

Other Global Scales

Three further global perfectionism measures warrant critique. The Positive and Negative Perfectionism Scale (PANPS; Terry-Short et al., 1995) was developed with the intention of distinguishing between positive and negative aspects of perfectionism, with 40 items across two subscales. Although still used infrequently (e.g., Prnjak et al., 2019), it has been heavily criticized for problematic factor validity. Specifically, the positive perfectionism subscale seems to capture possible positive consequences of perfectionism but not perfectionism itself, while the negative perfectionism subscale contains items found on other measures to represent the perfectionistic strivings dimension (Egan et al., 2011; Haase & Prapavessis, 2004; J. Stoeber,

2018b). Therefore, it cannot be considered a valid measure of perfectionistic strivings and perfectionistic concerns perfectionism.

The Measure of Constructs Underlying Perfectionism (M-CUP) was an earlier attempt to synthesize the perfectionism literature and create a comprehensive measurement of the processes that make up the general perfectionism construct (Stairs et al., 2012), resulting in 61 items across 9 scales: Order, Satisfaction, Details and Checking, Perfectionism toward Others, High Standards, Black and White Thinking about Tasks and Activities, Perceived Pressure from Others, Dissatisfaction, and Reactivity to Mistakes (Stairs et al., 2012). While this scale has predominantly been used to provide additional support for the relationship between common perfectionism scales (e.g., FMPS, HMPS, Almost Perfect Scale-Revised) and the scale constructs (i.e., reactivity to mistakes, black and white thinking; Flett & Hewitt, 2015), it suffers from the problem of measurement error. The Measure of Constructs Underlying Perfectionism measures distinct facets related to perfectionism but fails to statistically identify a common perfectionism factor that unites the facets, therefore, leading to misrepresentation of the construct and factor model (Rhemtulla et al., 2020). Moreover, many of the facets represented have been dropped from current perfectionism conceptualizations (e.g., order, details and checking), therefore, the measure does not stem from a solid theoretical foundation and cannot be considered a reliable or valid measure of perfectionism.

The Perfectionism Inventory (PI) is a 59-item scale separated into 8 subscales: Organization, High Standards for Others, Striving for Excellence, Planfulness, Concern over Mistakes, Need for Approval, Parental Pressure, and Rumination (R. W. Hill et al., 2004). The authors further identified two higher order factors labeled Conscientious Perfectionism and Self-evaluative Perfectionism that can generally be related to perfectionistic strivings (PS) and

perfectionistic concerns (PC), respectively (R. W. Hill et al., 2004). Originally created to integrate the FMPS and HMPS into one comprehensive scale, it suffers from similar limitations noted previously--particularly the inclusion of facets that have ultimately been separated out from the perfectionism construct (e.g., organization, planfulness, high standards for others, parental pressure; J. Stoeber, 2014, 2018a; J. Stoeber & Otto, 2006). The scale also demonstrated unsatisfactory convergent, discriminant, and factor validity in a recent investigation (Samfira & Maricuţoiu, 2021). Therefore, while the Striving for excellence and Concern over mistakes subscales may be used as proxies to assess PS and PC, respectively (J. Stoeber & Otto, 2006), it fails to offer a theoretically comprehensive and up-to-date assessment of perfectionism.

Perfectionism Subscales

Two subscales of nonperfectionism measures have previously been developed to assess perfectionism in clinical settings. The self-criticism subscale of the Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976) and the self-critical items from the Dysfunctional Attitude Scale (DAS; Weissman & Beck, 1978) have both been used as indicators of perfectionism yet they measure self-criticism not perfectionism. Despite self-criticism being a related construct, it is entirely distinct from perfectionism and should not be conflated or used in place of specific perfectionism measurement (J. Stoeber, 2018b). A specific six-item perfectionism subscale from the Eating Disorder Inventory (EDI; Garner et al., 1983) does meet the specificity requirement and indeed measures perfectionism, but a unidimensional conceptualization of perfectionism that is now considered outdated following the multidimensional revolution in the 1990s (Flett & Hewitt, 2015). While not a subscale, the Burns Perfectionism Scale (BPS; Burns, 1980) was also widely used as a unidimensional and clinical measure of perfectionism but was similarly discarded following the seminal research on

multidimensional perfectionism and its lack of theoretical consistency with the modern conceptualization of perfectionism (Flett & Hewitt, 2015).

Perfectionistic Cognitions

Three perfectionism scales share a focus on measuring perfectionistic cognitions. The Perfectionism Cognitions Inventory (PCI; Flett et al., 1998) was the first, and currently most commonly used, measure to isolate assessment of the cognitive processes that underlie perfectionism. The 25-item measure captures the frequency of automatic thoughts associated with perfectionism that are meant to reflect the perfectionistic self-schema (Flett & Hewitt, 2015; Flett et al., 1998). Developed as a unidimensional measure, it focuses on the self-oriented perfectionistic cognitions and fails to adhere to the multidimensional nature of perfectionism, although the authors argue it has utility as an outcome measure for assessing the efficacy of cognitive based treatments for perfectionism (Flett & Hewitt, 2015). Given that cognitions are only one component of the perfectionist experience, recent literature points toward a need to move beyond cognitive based treatments and incorporate more relational and emotional interventions in order to be effective (Hewitt et al., 2018; Malivoire et al., 2019; Rice et al., 2018; Woodrum & Kahn, 2021).

Developed in response to the need for a multidimensional measure of perfectionistic cognitions, the Multidimensional Perfectionistic Cognitions Inventory (MPCI; Kobori & Tanno, 2004) and the English version (MCPI-E; Kobori, 2006; J. Stoeber et al., 2010) is a 15-item measure capturing 3 types of perfectionistic cognitions: Personal Standards, Pursuit of Perfection, and Concern Over Mistakes. The Personal Standards subscale represents positive perfectionistic cognitions, while the Concern Over Mistakes subscale represents negative cognitions resulting in a reliable measure that demonstrates unique variances with both positive

and negative outcomes (J. Stoeber et al., 2010). The theoretical benefit to assessing both positive and negative cognitions is supported by research examining the mutual suppression effect of positive and negative aspects of perfectionism (e.g., J. Stoeber et al., 2014a).

In further investigations of the measurement of perfectionistic cognitions, the PCI was shown to reflect a multidimensional construct with three factors labeled perfectionistic concerns, perfectionistic strivings, and perfectionistic demands (J. Stoeber et al., 2014a). In comparison to the Multidimensional Perfectionistic Cognitions Inventory-English, the PCI was shown to explain overall more variance than the MCPI-E and stronger positive and negative associations with psychological maladjustment, seemingly identifying the PCI as a viable multidimensional measure of perfectionistic cognitions (J. Stoeber et al., 2014a). Yet these findings were questioned with specific emphasis on the number and interpretation of the factors found (Flett & Hewitt, 2014; J. Stoeber et al., 2014b). The debate concludes with an acknowledgement that while both the PCI and Multidimensional Perfectionistic Cognitions Inventory-English show potential as clinically useful multidimensional measures of perfectionistic cognitions, there are ongoing flaws that need to be addressed by future research (J. Stoeber et al., 2014b). In consideration of this research, both measures commit flaw three by isolating cognitions and failing to provide a comprehensive assessment of perfectionism.

The Performance Perfectionism Scale (PPS; Chang, 2006) is worth noting as it combines trait perfectionism (self-oriented (SO) and socially prescribed (SP) dispositions) with outcome cognitions to differentiate four aspects of performance-oriented perfectionism: both positive and negative outcome orientations for both SO and SP. The distinction between positive and negative outcome cognitions is unique in its focus on goal achievement and it provides a helpful look into specific ways in which perfectionism interacts with goal motivation and achievement, yet the

scale has not been adopted by further research investigations. Overall, while the Performance Perfectionism Scale has added a unique perspective in exploring the interaction of trait and cognitive components of perfectionism, it fails to provide a comprehensive assessment of perfectionism and does not contribute to the measurement of perfectionism above that of other more commonly used scales.

Perfectionistic Presentation

The assessment of perfectionistic self-presentation has predominately focused on the Perfectionistic Self Presentation Scale (PSPS; Hewitt, Flett, Sherry, et al., 2003). The 27-item scale measures the three facets that compose the perfectionistic self-presentation as outlined by the Comprehensive Model of Perfectionistic Behavior (CMPB): perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection (Hewitt et al., 2017; Hewitt, Flett, Sherry, et al., 2003). While the PSPS has substantial merit in understanding presentation and interpersonal styles of relating to others that have significant clinical utility and implications (Hewitt et al., 2017), it is limited in its scope to only capture one component of perfectionism, committing flaw 3. It has also been questioned for not fully capturing the need to *be* perfect, but rather the need to *seem* perfect, thereby not differentiating among dispositional styles (Flett & Hewitt, 2015).

A related concept of effortless perfectionism has been investigated in recent years, producing two measures of perfectionistic presentation that isolate a desire to hide effort in pursuit of perfection. The Effortless Perfectionism Scale (EPS; Travers et al., 2015) is a 10-item unidimensional measure of the concealment of the effort put into high-level performance, going one step beyond simply the desire to be or appear perfect to include being or seeming perfect without trying. Similarly, the Perfectionistic Self-Presentation Hiding Effort Scale (PSP-HES;

Flett, Nepon, et al., 2016) is a 4-item extension of the PSPS that assesses the need to seem perfect while concealing effort. Both scales were developed based on the CMPB and a desire to extend the existing measurement of perfectionistic self-presentation, and both scales demonstrate that effortless perfection accounts for unique variance beyond that of PSPS alone (Flett, Nepon, et al., 2016; Travers et al., 2015). While this was a significant addition to our understanding of perfectionistic presentation and should be included in further measurement, perfectionistic presentation assessment is not comprehensive but one complex component (Flett, Nepon, et al., 2016).

Consequences of Perfectionism Scale

A unique measure of an individuals perceived consequences of their perfectionistic tendencies, both positive and negative, the 10-item Consequences of Perfectionism Scale (COPS; Kim, 2010) is worth noting for its clinical usefulness. As noted previously, despite the clear associations with psychological maladjustment, there are also clear advantages to perfectionism which contribute to the reluctance seen in individuals in attempts to treat perfectionism in clinical settings (Hewitt et al., 2017; J. Stoeber, Hoyle, & Last, 2013). This scale is a useful addition to help clinicians understand how an individual perceives their perfectionism and can provide important feedback for developing targeted interventions that address discrepancies in these perceptions and outcomes (J. Stoeber, Hoyle, & Last, 2013). Similarly to other scales already described, this scale is an important addition in the clinical assessment of perfectionism but fails to provide a comprehensive understanding of perfectionism.

Domain Specific Scales

As described in the Multi-domain Multilevel Model of Perfectionism, perfectionism is best assessed in the context of varying life domains (Gaudreau et al., 2018; Haase et al., 2013; F.

S. Stoeber & Stoeber, 2009). In response to findings of differential perfectionistic tendencies across various domains, a handful of domain specific perfectionism measures have been created. The 12-item Physical Appearance Perfectionism Scale (PAPS; Yang & J. Stoeber, 2012) assess positive (Hope for Perfection) and negative (Worry about Imperfection) aspects of perfectionism related to physical appearance. A 65-item Multidimensional Parenting Perfectionism Questionnaire (MPPQ; Snell et al., 2005) was developed to assess perfectionistic parenting. A 24-item Multidimensional Sexual Perfectionism Questionnaire (MSPQ; Snell, 2011) was developed to assess sexual perfectionism based on the Self-oriented and Socially Prescribed traits described in the HMPS (J. Stoeber, Harvey, et al., 2013). Various scales have been developed to assess perfectionism in sport, dance, and exercise including the Sport-MPS (Dunn et al., 2002), the Sport-MPS-2 (Gotwals & Dunn, 2009), the Perfectionism in Sport Scale (PSS; Anshel & Eom, 2003), and the Multidimensional Inventory of Perfectionism in Sports (MIPS; Stöber et al., 2004; J. Stoeber et al., 2006). Finally, various research investigations used existing measures such as the FMPS or HMPS to explore specific domains such as moral perfectionism (Yang et al., 2015). While these various scales may provide helpful context specific assessment of perfectionism in a particular domain, their clinical usefulness is limited to the specific domain in question, thereby committing flaw three.

Summary

It was clear that the assessment of perfectionism has been an area of particular interest for researchers and measurement has sought to keep up with the dynamic, complex, and multifaceted nature of perfectionism and the rapid evolutions of the phenomenon. Much has been gained from the explosion of scales as the understanding of perfectionism has grown with each new addition (J. Stoeber, 2018b). Yet moving forward, perfectionism measurement needs a

comprehensive synthesis of the existing theories and models in order to provide robust clinical utility to inform prevention and intervention planning (Wade, 2018), particularly in light of the increased need for perfectionism treatment in the current pandemic context (Flett & Hewitt, 2020a).

The current gap in perfectionism measurement is best explained by the existence of three major failings: not incorporating PS or positive aspects and conceptualizations of perfectionism; measuring general perfectionism without integrating the three components described in the Comprehensive Model of Perfectionistic Behavior (traits, cognitions, and presentation); and measuring specific components or domains that are not generalizable to global perfectionism. While it is theoretically possible to administer multiple perfectionism measurements to address these failings, the practical and logistical considerations pose a threat to accurate, efficient, and brief assessment thereby reducing the likelihood for researchers and clinicians to adopt perfectionism measurement into their research and practice. In summary, the purpose of this study was to develop and provide initial validation for a new perfectionism measure that has utility in both clinical and research settings.

CHAPTER III

METHODS

Research Design

The purpose of this study was to develop and provide initial validation for a new perfectionism measure that has utility in both clinical and research settings. This study utilized the Classical Test Theory (CTT) approach (i.e., exploratory and confirmatory factor analyses) to provide a foundation for the dimensionality and reliability of a new developed measure. Item-Response Theory (IRT) analyses were then used to further examine the measure's underlying latent variables and individual item properties. IRT analysis has demonstrated significant benefits for scale development compared to Classical Test Theory and has been presented as a more sophisticated and newer approach in scale development research (Reise & Revicki, 2015; Whittaker & Worthington, 2016). While both share commonalities, IRT focuses on individual items rather than the whole scale, producing measures that demonstrate greater reliability independent of the sample used (DeVellis, 2017). IRT also differentiates levels of the attribute being measured by each item, allowing for the construction of items at each level thereby ensuring the measure captures all desired levels of response (DeVellis, 2017). By using IRT in this study, I examined the developed measure's ability to demonstrate reliability independent of the sample used and discrimination across levels of the latent variables in question.

According to best practices, there are three phases in scale development: item development, scale development, and scale evaluation (Boateng et al., 2018). The first phase, item development, includes identification of the domain(s) and item generation utilizing theory

and focus groups, followed by providing support for content validity through expert review. The second phase, scale development, includes pre-testing the questions, sampling and survey administration, item reduction, and factor extraction. The final phase, scale evaluation, includes testing dimensionality, reliability, and validity. The remainder of this chapter will follow the phase structure in outlining the scale development process. IRB approval was secured before data collection began.

Phase One: Item Generation

Focus Groups

Focus groups were conducted with student and community populations demonstrating perfectionistic tendencies, beliefs, and attitudes identified through administering a perfectionism screener to volunteers. The Frost Multidimensional Perfectionism Scale-Brief (FMPS-B) was used as a screener for perfectionistic tendencies and participants were recruited using non-probability convenience sampling via social media postings and snowball sampling. 44 people completed the screener and established cutoff scores were utilized to identify individuals with perfectionistic tendencies with a summed score of 14 as the minimum for the perfectionistic strivings (PS) subscale (Burgess et al., 2016; Ong et al., 2022). Of the 44 survey participants, 29 had PS scores above the cutoff and were contacted to participate in the focus groups.

Five focus groups were conducted with 14 participants (9 community and 5 students) with between 2-4 people per group. The 14 individuals who responded and confirmed their participation were sent Informed Consent documents to digitally sign before their scheduled focus group as well as a demographic questionnaire (see Table 1 for a summary of demographic information). The focus groups took place over Zoom and lasted between 34 and 65 minutes. A semi-structured process was utilized, and the specific prompts are listed in Appendix A. All

sessions were recorded, transcribed, and subsequently coded using deductive thematic analysis (Clarke & Braun, 2017). Themes, descriptions, and examples are included in Appendix B.

Table 1

Focus Group and Pre-Testing Participant Demographics

	Focus Group		
	Community	Student	Pre-Testing
Mean PS	17.11	17.08	15.08
Mean PC	14.58	14.58	13.73
Mean Age	41	32	32
Gender	66% Cis Woman 33% Cis Man	100% Cis Woman	66% Cis Woman 17% Cis Man|17% Gender Diverse
Race/Ethnicity	66% White	80% White	66% White
Sexuality	88% Heterosexual	60% Heterosexual	66% Heterosexual
Highest Level of Education Completed*	22% PhD 33% MA 33% BA 11% Some College	40% PhD 60% MA	42% PhD 42% MA 8% BA 8% Some College

Note. * Specific degrees listed in the table are general; participants may have held other degree equivalencies.

The domains of the scale, or the latent variable being measured, were defined through theoretical foundation and focus group themes and an item pool of 135 was generated based on theory, focus group themes, and by utilizing existing perfectionism measures (see Appendix C). Utilizing both deductive and inductive approaches in the initial item generation provides both theoretical grounding as well as meaningful application in real-world settings (Boateng et al., 2018). Three higher order domains were identified as well as 2-3 subdomains for each, for a total

of 7 subdomains with 17-20 items per subdomain, following the recommendations of item pools 2-5 times larger than the desired final number (Boateng et al., 2018; DeVellis, 2017). The subdomains and their descriptions are included in Table 2. The overall Flesch-Kincaid reading level for all 135 items was 7.5.

Table 2

Initial Item Pool Categories, Subcategories, and Descriptions

Categories/Subcategories	Description
Perfectionistic Presentation	
Perfectionistic Self-Promotion	An "active display" of perfection in an attempt to impress others; a desire to present a flawless or faultless image; feeling the need to present oneself as perfect; associated appearance related concerns.
Nondisclosure of Imperfection	A "passive" form of concealing flaws from others by avoiding admitting any information that may reveal imperfection, mistakes, or failures; a desire to conceal effort from others; feeling the need to keep problems to self and/or solving problems independently without aid from others.
Nondisplay of Imperfection	A "passive" form of concealing flaws from others by avoiding any action that would reveal imperfection, mistakes, or failures; a strong need to avoid activities that would reveal anything less than flawlessness; avoiding making mistakes in the presence of others.
Perfectionistic Traits	
Self-Oriented	One's motivation to pursue "perfection" that stems from one's own internal desires; involves setting exceedingly high expectations for oneself; continuous, never-ending self-directed pursuit.
Socially Prescribed	One's motivation to pursue "perfection" that stems from a belief or perception of the exceedingly high expectations placed upon them by others; involves attempting to strive for those standards set by others that can feel like a "pressured pursuit" or "being chased"; strong need to strive toward perfection to maintain external relationships.
Perfectionistic Cognitions	
Perfectionistic Concerns	Evaluations and self-reflections centered on self-criticism, catastrophizing, avoiding mistakes, and fear of failure.
Perfectionistic Strivings	Evaluations and self-reflections that are centered on relentless striving toward a perfectionistic ideal, setting and attempting to go beyond excessively high standards, and an inability to feel satisfied with one's performance.

Expert Review

The 135-item initial item pool was then sent to experts in the areas of either scale development (individuals holding a PhD who have developed scales published in peer-reviewed journal), clinical work (PhD level Licensed Psychologists), or the construct of perfectionism. Experts in perfectionism were initially defined as individuals who had published numerous research articles on perfectionism in peer-reviewed journals. However, due to the lack of response, this was subsequently defined as PhD level Licensed Psychologists who, by self-report, had worked more extensively with therapy clients who struggled with perfectionistic tendencies.

Six experts provided review, with two experts from each area noted above following best practice recommendations suggesting a minimum of five experts (Boateng et al., 2018; Haynes et al., 1995). All six held PhDs and five of the six were Licensed Psychologists who had been licensed for at least 7 years. All experts were provided with the item pool and the subcategories with their associated descriptions and were asked to provide feedback on content validity. Content validity, as applied to scale development, seeks to provide support for content relevance, representativeness, and technical quality (Boateng et al., 2018). This includes ensuring the domains and content have generally accepted meanings, are unambiguously defined, are relevant to the measure's purpose, and have been sufficiently sampled and reliably observed (Boateng et al., 2018).

Feedback on item wording, clarity, and construction was incorporated to improve consistency and comprehension. Feedback was also incorporated for removing or improving specific items to reduce redundancy, remain consistent with the category definitions, or eliminate ambiguity or possible confusion. Per one expert's recommendation, a few items were added to

each subcategory to ensure that foundational aspects of the definition were represented. Experts also provided positive feedback such as noting that the categories and items accurately represented their work with perfectionistic clients/students, valuing the breadth of experiences captured by the items, and appreciating both the "active/pursuit" and the "passive/avoidant" items. Two experts also highlighted items that either stood out as representing crucial aspects of the perfectionistic experience, or that represented the category definitions particularly well. Based on the provided feedback, items were modified, removed, or added, resulting in 104 items with a Flesch-Kincaid Reading level of 7.0.

Phase Two: Scale Development

Pre-Testing

The first step in the scale development phase was to pre-test the questions using a small subset of the target population, to provide additional support for item clarity and that the items are meaningful to the members of the target population (Boateng et al., 2018). Participants included a few of the focus group participants and additional volunteers recruited using non-probability convenience and snowball sampling who scored above the cutoff on the FMPS-Brief perfectionism screener. Participants were asked to provide feedback on the items by utilizing track changes and comments in an editable Microsoft Word document, paying particular attention to clarity and relevance of each item to their personal experiences.

A total of 12 participants (4 focus group, 8 new; see Table 1 for demographics) provided feedback on item clarity and redundancy as well as the meaningfulness of the items in capturing their perfectionistic experiences. All of the participants noted that most to all of the items captured their experiences and felt meaningful. Many items were edited to increase clarity and reduce ambiguity. One participant noted that the use of "often" in some questions might lead to

mixed responding about frequency rather than the presence of the behavior itself, thus often was removed throughout. A further 6 items were removed due to redundancy for a total of 98 items with a Flesch-Kincaid reading level of 7.0. Appendix D contains the final list of 98 items that were used in the survey development process. Figure 2 summarizes the processes of phase one (focus groups, item generation, and expert review) and pre-testing that culminated in the final 98-item pool.

Survey Administration

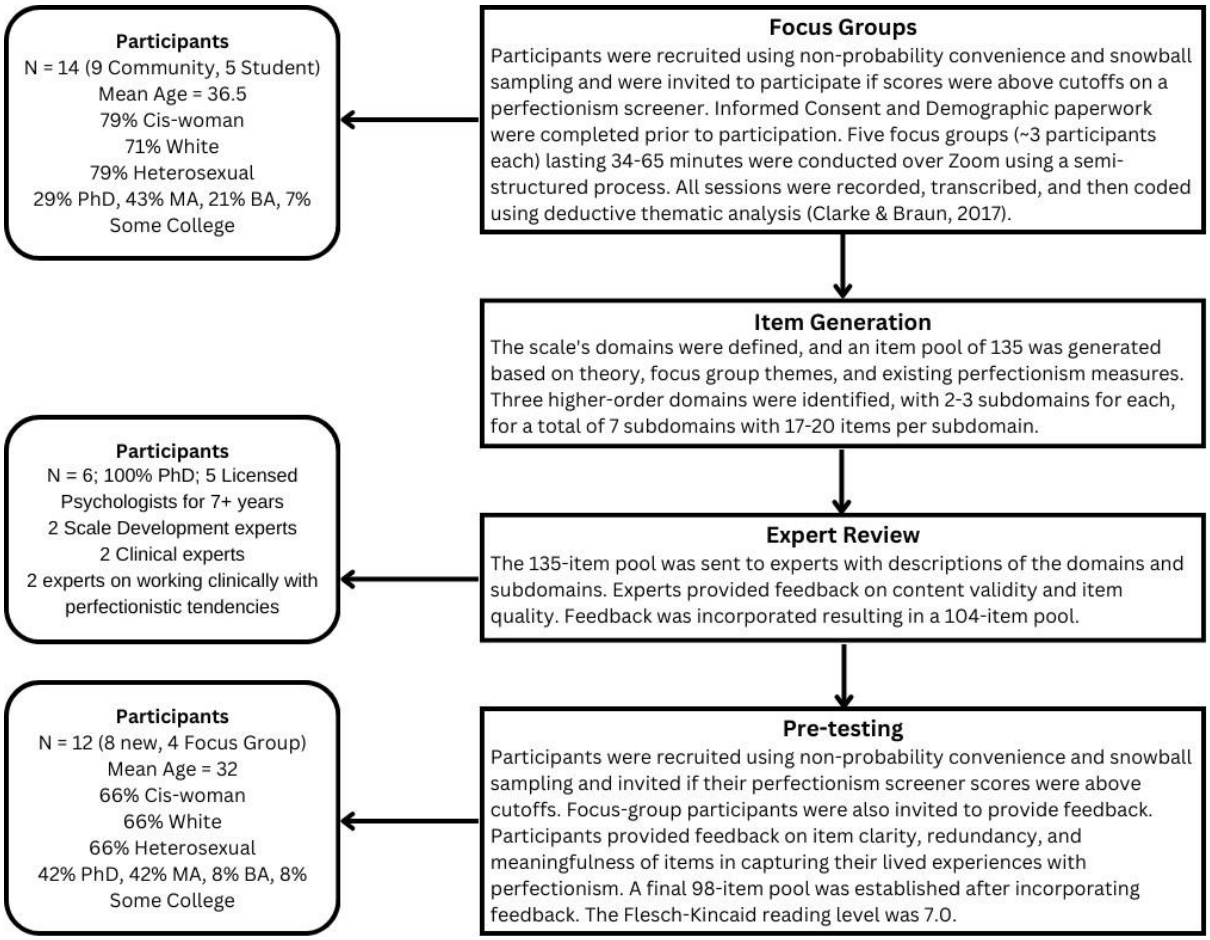
Using the final set of 98 items derived from pre-testing, the full measure was then administered to participants using the Prolific platform. Additional measures were included with the developed measure to assess for convergent and discriminant validity in the scale evaluation phase.

Participants

A non-probability convenience sample was collected through Prolific (www.prolific.co), a web-based crowdsourcing platform for gathering research participants. A study conducted by Peer et al. (2017) found that participants on Prolific were more naïve, less dishonest, and more diverse than Amazon's MTurk (www.mturk.com) platform and that the data quality produced by Prolific was comparable. Participants were screened through existing Prolific systems and had to meet the following inclusion criteria: aged 18 or over, self-reported English as their first language, self-reported United States nationality, and completion of high school, GED, or equivalent. Participants were excluded if they had self-reported literacy difficulties in the Prolific system. These inclusion and exclusion criteria attempted to ensure respondents could read and comprehend the questions on the online questionnaire and to limit the possibility of differing cultural interpretations of the questions.

Figure 2

Procedures for Phase One Scale Development and Pre-Testing



Note. Specific degrees listed in the table are general; participants may have held other degree equivalencies.

While there are no definitive requirements for sample size, when conducting Classical Test Theory best practice suggests at least 200 participants although 300-500 is preferred (Boateng et al., 2018). DeVellis (2017) recommends large and diverse sample sizes for IRT while Jiang et al. (2016) found that a sample of 500 is sufficient for adequate parameterization and modeling, even for large measures, and that increasing sample size beyond 500 did not improve the statistical findings except for measures with more than 200 items. For this study,

500 participants were recruited with a majority identifying as White, a cisgender woman, and heterosexual (see Table 3 for demographics). Participant scores on included mental health screeners for depression (PHQ-9; Kroenke et al., 2001; Levis et al., 2019), anxiety (GAD-7; Spitzer et al., 2006), and obsessive-compulsive disorder (OCI-R; Foa et al., 2002; Wootton et al., 2015) were assessed to determine the number of participants scoring above clinical cutoffs (see Table 4 for a summary).

Procedure

Following IRB approval (see Appendix E), the developed measure was designed on Qualtrics (www.qualtrics.com) and linked to the Prolific platform along with a brief description of the survey and participant requirements. Information regarding participant compensation and successful completion of the study was clearly provided, including participants' passing attention checks embedded in the survey. Participants were able to opt in to taking the survey by clicking the link provided through Prolific and could leave the study or rescind their response at any time. Participants were required to agree to an informed consent document before proceeding to the survey items and were debriefed following completion. The survey used force response logic for each item to prevent missing data and the items and blocks of items were presented in random order to reduce order effects. Demographic questions were included at the end of the survey prior to debriefing. Upon successful completion of the study, participants were monetarily compensated through the Prolific platform. Median completion time for the survey was 17 minutes and the cost per person was $3.56 ($2.67 paid directly to each participant and $0.89 per participant for service fees). Total cost for the data collected was N = 500 x $3.56 = $1,780.

Table 3

Participant Demographics

Demographic Variable	*n*	%
Age		
19-29	84	16.8
30-39	137	27.4
40-49	105	21.0
50-59	96	19.2
60-69	59	11.8
70-79	19	3.8
Race/Ethnicity		
White/Caucasian	392	78.4
Black/African American	46	9.2
Hispanic/Latinx	22	4.4
Multiracial/Multiethnic	20	4.0
Asian/Asian American	17	3.4
Middle Eastern	2	0.4
An identity not listed	1	0.2
Gender[1]		
Cisgender Woman	263	52.6
Cisgender Man	194	38.8
Transgender Man	6	1.2
Non-binary	6	1.2
Transgender Woman	4	0.8
Gender non-conforming/Genderqueer	2	0.4
An identity not listed	20	4.0
Sexual/Romantic Orientation[1]		
Heterosexual/Heteroromantic	403	80.6
Bisexual/Biromantic	56	11.2
Gay or Lesbian	12	2.4
Pansexual/Panromantic	12	2.4
Asexual/Aromantic	9	1.8
Questioning or Queer	4	0.8
An identity not listed	3	0.6
Highest Education Level Completed		
High School Diploma or GED	149	29.8
Technical/Community College	87	17.4
Undergraduate Degree (BA/BS/Other)	198	39.6
Graduate Degree (MA/MS/Other)	59	11.8
Doctorate Degree (PhD/Other)	7	1.4

[1] There were 5 missing data points for Gender and 1 missing data point for Sexual/Romantic Orientation.

Table 4

Number of Participants Scoring Above Clinical Cutoffs

Measure	*n*	%
Patient Health Questionnaire (PHQ-9)		
cutoff score ≥ 10	127	25.4
Generalized Anxiety Disorder (GAD-7)		
cutoff score ≥ 10	121	24.2
Obsessive Compulsive Inventory-Revised (OCI-R)		
Obsessive Compulsive Disorder cutoff score ≥ 18	144	28.8
Hoarding cutoff score ≥ 6	82	16.4

Measures

Existing measures of perfectionism were included to evaluate convergent validity while measures assessing other related constructs such as depression, anxiety, obsessive-compulsive disorder, and self-concealment were used to evaluate discriminant validity. A social desirability scale was also included in the survey as a validation check, following the suggestion of DeVellis (2017). Table 5 summarizes each of the included scales, mean scores, and Cronbach's alphas.

Convergent Validity. To evaluate convergent validity, four scales within the perfectionism domain were used: one assessing global adaptive and maladaptive perfectionism, one assessing motivation sources for global perfectionism, one assessing perfectionistic cognitions, and one to assess perfectionistic presentation.

Table 5

Scales Used to Assess Convergent and Discriminant Validity

Measure	Range	*M*	*SD*	α	Domain Measured
Convergent Validity					
FMPS-Brief	8-40	21.40	7.86	.897	General Perfectionism
Strivings	4-20	11.79	4.63	.916	
Concerns	4-20	9.62	4.41	.878	
MPS-S	10-70	35.28	14.96	.931	Trait Dimension
Self-Oriented	5-35	20.08	8.47	.919	
Socially Prescribed	5-35	15.20	7.85	.901	
PSPS	27-189	105.64	33.28	.955	Presentation Dimension
Self-Promotion	10-70	38.42	13.67	.913	
Non-display	10-70	42.50	14.31	.923	
Non-disclosure	7-49	24.73	8.71	.844	
PCI-10	10-50	13.89	10.24	.932	Cognition Dimension
Discriminant Validity					
PHQ-9	0-27	6.02	6.01	.905	Anxiety
GAD-7	0-21	5.74	5.49	.927	Depression
OCI-R	0-72	33.34	13.25	.925	
OCD	0-60	12.71	11.47	.919	Obsessive-Compulsive Disorder
Hoarding	0-12	2.63	2.79	.820	Hoarding Disorder
SCS	10-50	27.48	10.57	.918	Self-concealment
BIDR-Short.24	24-168	99.72	20.53	.846	Socially Desirable Responding
SDE	12-84	51.16	11.27	.785	Self-Deceptive Enhancement
IM	12-84	48.56	12.39	.776	Impression Management

Note. $N = 500$; BIDR-Short.24 = Balanced Inventory of Desirable Responding-Short.24; FMPS-Brief = Frost Multidimensional Perfectionism Scale-Brief; GAD-7 = Generalized Anxiety Disorder-7; MPS-S = Brief Hewitt and Flett Multidimensional Perfectionism Scale; OCI-R = Obsessive-Compulsive Inventory-Revised; PCI-10 = Perfectionism Cognitions Inventory-10; PHQ-9 = Personal Health Questionnaire-9; PSPS = Perfectionistic Self Presentation Scale; SCS = Self-Concealment Scale.

Frost Multidimensional Perfectionism Scale-Brief (FMPS-Brief). The FMPS-Brief was used to assess convergent validity of the latent constructs perfectionistic strivings and perfectionistic concerns in the new measure that is being developed. This scale was a brief version of the Frost Multidimensional Perfectionism Scale (Frost et al., 1990) and contained eight items total, four measuring perfectionistic striving, and four measuring evaluative concerns, two of the most prominent and heavily used of the original subscales (Burgess et al., 2016). This scale was normed on three distinct populations comprising a community sample from a women's liberal arts college (N = 881), a clinical sample (N = 90, primarily OCD and Hoarding Disorder diagnoses), and a measurement equivalence sample of undergraduate students (N = 405). For each sample, the majority of participants were female-identifying and Caucasian, with mean ages of 20, 51, and 22, respectively (Burgess et al., 2016). The items were answered on a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*) with higher mean scores indicating greater endorsement of either perfectionistic striving or evaluative concerns.

Scores on this measure have shown good internal reliability with adult samples with α's ranging from .83-.85 for evaluative concerns and from .81-.85 for perfectionistic striving, as well as strong convergent and discriminant validity with measures of anxiety, depression, worry, hoarding, and other measures of perfectionism (Burgess et al., 2016). Example items included: "If I fail at work/school, I am a failure as a person," and "I have extremely high goals." The current study utilized the perfectionistic striving subscale as an indicator of the PS dimension and the evaluative concerns subscale as an indicator of the PC dimension, consistent with the bulk of the perfectionism literature (Burgess et al., 2016; J. Stoeber & Otto, 2006).

Brief Hewitt and Flett Multidimensional Perfectionism Scale (MPS-S). The MPS-S was used to assess convergent validity of the latent construct representing the trait dimension of the

new scale. This scale is a 15-item brief version of the 45 item Hewitt and Flett Multidimensional Perfectionism Scale (Hewitt et al., 1991), designed to assess multidimensional perfectionism across three dimensions: Self-Oriented (SOP), Socially Prescribed (SPP), and Other Oriented (OOP; Cox et al., 2002). Each of the three subscales consisted of five items answered on a 7-point Likert-type scale (1 = *disagree*, 7 = *agree*) with higher mean scores indicating greater endorsement of traits represented by each subscale. Only the Self-Oriented and Socially Prescribed subscales were used in the current study, with Self-Oriented used as an indicator for the trait contributing to the PS dimension and Socially Prescribed as an indicator for the trait contributing to the PC dimension, consistent with previous literature (Cox et al., 2002; J. Stoeber & Otto, 2006). Example items included: "One of my goals is to be perfect in everything I do" and "People expect nothing less than perfection from me."

This shortened version was normed on three distinct populations comprising a clinically distressed sample of adult outpatients seen for mood disorders (N = 412, majority female), a college student sample (N = 218, first-year undergraduates, majority female), and a medical student sample (N = 96, majority male; Cox et al., 2002). The mean age for each sample was 40, 19, and 25, respectively. The scores of this measure demonstrated strong internal reliability in adult samples for both subscales in previous studies samples with α's ranging from .81-.85, as well as strong correlations (.91-.96) with the original full-length measure (Cox et al., 2002). Convergent and discriminant validity was demonstrated with significant correlations in expected directions with measures of depression, neuroticism, conscientiousness, academic achievement, and other measures of perfectionism (Cox et al., 2002).

Perfectionistic Self Presentation Scale (PSPS). The PSPS was used to assess convergent validity of the latent construct representing the presentation dimension of the new scale. This

27-item scale was designed to assess one's interpersonal expression of perfectionism and comprises 3 subscales: Perfectionistic Self-Promotion (proclaiming and displaying one's perfection), Nondisplay of Imperfection (concealing and avoiding behavioral demonstrations of one's imperfection), and Nondisclosure of Imperfection (evading and avoiding verbal admissions of one's imperfection; Hewitt, Flett, Sherry, et al., 2003). The items were answered on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*) and items under each subscale were added to create a total subscale score ranging from 10-70 for Self-Presentation and Nondisplay, and from 7-49 for Nondisclosure, with five of the items reverse-scored (Hewitt, Flett, Sherry, et al., 2003). Higher scores indicate greater endorsement of perfectionistic self-presentation, and consistent with the literature, this measure was used in its entirety as an indicator for presentation facet contributing to the higher order perfectionistic concerns dimension (Hewitt et al., 2017; Hewitt, Flett, Sherry, et al., 2003; J. Stoeber, 2018a).

Multiple samples were used in the creation and validation of this measure, comprising three distinct population groups including a university sample (N = 1,695), a psychiatric sample (N = 1,131), and a community sample (N = 501) and internal consistency reliability alphas ranged from .84-.89 for Self-Promotion, .83-.91 for Nondisplay, and .72-.88 for Nondisclosure with these adult samples (Hewitt, Flett, Sherry, et al., 2003). Test-retest reliability coefficients ranged from .74-.84 over a 3-week time period and .79-.81 over a 4-month time period (Hewitt, Flett, Sherry, et al., 2003). Strong convergent and discriminant validity was demonstrated in expected directions with a variety of constructs such as measures of anxiety, depression, personality traits such as narcissism and self-consciousness, self-esteem, need for approval, self-concealment, positive and negative affect, and other measures of perfectionism (Hewitt, Flett, Sherry, et al., 2003). Example items include "I try always to present a picture of perfection," "I

judge myself based on the mistakes I make in front of other people," and "I never let others know how hard I work on things."

Perfectionism Cognitions Inventory-10 (PCI-10). The PCI-10 was used to assess convergent validity of the latent construct representing the cognitions dimension of the new scale. This 25-item scale asks participants to rate how frequently they experienced specific perfectionistic thoughts over the past week on a Likert-type scale 1 (*Not at all*) to 5 (*All the time*; Flett et al., 1998). The original scale has demonstrated strong reliability and validity in adult undergraduate and clinical samples across numerous studies (e.g., Flett & Hewitt, 2015; Hewitt et al., 2017). Initially developed as a unidimensional measure, Cronbach's alphas for total scores created by summing all items have consistently been above .90 with various adult samples (e.g., Flett et al., 2012). Example items included: "I should be perfect," "My work should be flawless," and "No matter how much I do, it's never good enough." (Flett et al., 1998).

Recent investigations have identified a multidimensional factor structure for the Perfectionism Cognitions Inventory with three factors: perfectionistic concerns, perfectionistic strivings, and perfectionistic demands (J. Stoeber et al., 2014a). Analyses using these three factors demonstrated the Perfectionism Cognitions Inventory factor scores explained more variance in psychological adjustment and maladjustment compared to the Perfectionism Cognitions Inventory total score (J. Stoeber et al., 2014a). The original authors acknowledged the findings but critiqued the number and interpretation of the factors as outlined (Flett & Hewitt, 2014). Ultimately, A. P. Hill and Donachie (2020) reevaluated the original Perfectionism Cognitions Inventory and constructed a 10-item unidimensional version that maintains the original theoretical development proposed in the Comprehensive Model of Perfectionistic Behavior. The 10-item version (PCI-10) demonstrated sound reliability, validity, and high

correlations with the original measure; therefore, this version was used in this research (A. P. Hill & Donachie, 2020).

Discriminant Validity. A total of five scales were included with the developed measure to assess discriminant validity: three scales evaluate symptoms of commonly co-occurring disorders (anxiety, depression, and obsessive-compulsive disorder), one scale evaluating self-concealment and one scale analyzing socially desirable responding.

Personal Health Questionnaire-9 (PHQ-9). The PHQ-9 developed by Kroenke et al. (2001) was the most commonly used depression screener in clinical settings (Levis et al., 2019). It consisted of 9 items answered on a Likert-type scale ranging from 0 (*Not at all*) to 3 (*Nearly every day*) in response to how often the individual has been bothered by a list of problems over the past 2 weeks (Kroenke et al., 2001). Higher scores indicated greater endorsement of depressive symptoms and greater severity, with a normed cut score of ≥ 10 (Kroenke et al., 2001). The scale has been validated in numerous populations and settings with high reliability in adult samples (α's ranging between .8s and .9s), convergent and discriminant validity, and strong sensitivity and specificity ≥ 80% with cut scores ≥ 10 (Levis et al., 2019). Despite measurement variance for individuals identifying in gender and sexual minorities, researchers hypothesize the tendency toward false positive results may indicate true group differences rather than poor scale performance (Borgogna et al., 2021).

Generalized Anxiety Disorder-7 (GAD-7). The extensively used GAD-7 (Spitzer et al., 2006) was designed to assess the presence and severity of symptoms of anxiety based on the DSM-IV Generalized Anxiety Disorder Diagnosis. The scale is unidimensional and consists of seven items answered on a Likert-type scale ranging from 0 (*Not at all*) to 3 (*Nearly every day*) with higher total scores indicating greater anxiety symptom severity with a normed cut score of ≥

10 (Spitzer et al., 2006). It has been validated across numerous populations and settings and demonstrates strong reliability in adult samples (α's =.8 - .94), strong (≥ 80%) specificity and sensitivity, convergent and discriminant validity particularly in discriminating between anxiety and depressive symptoms, and sensitivity to change over time (Byrd-Bredbenner et al., 2021; Spitzer et al., 2006; Toussaint et al., 2020). Despite finding group variance between cisgender/heterosexual males and females and those holding gender and/or sexual minority identities, the increased chance of a false positive result may indicate true group differences rather than poor scale performance (Borgogna et al., 2021). While results of IRT analysis concluded that the first four items demonstrated better discrimination for latent anxiety (Jordan et al., 2017), all 7 items were administered consistent with the bulk of literature utilizing this scale.

Obsessive-Compulsive Inventory-Revised (OCI-R). Originally developed by Foa et al. (1998), the OCI-R (Foa et al., 2002) was one of the most commonly used self-report measure for Obsessive-Compulsive Disorder symptoms (Wootton et al., 2015). The revised scale consisted of 18 total items across 6 subscales (washing, checking, neutralizing, obsessing, ordering, and hoarding) rated on a 5-point Likert-type scale ranging from 0 (*Not at all*) to 4 (*Extremely*; Foa et al., 2002). Total score and subscale scores were derived from summing all relevant items with total scores ranging from 0-72 and subscale scores ranging from 0-12, with a normed total cut score of ≥ 21 (Foa et al., 2002). The scale has been validated in both community and clinical adult samples and has demonstrated good full-scale reliability (α's = .88 - .92) with subscale reliability ranging from α = .57 - .93 (Foa et al., 2002; Huppert et al., 2007; Wootton et al., 2015). Given the updated DSM-V diagnostic criteria, Wootton et al. (2015) found strong reliability for the scale (α = .94) after separating out the hoarding subscale, indicating ongoing

reliability and validity for assessing Obsessive-Compulsive Disorder symptoms and differentiating from other anxiety disorders. A cutoff score of ≥18 was used for Obsessive-Compulsive Disorder while a cutoff of ≥ 6 was used for hoarding (Wootton et al., 2015).

Self-Concealment Scale (SCS). This 10-item scale measures self-concealment with items asking about one's tendency to keep things to oneself, possession of a personally distressing secret or negative thoughts about oneself that have been shared with few or no other people, and apprehension about the disclosure of concealed personal information (Larson & Chastain, 1990). Each item was rated on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*) and a total score ranging from 5-50 is derived by adding up scores from each item, with higher total scores indicating greater self-concealment. Normed on a mixture of adult community members and graduate students (N = 349), the scale has since been validated on a wide array of sample populations demonstrating good internal consistency (α = .74-.94) and test-retest reliability over a 4-week (r = .81) and 7-week period (r = .81), discriminant validity demonstrating self-concealment as a distinct construct, and predictive validity indicating self-concealment has a unique negative impact on mental and physical health (Cramer & Barry, 1999; Larson & Chastain, 1990; Larson et al., 2015).

Balanced Inventory of Desirable Responding-Short.24 (BIDR-Short.24). The BIDR was originally developed by Paulhus (1984) and revised to create the widely used BIDR-6 (Paulhus, 1991) as a tool to measure socially desirable responding. The measure consists of two subscales, Self-Deceptive Enhancement (SDE) which describes honest but overly positive self-reports, and Impression Management (IM) which describes an intentional attempt to present oneself in a specific way (Paulhus, 1991). The shortened version was normed on a mixture of adult college student and community samples (N = 579) using a combination of CTT and IRT

analysis as well as cognitive interviews (Asgeirsdottir et al., 2016). Each subscale consists of 12 items answered on a Likert-type scale ranging from 1 (*not true*) to 7 (*very true*) with higher summed scores indicating greater likelihood of socially desirable responding (Asgeirsdottir et al., 2016). Cronbach's α's with the above adult samples' scores ranged from .66-.71 for SDE and .72-.73 for IM indicating reliability comparable to the original 40-item version (Asgeirsdottir et al., 2016; Paulhus, 1991). The scale demonstrated strong convergent validity with other social desirability scales (Stöber et al., 2002).

Data Analysis

Data were cleaned and the sample was split into an initial sample and a hold-out sample. 200 participants constituted the initial subset, with 300 participants remaining in the hold-out subset. The entire sample of 500 was used for the IRT analysis and final Classical Test Theory scale descriptive information (e.g., reliability). Initial analyses were conducted using SPSS version 28.0. Both the initial sample and the hold-out sample data were evaluated for normality using descriptive statistics and frequency distributions, following Kline's (2016) recommendation of absolute values < |3.0| for skew and < |10.0| for kurtosis. Inter-item and corrected item-total correlations were evaluated using a correlation matrix. Items with low correlations < 0.3 with the total score of the scale were deleted, in accordance with best practices (Boateng et al., 2018).

Exploratory Factor Analysis (EFA)

Exploratory factor analysis (EFA) was conducted to extract latent factors with emphasis on identifying the number of factors present, the salience of each items factor loading estimates onto a latent factor, and the magnitude of residual variances (Boateng et al., 2018; Watkins, 2018). Items with factor loadings < 0.3 were considered for deletion as they account for less than

10% of the variance in the latent variable being measured (Boateng et al., 2018). Eigenvalues and the scree plot were examined to assess factor loadings and number of factors (e.g., values great than 1 may suggest a distinct factor), and parallel analysis was used to compare the eigenvalues found in the data to what might occur through random chance, per the recommendation of Watkins (2018). The goal of factor extraction is a balance of parsimony and comprehensiveness; therefore, the number of extracted factors also aligned with theoretical foundations (DeVellis, 2017; Watkins, 2018). Principal component analysis and oblique rotation were used as the domains captured in the measure were expected to be correlated, consistent with previous research (DeVellis, 2017; Watkins, 2018).

Using the results from the EFA, scores on the finalized items and subscales based on factor structure were averaged to create scale scores. These scores were then utilized for testing reliability of the measure using Cronbach's alpha. While alphas > 0.7 were generally considered acceptable, alphas > 0.9 were generally preferred when developing measures that would be used in clinical decision making (Boateng et al., 2018; DeVellis, 2017; Taber, 2018). Alphas for subscales as well as the measure as a whole were evaluated, based on the appropriate factor structure previously identified. Test-retest reliability was considered by possibly re-recruiting participants to complete the final scale at least 1 month following the initial administration but was not completed due to financial constraints with Prolific. Split-half reliability was assessed as the scale format used Likert-type rating scales.

Phase Three: Scale Evaluation

Using the factor structure identified in the EFA and the remaining items, best practice recommends testing dimensionality, reliability, and validity of the measure (Boateng et al., 2018). To test dimensionality, Confirmatory Factor Analysis (CFA) was conducted using the

hold-out sample of 300 participants. While EFA allows for the evaluation of potential factor structure and item loadings, CFA restricts the factor modeling and item loadings to the previously identified model in order to confirm the findings of the EFA using a separate sample (Boateng et al., 2018; Kline, 2016). Alternative hierarchical models were also tested for possible improved fit, based on previous research (Boateng et al., 2018). Reliability estimates using Cronbach's alpha were confirmed following the same guidelines with desired alphas above 0.9.

Confirmatory Factor Analysis was conducted using Mplus version 8.7. Weighted least square mean and variance adjusted (WLSMV) estimation was used given that the scale utilized ordinal Likert-type responses along with the following fit indices: chi-square value for absolute fit; comparative fit index (CFI) and Tucker-Lewis index (TLI) for goodness of fit; and root-mean-square error of approximation (RMSEA) and the standardized root mean square residual (SRMR) for badness of fit following best practice recommendations by Martens (2005). A model demonstrated good global fit if chi-square value is nonsignificant, RMSEA ≤ .06, CFI and TLI ≥ .95, and SRMR ≤ .08 (Hu & Bentler, 1999; Schumaker & Lomax, 2016; Weston & Gore, 2006). Modification indices and standardized expected parameter change statistics (EPCs) were assessed to identify problems in the model and make changes consistent with theory to improve model fit. Component fit was evaluated using standardized path coefficients, R^2 values, and residuals. Path coefficients in expected directions and p-values < .05, R^2 values > .20, and positive residuals are considered indicators of good component fit (Schumaker & Lomax, 2016).

To assess convergent and discriminant validity, the correlation matrix containing scores on all given measures was used. The developed measure is expected to demonstrate strong correlations (≥ .5; Cohen, 1992) with other perfectionism measures, demonstrating convergent validity, and weaker or non-significant correlations with measures of other nonrelated constructs,

demonstrating discriminant validity (Boateng et al., 2018; DeVellis, 2017). A selected sample of bivariate regression analyses were then used to confirm initial findings regarding validity and provide stronger evidence for validity (Boateng et al., 2018).

Item-Response Theory Analysis

Following the development and validation of the measure using the Classical Test Theory approach, IRT was used to not only confirm the initial findings but also provide additional psychometric information (e.g., reliability), as well as testing various levels of the latent variables. A two-parameter graded response model was used since the measure utilized a Likert-type response format (DeVellis, 2017; Jiang et al., 2016). A two-parameter approach is sufficient in the context of a measure assessing the probability of endorsing a response, as opposed to the respondent giving a correct response (Jiang et al., 2016). The two parameters assessed are an item's difficulty, or how much of the attribute in question is required to "pass" the item, and the item's discrimination, or the degree to which an item correctly differentiates between respondents who endorse and do not endorse the attribute in question (Boateng et al., 2018; DeVellis, 2017).

Mplus version 8.3 was used to conduct the IRT analyses. To evaluate each item's difficulty and discrimination, category characteristic curves were plotted and reviewed. The category characteristic curves provide valuable information regarding how well the item represents the full range of the latent variable being measured, the accuracy and utility of all graded response options in representing distinct levels of the latent variable, and how well the item discriminates at each level of the latent variable (DeVellis, 2017). Ideally, items are considered to perform well when the curves are peaked and dispersed equally across all levels of the latent trait (DeVellis, 2017). Item information curves were then plotted to assess how much

reliable information each item was able to provide to the measurement of the latent trait for each subscale. Test information curves were plotted in which the performance of each item was aggregated to show how well the scale as a whole measured the latent trait at various levels. For both, normal curves were ideal (Harvey & Hammer, 1999).

Research Questions

The following research questions will guide this study:

Q1 Does the proposed model measuring perfectionism (see Figure 1) fit the observed data?

H1 The hypothesized model will demonstrate adequate fit to the observed data.

H2 The hypothesized model will demonstrate significant differences between various levels of the latent traits being measured in accordance with the 2 X 2 Model of Perfectionism and the Comprehensive Model of Perfectionistic Behavior.

Q2 Is the developed scale a reliable and valid measure of perfectionism?

H3 The hypothesized model will demonstrate internal consistency and split half reliability, with Cronbach's alpha(s) of greater than .9.

H4 The hypothesized model will demonstrate convergent validity with correlations above .50 with established measures of perfectionism, as well as discriminant validity by demonstrating nonsignificant relationships with measures of other constructs.

CHAPTER IV

RESULTS

Exploratory Factor Analysis

Data were initially analyzed for appropriateness for exploratory factor analysis (EFA). Skewness and kurtosis of each item ranged from -0.13 to 1.08 for skew and -1.40 to 0.08 for kurtosis, which was well within normal limits (< |3.0| for skew and < |10.0| for kurtosis; Kline, 2016), therefore, the Pearson correlation matrix was used. The results of the Bartlett's Test of Sphericity (Bartlett, 1954) indicated that the correlation matrix was not random, $\chi^2(4371) = 23{,}149$, $p < .001$, while the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (Kaiser, 1974) was 0.96 which was well above the minimum standard 0.60 for conducting factor analysis, therefore, it was concluded the correlation matrix was appropriate to proceed. Principal Components Analysis extraction with a Direct Oblimin with Kaiser Normalization oblique rotation was used due to the likelihood of correlated factors (Watkins, 2018) and communalities ranged from .62 to .85. Appendix F provides a summary of item descriptives.

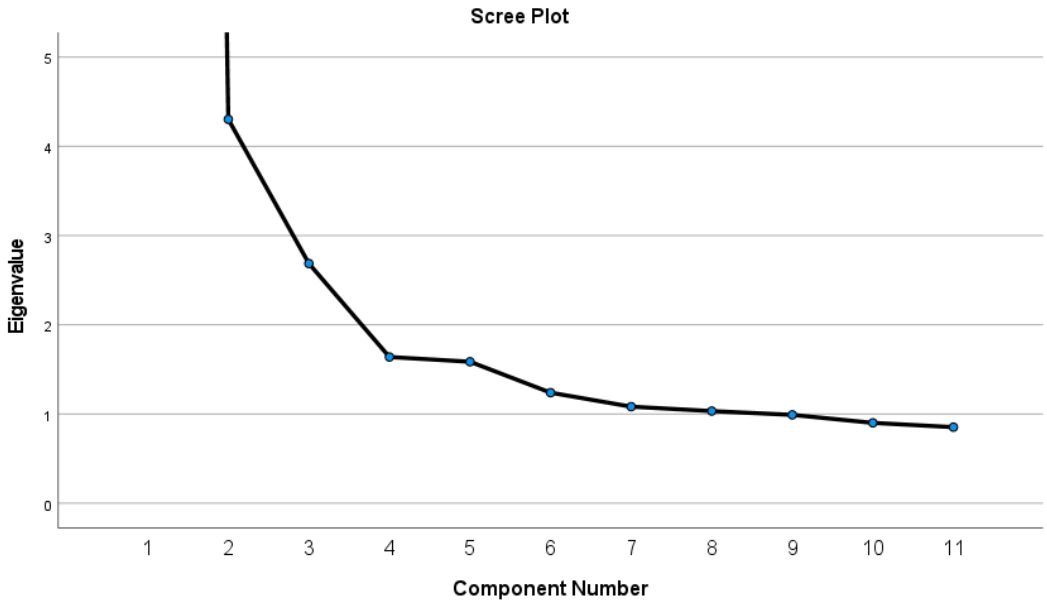
Factor Extraction and Reduction

Eight factors were initially extracted based on eigenvalues above 1.0 (DeVellis, 2017) explaining 74.8% of the total variance. The scree plot indicated that four or five factors should be extracted, based on the observed "elbow" where the drop in relative eigenvalue magnitude indicates factors to the right of the elbow were expendable (Cattell, 1966; DeVellis, 2017; see Figure 3). Parallel analysis (Horn, 1965) generates eigenvalues for random data sets to assess factor extraction based on eigenvalues that show a greater magnitude than those occurring by

chance (DeVellis, 2017). Results of the parallel analysis conducted using an online calculator (Patil et al., 2017) indicated that three factors should be retained. Theory, as outlined in previous chapters, provided support for four to seven factors, therefore, solutions for each were examined. The three-, six-, and seven-factor solutions were all inadequate due to significantly high cross-loadings and lack of meaningful grouping for the items loading onto distinct factors. The four-factor solution had fewer high cross-loadings and more meaningful groupings, although one factor combined theoretically distinct items making it uninterpretable. A five-factor solution demonstrated the most adequate factorization meeting the balance of parsimony and comprehensiveness suggested as best practice (DeVellis, 2017; Watkins, 2018), while not deviating too far from statistical support. The resulting five-factor structure accounted for 71% of the total variance.

Figure 3

Scree Plot



Note. The graph has been scaled to more clearly show the "elbow" used to assess factor structure.

Once the five-factor structure was chosen, the highest loaded items on each factor were identified and used to conceptualize the construct that factor was capturing. The number of items was then reduced to achieve the desired scale length for both clinical and research utility. Items were sequentially deleted if they had a loading value less than |.30| across all factors, if they loaded onto a primary factor less than |.40|, and if the difference between the primary loading and any cross-loadings was greater than |.20| according to best practice recommendations (Howard, 2016). Given that the goal was parsimonious simple structure that captured the most meaningful content (DeVellis, 2017), items were also deleted if they were redundant with a higher loaded item on the same factor to achieve a greater breadth of the factor being captured. For example, item 43 (I continuously raise the bar higher for what I should achieve) was highly correlated (r = .75) with item 89 (Even when I do well, I raise my expectations for the next time), therefore, item 43 was deleted as it had a lower communality and factor loading. The resulting scale contained 30 items with each item loading between |0.50-0.87|. Cronbach's alphas for each of the subscales ranged from .878-.947 showing reliabilities near or above the desired .90 for clinical utility (Boateng et al., 2018; DeVellis, 2017; Taber, 2018). Table 6 shows factor loadings of the final 30 items utilizing the pattern matrix.

Table 6

Factor Loadings

Item	Factor Loadings				
	1	2	3	4	5
49. My extremely high expectations help me become the best version of myself	**.84**	.03	.10	.21	-.05
41. My expectations for myself are above and beyond what is required of me	**.74**	-.02	-.22	.06	-.02
40. I expect myself to produce flawless work	**.71**	-.25	-.01	-.07	.09
52. I am motivated by an internal desire to pursue perfection	**.67**	-.21	.07	-.07	.19
98. I spend more time and effort than is necessary to ensure my work is perfect	**.60**	-.02	-.26	-.05	.20
89. Even when I do well, I raise my expectations for next time	**.57**	.03	-.37	-.02	.14
27. If I can't do something perfectly, then there's no point in starting	.10	**-.87**	-.11	.00	-.14
78. If something is only good enough, it is a failure	.18	**-.70**	.04	.24	-.05
32. I struggle to do things for leisure because I may not do them perfectly	.05	**-.63**	-.01	.02	.23
31. If I am not the best at something, I don't enjoy doing it	.17	**-.63**	.10	.06	.21
80. Even one small mistake or flaw ruins the entire outcome	.03	**-.59**	-.20	.10	.15
28. I procrastinate starting tasks because I fear I won't be able to do them perfectly	-.19	**-.57**	-.30	-.04	.16
76. I must avoid making mistakes, or my previous successes don't count	.19	**-.55**	-.04	.22	.09
68. If I make even a small mistake, it means I am not good enough	.11	**-.55**	-.08	.21	.17
86. Celebrating my achievements is difficult because I fixate on the ways it could have been better	.04	-.06	**-.75**	.12	.10
70. I can't help focusing on the parts of my work that are flawed, despite receiving positive feedback	.08	-.05	**-.66**	-.08	.30
93. It is difficult for me to accept praise from others because I can see the flaws in my work	.03	-.02	**-.65**	.12	.22
87. I don't acknowledge my successes because there is always more to do	.13	-.16	**-.61**	.33	.17
96. I never feel satisfied with my performance	.15	-.29	**-.60**	.04	-.03
22. I must keep my problems to myself	.15	.09	-.14	**.80**	-.05
12. If I make a mistake, I avoid telling anyone	.00	-.09	.04	**.72**	.20
21. I conceal my flaws from others by not admitting my mistakes or failures	-.05	-.23	.05	**.65**	.19
16. I don't ask others for help because it would reveal my imperfections	-.06	-.16	-.18	**.58**	.16
55. I can feel overwhelmed by the pressure to meet the expectations others have for me	.11	.06	-.11	.06	**.78**
56. I feel intense anxiety thinking that I might fall short of the expectations others have for me	-.01	-.22	-.09	.05	**.66**
61. I worry that others will judge me for anything less than perfection	.10	-.17	-.02	.16	**.62**
58. The fear of disappointing others drives me to excel at all costs, even at the expense of my well-being	.18	.00	-.07	.23	**.57**
66. I can never escape the exceedingly high expectations others have for me	.17	-.06	-.03	.25	**.54**
72. I worry others are disappointed with my work, even if they said it was well done	.08	-.08	-.22	.14	**.52**
75. I struggle to feel accomplished because the expectation of flawlessness never ends	.10	-.28	-.12	.10	**.51**

Note. N = 200. 1 = Positive Self-Striving, 2 = Rigid Avoidance, 3 = Dissatisfaction, 4 = Concealment of Imperfection, 5 = Fearful Social Striving. The extraction method was Principal Components with an oblique (Direct Oblimin with Kaiser Normalization) rotation. Factor loadings for the final scale are in bold.

Factor Interpretation

Factor 1 (Positive Self-Striving)

Factor 1 consisted of 6 items (49, 41, 40, 52, 98, and 89) which appeared to measure the internally motivated pursuit of high standards and a positive evaluation of this pursuit (e.g., "My extremely high expectations help me become the best version of myself"). This factor contained items initially created to capture both the self-oriented trait motivation style and striving oriented perfectionistic cognitions, therefore, this factor was named "Positive Self-Striving."

Factor 2 (Rigid Avoidance)

Factor 2 consisted of 8 items (27, 78, 32, 31, 80, 28, 76, and 68) which appeared to measure rigid all-or-nothing evaluations and avoidance of activities that might result in a less than perfect outcome (e.g., "If I can't do something perfectly, then there's no point in starting"). This factor contained items initially created to capture perfectionist presentation through nondisplay of imperfection and failure-oriented perfectionist cognitions, therefore, this factor was named "Rigid Avoidance."

Factor 3 (Dissatisfaction)

Factor 3 consisted of 5 items (86, 70, 93, 87, and 96) which appeared to measure a ruminative dissatisfaction with one's work and rejection of success or praise (e.g., "Celebrating my achievements is difficult because I fixate on the ways it could have been better"). It contained items initially created to capture striving oriented perfectionist cognitions and one item intended to capture failure-oriented perfectionist cognitions, therefore, this factor was named "Dissatisfaction."

Factor 4 (Concealment of Imperfection)

Factor 4 consisted of 4 items (22, 12, 21, and 16) which appeared to measure the concealment of imperfections and help-seeking avoidance (e.g., "I must keep my problems to myself"). It contains items initially created to capture perfectionistic presentation through nondisclosure of imperfection, therefore, it was named "Concealment of Imperfection."

Factor 5 (Fearful Social Striving)

Factor 5 consisted of 7 items (55, 56, 61, 58, 66, 72, and 75) which appeared to measure the fear-oriented pursuit of high expectations perceived to be set by others and a negative evaluation of the pursuit (e.g., "I can feel overwhelmed by the pressure to meet the expectations others have for me"). It contained items initially created to capture the socially prescribed trait motivation and failure-oriented perfectionist cognitions, therefore, this factor was named "Fearful Social Striving."

Confirmatory Factor Analysis

The hold out sample (N = 300) was used to conduct the confirmatory factor analysis (CFA) and was considered adequate according to the best practice recommendation of 5:1 ratio of participants to parameters (Bentler & Chou, 1987). Given that the scale utilized ordinal Likert-type responses, the weighted least square mean and variance adjusted (WLSMV) estimation was used with theta parameterization (Kline, 2016). Global indicators suggested adequate overall fit to the data, $\chi^2(395) = 754.435$ ($p < 0.01$), CFI = .985, TLI = .984, SRMR = .033, RMSEA = .055 (90% CI .049-.061), and component fit also appeared reasonable with statistically significant model parameters that fell within expectations for direction and strength of relationship (see Table 7). The model χ^2 was statistically significant indicating misfit, however, this indicator has been shown to be highly sensitive to multiple factors in models. Following Iacobucci's (2010)

suggestion of using the guideline of $\chi^2/df < 3$, the results indicated adequate fit, 754.44/395 = 1.91. Figure 4 shows the model of the items and factor loadings.

Table 7

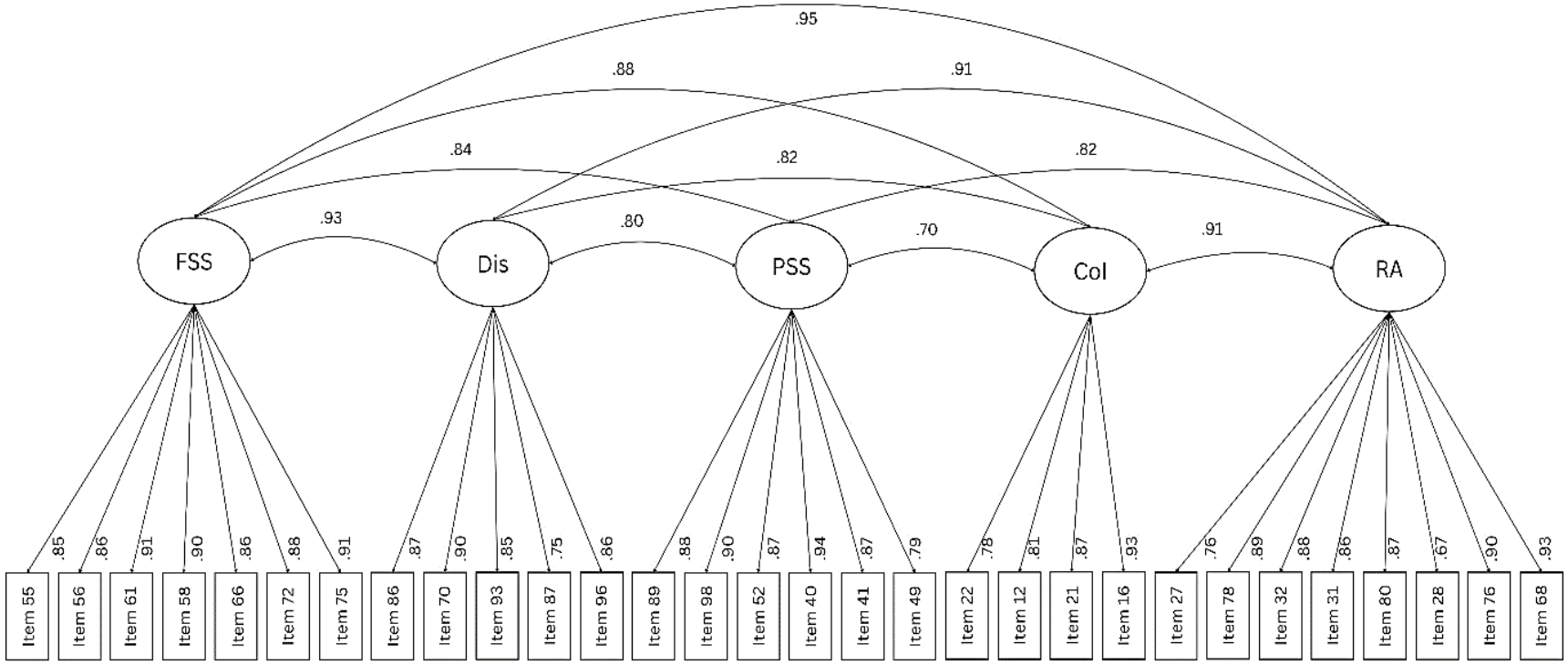
Unstandardized and Standardized Coefficients

Latent Construct; Subscale	Item	*B*	*SE*	β	R^2
Concealment of Imperfection	22	1.00	-	0.78	0.62
	12	1.10	0.14	0.81	0.66
	21	1.38	0.20	0.87	0.75
	16	2.02	0.32	0.93	0.87
Dissatisfaction	86	1.00	-	0.87	0.75
	70	1.16	0.13	0.90	0.80
	93	0.91	0.08	0.85	0.72
	87	0.65	0.08	0.75	0.56
	96	0.97	0.13	0.86	0.74
Positive Self Striving	49	1.00	-	0.79	0.62
	41	1.34	0.16	0.87	0.75
	40	2.04	0.33	0.94	0.87
	52	1.38	0.17	0.87	0.76
	98	1.62	0.23	0.90	0.81
	89	1.45	0.17	0.88	0.78
Fearful Social Striving	55	1.00	-	0.85	0.71
	56	1.08	0.09	0.86	0.74
	61	1.37	0.13	0.91	0.82
	58	1.27	0.13	0.90	0.80
	66	1.06	0.11	0.86	0.74
	72	1.18	0.11	0.88	0.78
	75	1.36	0.15	0.91	0.82
Rigid Avoidance	27	1.00	-	0.76	0.58
	78	1.68	0.18	0.89	0.80
	32	1.55	0.17	0.88	0.77
	31	1.40	0.14	0.86	0.73
	80	1.52	0.19	0.87	0.76
	28	0.77	0.10	0.67	0.45
	76	1.80	0.23	0.90	0.82
	68	2.20	0.32	0.93	0.87

Note. $N = 300$; All were significant at the 0.01 level.

Figure 4

Confirmatory Factor Analysis Model with Standardized Parameter Estimates



Note. *N* = 300; CoI = Concealment of Imperfection; Dis = Dissatisfaction; FSS = Fearful Social Striving; PSS = Positive Self-Striving; RA = Rigid Avoidance.

One hierarchical model was also tested exploring two second order factors following the 2 X 2 Theory model of "Perfectionistic Striving" and "Perfectionist Concerns." Two factors were fixed to load onto Perfectionist Striving, Positive Self-Striving and Dissatisfaction, while the other three were fixed to load onto Perfectionist Concerns, consistent with theoretical overlap of these constructs. The hierarchical model did not demonstrate adequate fit as all the fit indices were outside of best practice recommendations: $\chi^2(399) = 802.782$ ($p < 0.01$), CFI = .897, TLI = .895, SRMR = .092, RMSEA = .101 (90% CI .095–.107) (Schumaker & Lomax, 2016). Additionally, the standardized path estimates between the two second order factors was .99, while the standardized path estimates of the FSS and RA onto the perfectionistic concerns second order factor were above .98 suggesting issues with the model or multicollinearity (Kline, 2016). Given these results, the hierarchical model was rejected, and the five-factor model was chosen.

Reliability and Validity

The final 30-item scale was then assessed for reliability and validity using the full sample ($N = 500$). As can be seen in Table 8, all Cronbach's alphas were above the 0.90 benchmark for clinical utility (Boateng et al., 2018; DeVellis, 2017; Taber, 2018), except for the Concealment of Imperfection scale although it was close at 0.875. Item-total correlations ranged from 0.61-0.84 indicating consistency across the full scale. Split-half reliability was also tested given the Likert-type response format with results indicating good internal consistency with α's = 0.945 and 0.962 and the Spearman-Brown Coefficient = 0.965 (equal length).

Table 8

Final Scale Descriptives and Cronbach's alphas

	# of Items	Range	*M*	*SD*	ITC	α
Positive Self Striving	6	6-30	15.42	7.02		.928
Item 49			2.50	1.35	.61	
Item 41			2.70	1.41	.71	
Item 40			2.51	1.41	.77	
Item 52			2.54	1.36	.70	
Item 98			2.54	1.34	.76	
Item 89			2.63	1.30	.74	
Rigid Avoidance	8	8-40	16.17	8.30		.934
Item 27			1.90	1.20	.69	
Item 78			1.87	1.15	.80	
Item 32			1.93	1.25	.76	
Item 31			2.05	1.24	.77	
Item 80			2.15	1.29	.79	
Item 28			2.29	1.35	.61	
Item 76			1.99	1.28	.82	
Item 68			1.99	1.24	.84	
Dissatisfaction	5	5-25	12.32	5.89		.909
Item 86			2.40	1.38	.76	
Item 70			2.54	1.40	.78	
Item 93			2.58	1.41	.74	
Item 87			2.36	1.32	.69	
Item 96			2.45	1.38	.76	
Concealment of Imperfection	4	4-20	9.19	4.43		.875
Item 22			2.68	1.37	.66	
Item 12			2.31	1.30	.68	
Item 21			2.05	1.23	.71	
Item 16			2.15	1.30	.76	
Fearful Social Striving	7	7-35	15.44	8.08		.943
Item 55			2.32	1.33	.77	
Item 56			2.32	1.39	.78	
Item 61			2.19	1.30	.83	
Item 58			2.18	1.37	.81	
Item 66			1.96	1.24	.78	
Item 72			2.34	1.39	.79	
Item 75			2.12	1.34	.84	
Full Scale	30	30-150	68.53	30.45		.976

Note. N = 500; ITC = Item total correlation. Ranges for all individual items were 1-5.

As seen in Table 9, correlations between the new subscales and other included measures were assessed for convergent (scales numbered 6-13) and discriminant (scales numbered 14-20) validity (see Table 10 for covariances between subscales). The subscales were all significantly positively correlated with one another with $r = 0.63\text{-}0.86$, $p < 0.01$. They were also significantly negatively and weakly correlated with the socially desirable responding subscales with *r*'s ranging from -0.17 to -0.35, $p < 0.01$ which is consistent with the range of significant negative correlations between established perfectionism measures and the socially desirable responding subscales, *r*'s between -0.14 and -0.49, $p < 0.01$. These results demonstrate that as scores on the perfectionism measures increase, scores on socially desirable responding measures decrease, which can be interpreted as participants with higher reported perfectionism levels being less likely to demonstrate either a conscious or unconscious response bias (i.e., not presenting overly positive self-reports or not attempting to present a specific presentation of oneself).

The notable exception to this is for the Positive Self-Striving subscale and the self-deceptive enhancement (SDE) subscale, $r = -0.10$, $p < 0.05$, and the nonsignificant correlation with the impression management (IM) subscale. This pattern was similar to that of the nonsignificant correlations between the socially desirable responding subscales and the FMPS Perfectionist Striving and MPS Self-Oriented subscales, both generally considered more adaptive perfectionism indicators. This seems to indicate that scores on the adaptive indicators have no relationship to socially desirable responding, and, therefore, participants level of Positive Self-Striving is not related to their degree of socially desirable responding and, therefore, responses do not reflect a conscious or unconscious response bias. The similarities between these adaptive indicators and the Positive Self-Striving subscale are seen consistently throughout the correlations with other measures.

Table 9

Correlations Between New Subscales and Other Measures

	New Scale					Convergent									Discriminant				SDR
Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Rigid Avoidance	-																		
2. Positive Self-Striving	.73	-																	
3. Dissatisfaction	.80	.72	-																
4. Concealment of Imperfection	.79	.63	.70	-															
5. Fearful Social Striving	.86	.75	.82	.78	-														
6. Perfectionist Concerns (FMPS)	.74	.59	.68	.69	.76	-													
7. Perfectionist Striving (FMPS)	.48	.73	.48	.41	.51	.52	-												
8. Self-Oriented (MPS)	.58	.79	.55	.51	.60	.57	.72	-											
9. Socially Prescribed (MPS)	.67	.63	.62	.61	.75	.69	.51	.68	-										
10. Cognitions (PCI)	.70	.75	.66	.62	.71	.64	.60	.71	.66	-									
11. Self-Presentation (PSPS)	.68	.69	.62	.69	.74	.72	.53	.71	.66	.71	-								
12. Nondisplay (PSPS)	.61	.51	.62	.63	.66	.70	.35	.48	.54	.61	.77	-							
13. Nondisclosure (PSPS)	.65	.51	.60	.78	.65	.65	.37	.48	.57	.56	.72	.70	-						
14. PHQ-9	.53	.33	.53	.44	.54	.49	.20	.23	.43	.44	.31	.42	.40	-					
15. GAD-7	.50	.34	.52	.44	.57	.48	.24	.27	.44	.46	.37	.46	.39	.79	-				
16. OCI-R OCD	.56	.49	.53	.46	.57	.46	.35	.42	.51	.52	.42	.37	.37	.51	.52	-			
17. OCI-R Hoarding	.41	.33	.37	.36	.43	.36	.23	.24	.30	.38	.29	.31	.32	.41	.36	.57	-		
18. Self-Concealment Scale	.47	.38	.50	.56	.54	.54	.28	.31	.43	.45	.47	.58	.55	.49	.47	.40	.39	-	
19. SDE (BIDR)	-.28	-.10	-.35	-.27	-.34	-.38	-.01	-.08	-.29	-.20	-.29	-.49	-.30	-.46	-.47	-.26	-.26	-.43	-
20. IM (BIDR)	-.21	-.08	-.17	-.24	-.20	-.28	-.05	-.08	-.19	-.14	-.18	-.31	-.19	-.26	-.28	-.14	-.17	-.37	.51

Note. *N=500* BIDR = Balanced Inventory of Desirable Responding-Short.24; FMPS-Brief = Frost Multidimensional Perfectionism Scale-Brief; GAD-7 = Generalized Anxiety Disorder-7; IM = Impression Management subscale; MPS = Brief Hewitt and Flett Multidimensional Perfectionism Scale; OCD = Obsessive Compulsive Disorder; OCI-R = Obsessive-Compulsive Inventory-Revised; PCI-10 = Perfectionism Cognitions Inventory-10; PHQ-9 = Personal Health Questionnaire-9; PSPS = Perfectionistic Self Presentation Scale; SDE = Self Deceptive Enhancement subscale; SDR = Socially Desirable Responding.

Correlations above .11 were significant at the .01 level and Correlation equal to .10 were significant at the .05 level. Correlations at or below |.08| were not significant.

Table 10

Covariances Between New Subscales and Other Measures

	New Scale								Convergent						Discriminant				SDR
Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Rigid Avoidance	-																		
2. Positive Self-Striving	42.3	-																	
3. Dissatisfaction	39.0	29.7	-																
4. Concealment of Imperfection	28.9	19.5	18.3	-															
5. Fearful Social Striving	57.7	42.5	38.9	27.9	-														
6. Perfectionist Concerns (FMPS)	26.9	18.3	17.6	13.5	26.9	-													
7. Perfectionist Striving (FMPS)	18.3	23.6	13.1	8.4	18.9	10.5	-												
8. Self-Oriented (MPS)	40.4	47.0	27.6	18.9	40.7	21.1	28.1	-											
9. Socially Prescribed (MPS)	43.8	34.8	28.5	21.3	47.6	23.8	18.6	45.2	-										
10. Cognitions (PCI)	59.7	53.9	39.7	28.3	58.6	28.9	28.4	61.3	52.9	-									
11. Self Presentation (PSPS)	77.6	66.3	49.5	41.5	81.4	43.2	33.5	81.9	70.9	99.5	-								
12. Nondisplay (PSPS)	71.8	51.4	52.3	29.8	75.9	44.1	23.2	58.1	60.4	88.7	150.7	-							
13. Nondisclosure (PSPS)	46.8	31.4	30.9	29.9	45.7	24.9	15.0	35.0	39.2	49.9	86.2	83.3	-						
14. PHQ-9	26.3	14.0	18.9	11.8	26.2	12.1	5.6	11.7	20.4	26.9	25.8	35.9	20.9	-					
15. GAD-7	22.8	13.2	16.7	10.8	25.1	11.7	6.1	12.5	19.1	25.9	27.5	36.1	18.6	26.1	-				
16. OCI-R OCD	52.9	39.2	35.5	23.5	52.9	23.2	18.4	40.6	46.1	60.4	65.6	61.1	37.1	35.4	32.8	-			
17. OCI-R Hoarding	9.5	6.5	6.1	4.4	9.6	4.4	2.9	5.6	6.6	10.9	11.2	12.4	7.6	6.9	5.4	18.2	-		
18. Self-Concealment Scale	40.8	27.9	31.1	26.3	46.1	25.0	13.6	27.0	35.8	48.6	67.4	87.5	50.9	31.1	26.9	48.4	11.5	-	
19. SDE (BIDR)	-30.0	-9.1	-26.5	-15.8	-35.4	-21.7	0.6	-8.4	-29.5	-26.9	-51.9	-89.9	-33.6	-36.0	-33.6	-39.1	-9.4	-58.6	-
20. IM (BIDR)	-23.9	-7.7	-13.9	-14.5	-21.7	-16.6	-3.3	-9.3	-20.9	-20.1	-33.8	-60.5	-22.9	-21.3	-20.7	-22.4	-6.5	-53.2	91.4

Note. N = 500; BIDR = Balanced Inventory of Desirable Responding-Short.24; FMPS-Brief = Frost Multidimensional Perfectionism Scale-Brief; GAD-7 = Generalized Anxiety Disorder-7; IM = Impression Management subscale; MPS = Brief Hewitt and Flett Multidimensional Perfectionism Scale; OCD = Obsessive Compulsive Disorder; OCI-R = Obsessive-Compulsive Inventory-Revised; PCI-10 = Perfectionism Cognitions Inventory-10; PHQ-9 = Personal Health Questionnaire-9; PSPS = Perfectionistic Self Presentation Scale; SDE = Self Deceptive Enhancement subscale; SDR = Socially Desirable Responding.

Correlations between all new subscales and the established measures of perfectionism are all positive and significant and follow theoretically similar patterns seen among the established measures. Correlations between the new subscales and established measures range from $r = 0.41$ to $r = 0.79$ while correlations among established measures range from $r = 0.35$ to $r = 0.77$. New subscales show higher correlations with established subscales measuring conceptually similar facets of perfectionism (e.g., Concealment of Imperfection is most highly correlated ($r = 0.78$) with the Nondisclosure of Imperfection subscale) and somewhat lower correlations with established subscales measuring more conceptually different facets (e.g., Concealment of Imperfection is least highly correlated ($r = 0.41$) with the Perfectionist Striving subscale). This indicates that the new subscales can discriminate between differing facets of perfectionism conceptualized through both theory and established measures. Overall, the new subscales can be said to demonstrate strong convergent validity.

The new subscales also show similar patterns of correlations with scales meant to represent distinct constructs (i.e., anxiety, depression, obsessive-compulsive disorder, and self-concealment) as those of established perfectionism measures. While all of the correlations were significant at the $p < 0.01$ level, the magnitude of correlations were less than those seen between similar perfectionism constructs and followed similar patterns to those of the established perfectionism measures. Correlations between the new subscales and discriminant measures ranged from $r = 0.33$ to $r = 0.57$ while correlations between established perfectionism measures and the discriminant measures ranged from $r = 0.20$ to $r = 0.58$. Bivariate regressions were initially ran on the Positive Self-Striving subscale and all other scales to provide greater support for validity testing. All results replicated the relationships seen in the correlation matrix and, therefore, it was determined that the correlation matrix provided adequate information to assess

validity and no further regressions were assessed. Overall, the new subscales can be said to demonstrate good discriminant validity.

Invariance Testing

To provide initial support for the generalizability of the scale across population demographics, a MANOVA was conducted to determine if there was an effect of self-reported gender, sexual orientation, and race/ethnicity on the mean scores for each of the subscales. Due to the unequal distribution of self-reported identities, categories were combined to improve analysis and provide meaningful comparisons.

Self-reported gender identities were collapsed into three categories: cisgender woman (n = 263), cisgender man (n = 194), and gender diverse (n = 18; incorporating transgender man, transgender woman, non-binary, and gender non-conforming/genderqueer). 25 responses were excluded either for missing data (n = 5) or choosing the response "An identity not listed" (n = 20) in which the reported identity was not able to be categorized within the above groups, resulting in a final sample size of 475 for this analysis. Self-reported race/ethnicity identities were collapsed into two categories: white (n = 392) and BIPOC (n = 107; incorporating Black or African American, Asian or Asian American, Hispanic or Latinx, Multiracial or Multiethnic, and Middle Eastern). One response was excluded due to choosing the response "An identity not listed" in which the reported identity was not able to be categorized within the above groups. Self-reported sexual orientation identities were collapsed into two categories: heterosexual/heteroromantic (n = 403) and non-heterosexual/non-heteroromantic (n = 93; incorporating bisexual/biromantic, pansexual/panromantic, asexual/aromantic, gay or lesbian, and queer or questioning). Four responses were excluded either for missing data (n = 1) or choosing the response "An identity not listed" (n = 3) in which the reported identity was not able

to be categorized within the above groups. Table 11 summarizes the intersectionality of the demographic groupings as well as the means and standard deviations across subscales.

The MANOVA was run with three independent variables (gender, sexual orientation, and race/ethnicity) and five dependent variables (the mean scores of the PSS, RA, D, CoI, and FSS subscales). The combined subscale scores were used to assess performance on the full scale. There was homogeneity of covariance matrices, as assessed by Box's M test (p = .048). None of the interaction effects were significant, therefore, follow-up univariate three-way ANOVAs were ran to assess main effects for each independent variable. No main effects were significant; therefore, these results provided initial support for the measurement invariance of the new scale across self-reported gender, sexual orientation, and race/ethnicity. Table 12 provides a summary of the results of the MANOVA for both interaction and main effects.

Table 11

Intersectional Demographic Groupings with Subscale Means and Standard Deviations

Gender	RE	SO	*n*	RA		PSS		D		CoI		FSS	
				M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Cisgender Woman	BIPOC	Het	34	14.71	7.89	15.26	7.20	11.35	6.22	8.50	5.16	15.15	8.90
		N-Het	18	17.50	8.60	18.28	7.35	13.50	6.18	9.94	4.25	18.11	8.74
	White	Het	176	16.55	9.02	15.37	7.37	12.59	6.22	9.30	4.74	15.56	8.65
		N-Het	33	15.09	7.79	14.33	7.14	12.09	6.25	8.52	3.50	14.85	7.34
Cisgender Man	BIPOC	Het	34	17.12	9.17	15.68	6.79	13.26	6.26	10.44	4.78	16.24	8.35
		N-Het	10	21.10	7.53	17.60	7.09	13.40	4.86	11.50	4.84	19.20	7.73
	White	Het	133	15.20	7.04	15.17	6.48	11.71	5.22	8.81	3.88	14.46	6.90
		N-Het	17	19.82	7.35	16.47	6.39	13.53	4.94	10.65	4.29	18.94	8.13
Gender Diverse	BIPOC	Het	-	-	-	-	-	-	-	-	-	-	-
		N-Het	2	16.50	12.02	11.50	4.95	13.50	3.54	10.00	8.49	13.50	6.36
	White	Het	5	25.80	10.13	21.80	4.97	16.40	5.01	11.80	4.39	23.60	9.18
		N-Het	10	23.20	8.56	20.40	8.25	18.20	3.62	11.90	4.12	22.00	6.91

Note. $N = 472$; No participants identified as gender diverse, BIPOC, and heterosexual, therefore, no scores are included. COI = Concealment of Imperfection; D = Dissatisfaction; FSS = Fearful Social Striving; Het = Heterosexual/heteroromantic; N-Het = Non-heterosexual/non-heteroromantic; PSS = Positive Self-Striving; RA = Rigid Avoidance.

Table 12

MANOVA Interaction and Main Effects Results Assessing Measurement Invariance

	df	*F*	*p*-value	Wilks' Λ	Partial η^2
Interaction Effects					
Gender x Sexual Orientation	(10, 914)	1.145	.325	.975	.012
Gender x Race/Ethnicity	(10, 914)	0.973	.465	.979	.011
Sexual Orientation x Race/Ethnicity	(5, 457)	0.479	.792	.995	.005
Gender x Sexual Orientation x Race/Ethnicity	(5, 457)	0.395	.853	.996	.004
Main Effects					
Gender	(10, 914)	1.311	.220	.972	.014
Sexual Orientation	(5, 457)	0.280	.924	.997	.003
Race/Ethnicity	(5, 457)	0.414	.839	.995	.005

Note. $N = 472$.

Item Response Analysis

Item Response Theory analysis models the relationship between θ, or the latent trait being measured, and each item of the measurement instrument under the assumption that an individual's likelihood of endorsing a particular response option reflects the latent trait within that individual (DeMars, 2010). For this analysis, θ was displayed with a mean of 0 and a range between -4 and 4. Each item is assessed on a discrimination parameter, represented by α, or its ability to differentiate between individuals with varying levels of the latent trait (DeMars, 2010). The discrimination parameter is also called the item-slope parameter due to the slope of the plotted curve increasing and becoming steeper as the item's α increases (De Ayala, 2022). In a 2-parameter graded response model each item is also assessed on a difficulty parameter, represented as β, which denotes "the probability of scoring in or selecting each category or

higher" (DeMars, 2010, p. 23) and, therefore, is used to represent the thresholds between the different Likert-type response options as measured on the latent trait continuum θ.

For example, if evaluating the likelihood of a respondent choosing the numerical Likert-type response option 1 or option 2 on item 1, represented by β_{ij} where i is the specific item and j is the response option, we would look at the value of $\beta_{1,1}$. This value would indicate the level of the latent trait θ needed to respond at or above the threshold of response option 1 at 50% probability. If the respondent's degree of the latent trait were located $< \beta_{1,1}$ then they would respond with option 1, but if they are located $\beta_{1,1} > x < \beta_{1,2}$ they would respond with option 2. This process of "passing through" the sequentially ordered thresholds continues for each response option (De Ayala, 2022).

Table 13 contains the α and β parameter values for each of the items included in the final scale. Item slope parameters (α) are all considered very high (> 1.70; Baker, 2001) ranging from 1.75-4.04 which indicates that the items were strong in their ability to discriminate between different levels of the latent traits represented by each of the subscales. Figure 5 provides the item information curves (IICs), or the graphical representation of the amount of information provided by each of the items across the latent trait θ, for each of the subscales. The x-axis represents the θ continuum while the y-axis represents the amount of information provided by each item in that subscale. Based on the α values and item information curves, items appear able to effectively discriminate across levels of each subscale's latent trait, although the slight skew to the right indicates somewhat better precision for higher levels of the latent trait. Furthermore, there was no significant overlap among items or item slope curves subsumed under another item curve as observed on the item information curves, suggesting there was no problematic redundancy in information provided by subscale items. Test-information functions (TIFs, Figure

6) summarize the information provided by each item within a subscale and are comparable to reliability in Classical Test Theory. These can be used to calculate the standard error of measurement for the θ range (DeMars, 2010). The normal curves on both the item information curves and Test-information functions reflect consistent accuracy across the latent trait spectrum ranging from about -2 to 2.5.

Table 13

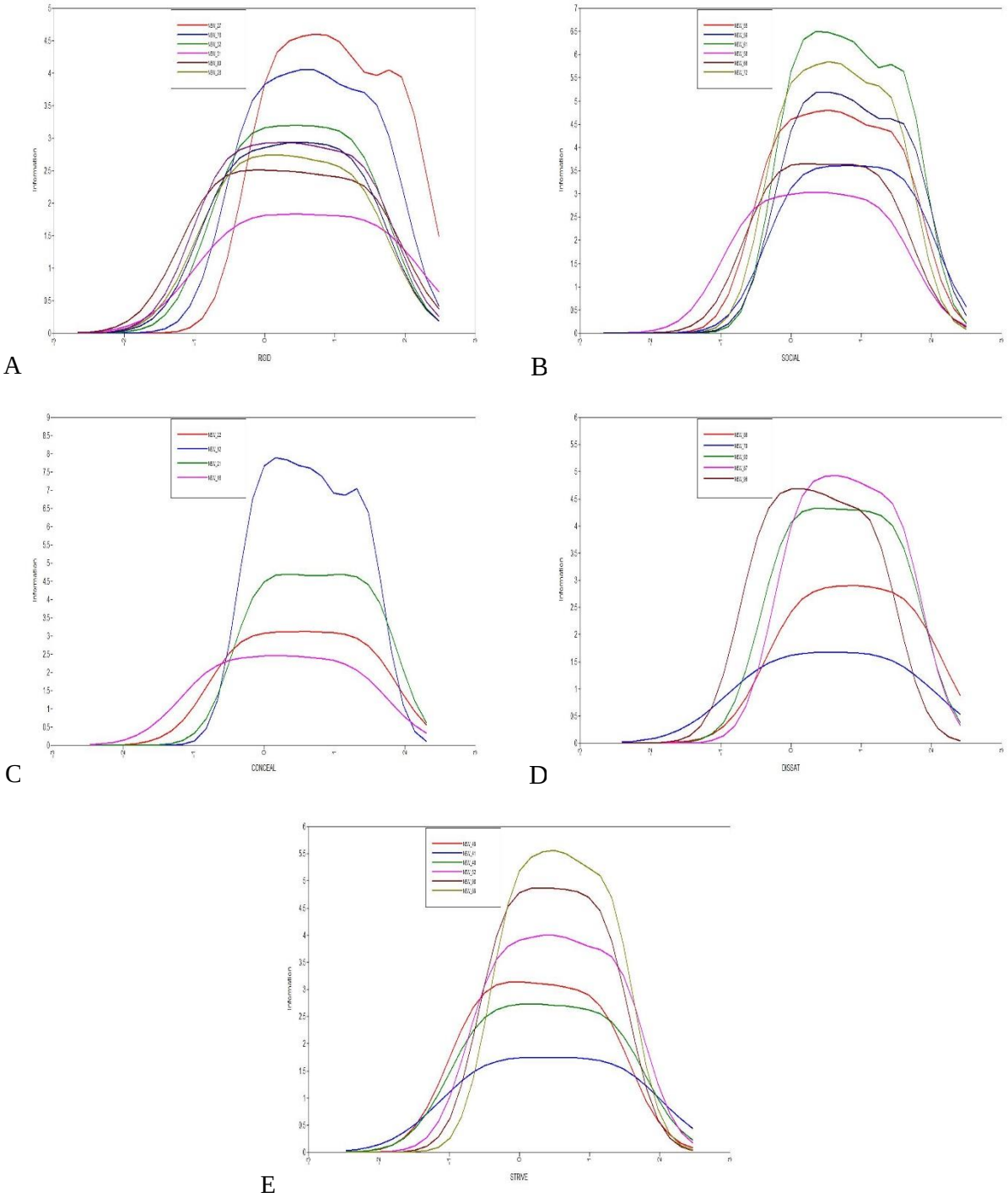
Item Parameters for Final Scale Items

Item	α	β_{i1}	β_{i2}	β_{i3}	β_{i4}
Positive Self- Striving					
1. Item 49	2.50	-.52	.16	.90	1.60
2. Item 41	3.24	-.60	-.05	.59	1.33
3. Item 40	3.54	-.37	.13	.68	1.44
4. Item 52	2.95	-.53	.11	.76	1.54
5. Item 98	2.91	-.57	.12	.76	1.59
6. Item 89	2.82	-.74	-.02	.73	1.63
Rigid Avoidance					
7. Item 27	2.98	.01	.62	1.11	1.69
8. Item 78	3.77	-.01	.61	1.11	1.85
9. Item 32	3.22	.01	.54	1.01	1.65
10. Item 31	2.98	-.19	.42	1.03	1.61
11. Item 80	3.31	-.31	.39	.86	1.55
12. Item 28	1.75	-.46	.27	1.01	1.66
13. Item 76	3.73	-.02	.45	.94	1.57
14. Item 68	3.91	-.02	.46	.94	1.56
Dissatisfaction					
15. Item 86	4.04	-.44	.14	.67	1.25
16. Item 70	2.79	-.66	.04	.60	1.30
17. Item 93	3.55	-.59	-.05	.48	1.16
18. Item 87	2.27	-.51	.16	.88	1.64
19. Item 96	2.95	-.56	.15	.67	1.29
Concealment of Imperfection					
20. Item 22	2.14	-.80	-.02	.63	1.46
21. Item 12	3.29	-.37	.27	.89	1.53
22. Item 21	3.85	-.09	.47	1.08	1.69
23. Item 16	3.33	-.10	.39	.93	1.66
Fearful Social Striving					
24. Item 55	2.98	-.37	.36	.94	1.76
25. Item 56	3.08	-.24	.34	.90	1.53
26. Item 61	3.59	-.19	.47	1.03	1.79
27. Item 58	2.98	-.06	.52	.98	1.69
28. Item 66	2.93	.10	.72	1.29	1.92
29. Item 72	2.97	-.29	.30	.94	1.55
30. Item 75	3.40	-.03	.56	1.00	1.73

Note. $N = 500$.

Figure 5

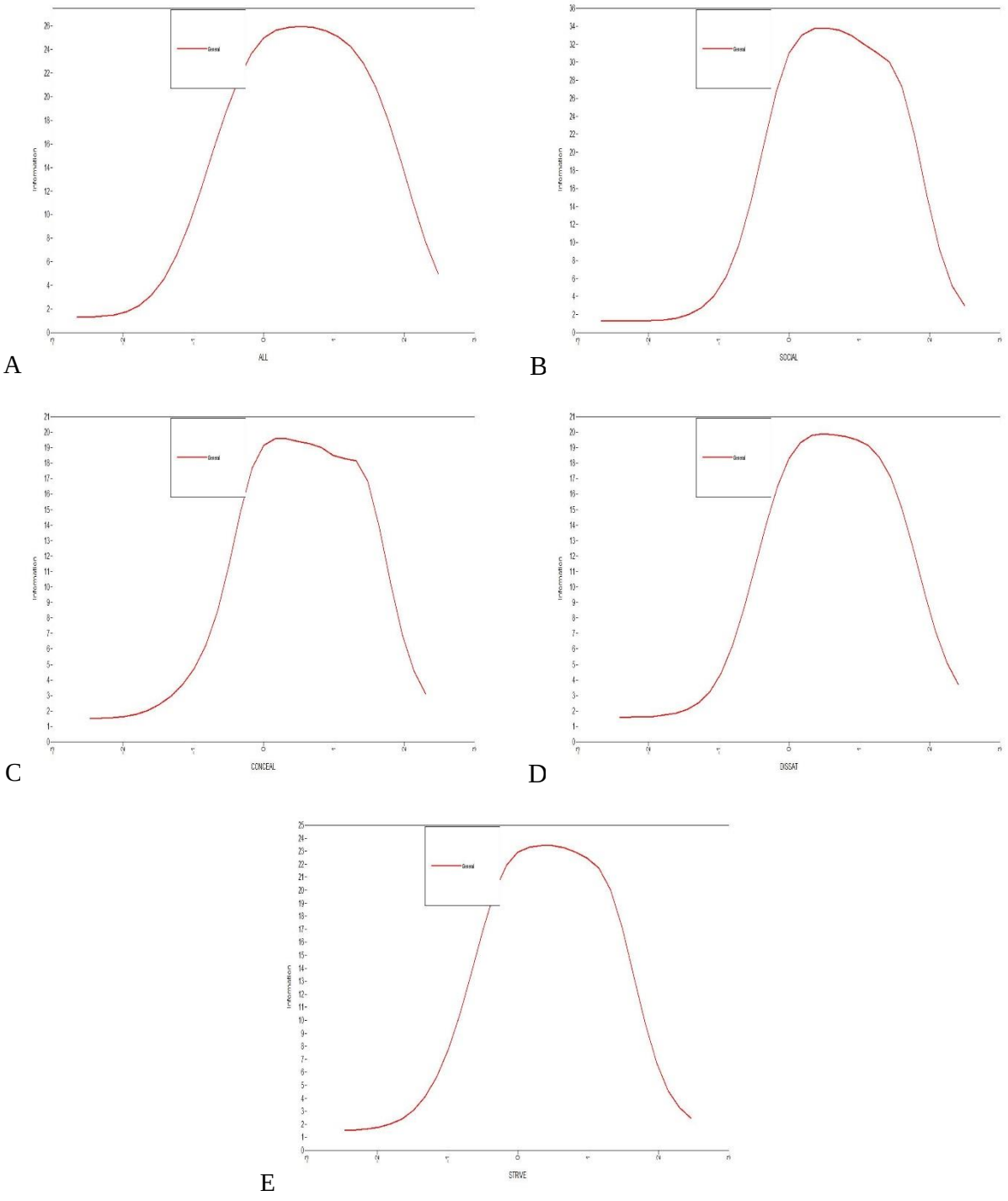
Item Information Curves for Each Subscale



Note. Panel A: Rigid Avoidance subscale. Panel B: Fearful Social Striving subscale. Panel C: Concealment of Imperfection subscale. Panel D: Dissatisfaction subscale. Panel E: Positive Self-Striving subscale.

Figure 6

Test Information Function for Each Subscale



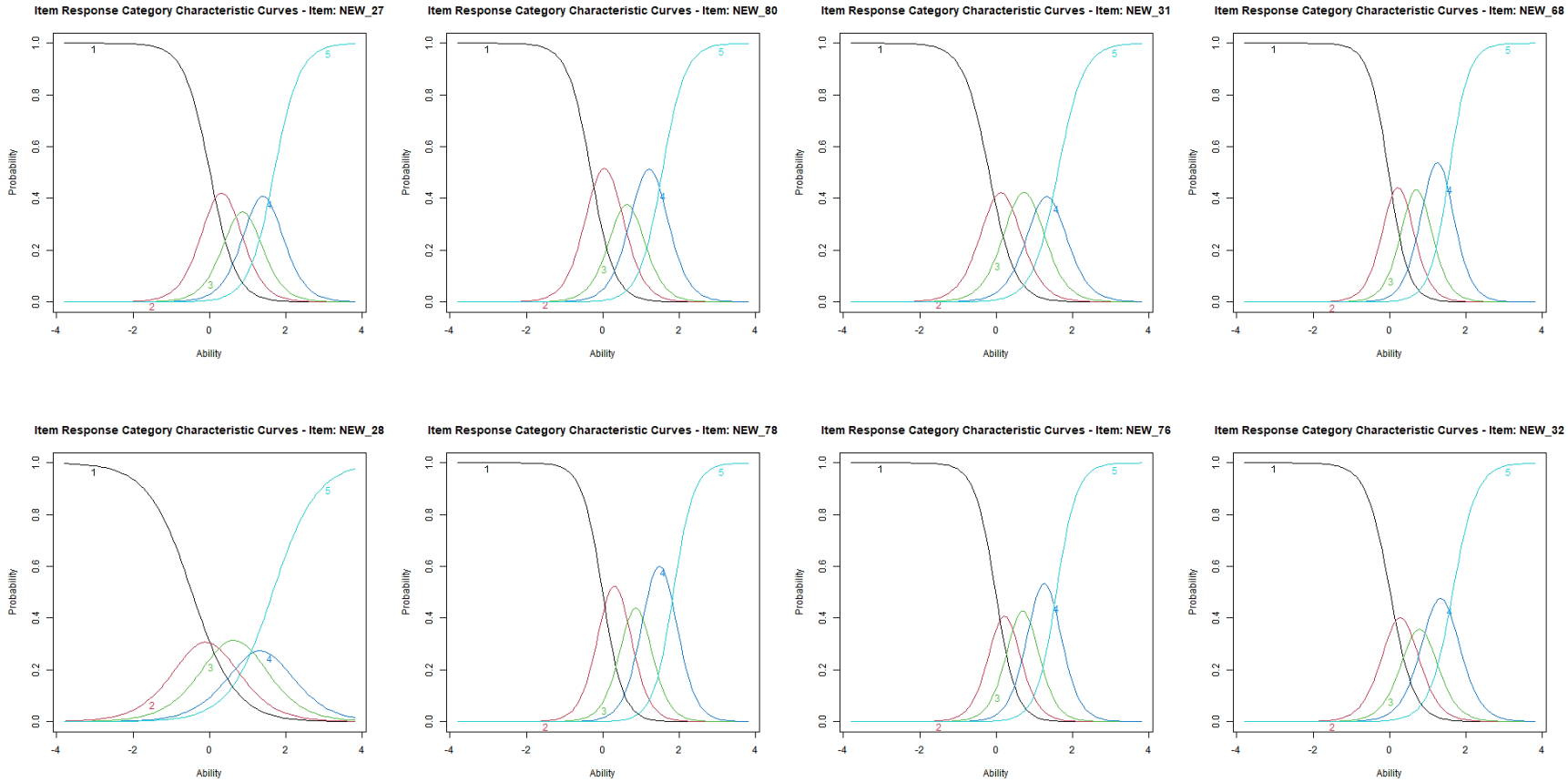
Note. Panel A: Rigid Avoidance subscale. Panel B: Fearful Social Striving subscale. Panel C: Concealment of Imperfection subscale. Panel D: Dissatisfaction subscale. Panel E: Positive Self-Striving subscale.

The β parameters (Table 13) are similar for all items with the lowest category thresholds ranging from -0.80 ($\beta_{20,1}$) to 0.10 ($\beta_{28,1}$) and the highest category thresholds reaching from 1.16 ($\beta_{17,4}$) up to 1.92 ($\beta_{28,4}$). The probabilities of endorsing a specific Likert-type response option based on their degree of the latent trait θ can also be graphically represented by category response curves (CRCs, Figures 7-11). The x-axis denotes the θ continuum while the y-axis represents the probability of endorsing a specific response option category (e.g., 1, 2, 3, 4, 5). The graphs reflect that β values were primarily situated in the middle of the θ continuum, although slightly skewed toward the higher end of the continuum, and that the probabilities of respondents endorsing either category 1 or category 5 were much higher than those for the middle three categories. These results suggest that scale items capture a range of each of the latent traits, although they may best capture both ends of the extremes of the trait and may not be as precise in the middle range. In analyzing the category response curves across subscales, multiple items (e.g., RA items 80 and 27, FSS items 58 and 75) show a response curve for option 3 that is almost completely subsumed under the 2 and 4 response curves, which suggests that the response choice 3 may not have functioned as effectively.

Overall, the results of the IRT analysis demonstrate that items within each subscale are able to discriminate between varying levels of each subscale's latent trait and maintain consistent accuracy across the latent trait continuum. For each item, there is a much higher probability of a respondent endorsing one of the extreme category response options (either "does not describe me" or "describes me extremely well") than the middle category options. While these extremes are more likely, each item captures a range of category response options across the θ continuum and can still be considered sufficient.

Figure 7

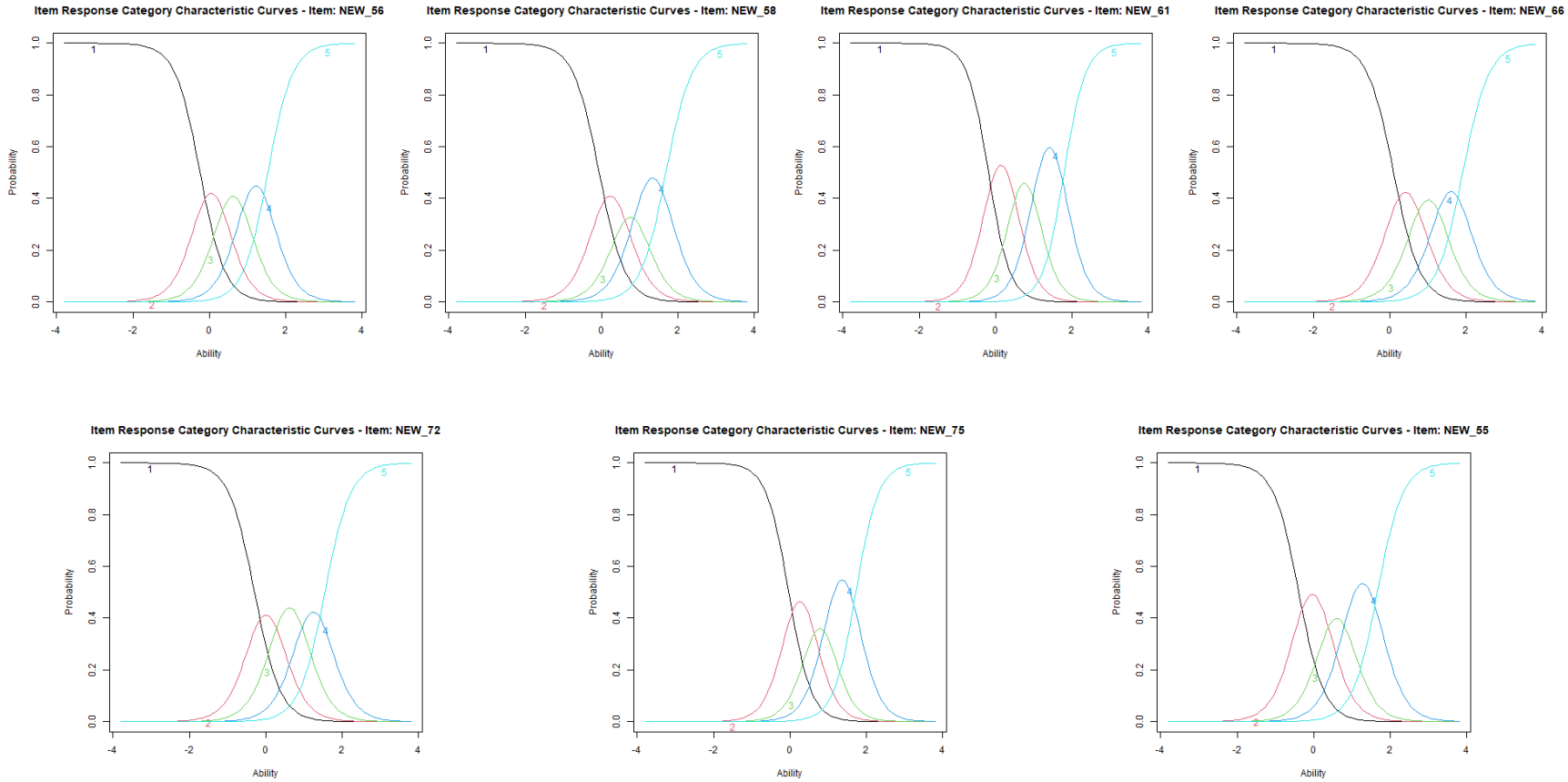
Rigid Avoidance Subscale Category Response Curves



Note: All graphs are based on the final scale of 30 items.

Figure 8

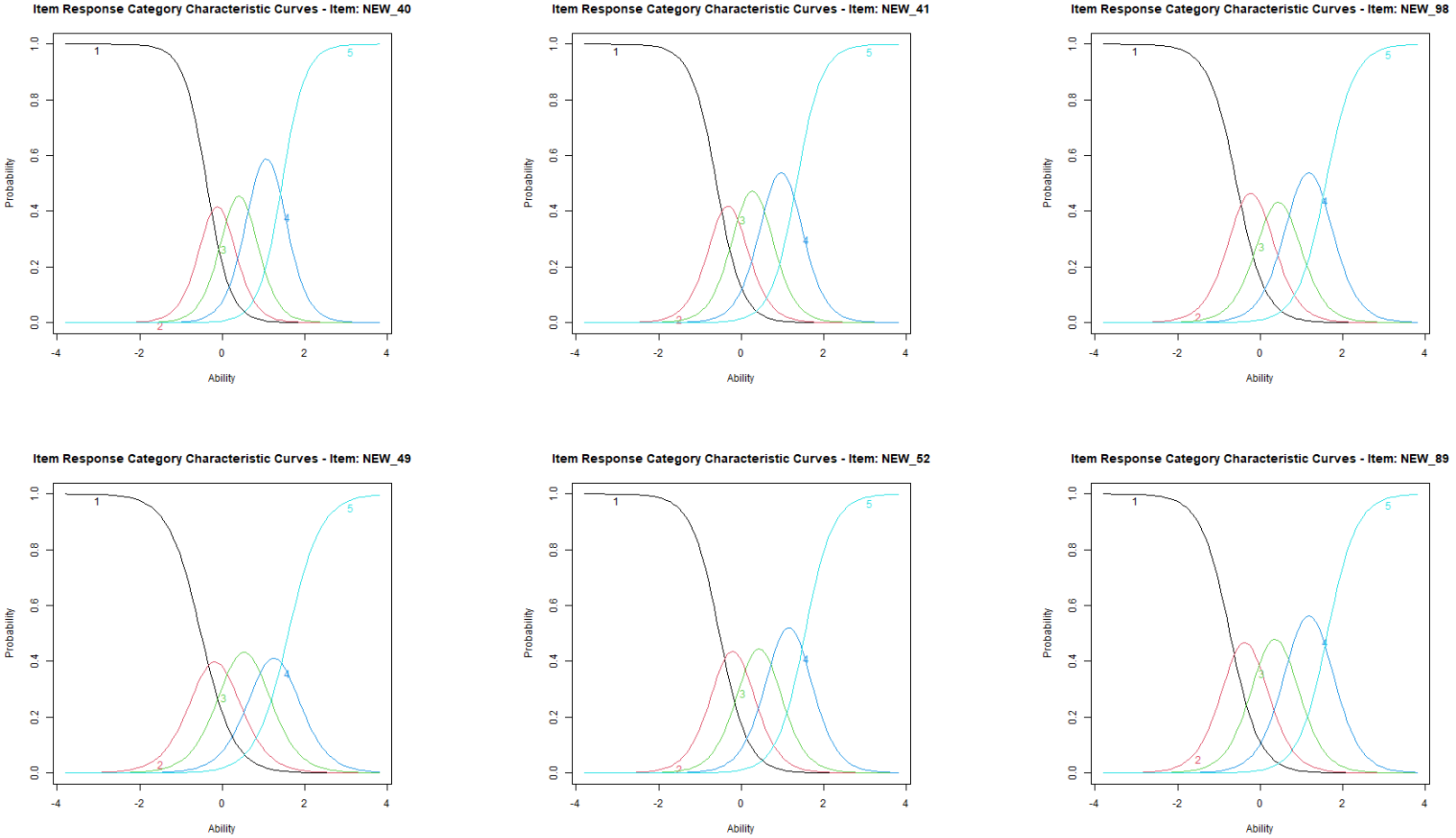
Fearful Social Striving Subscale Category Response Curves



Note. All graphs are based on the final scale of 30 items.

Figure 9

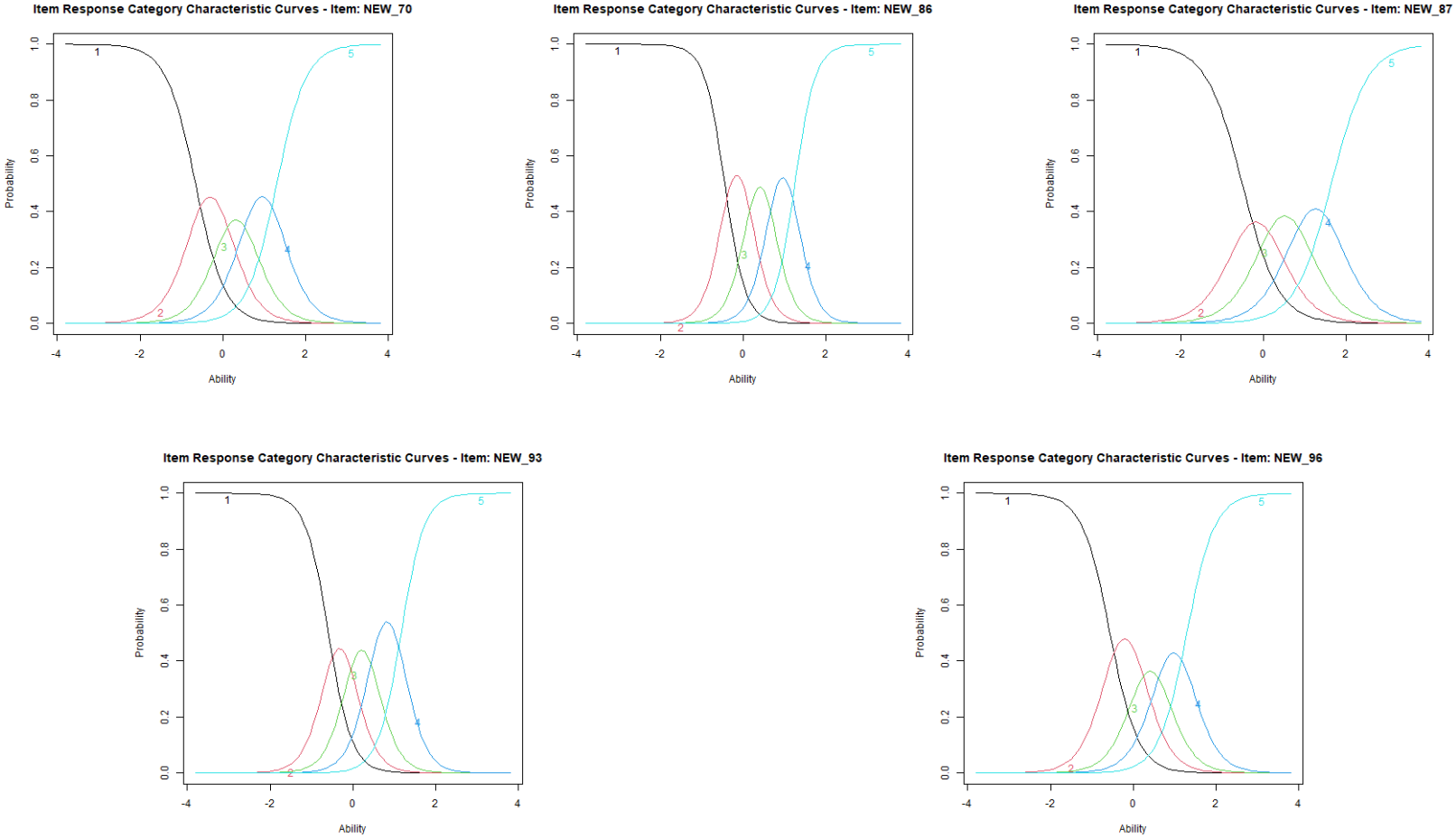
Positive Self-Striving Subscale Category Response Curves



Note. All graphs are based on the final scale of 30 items.

Figure 10

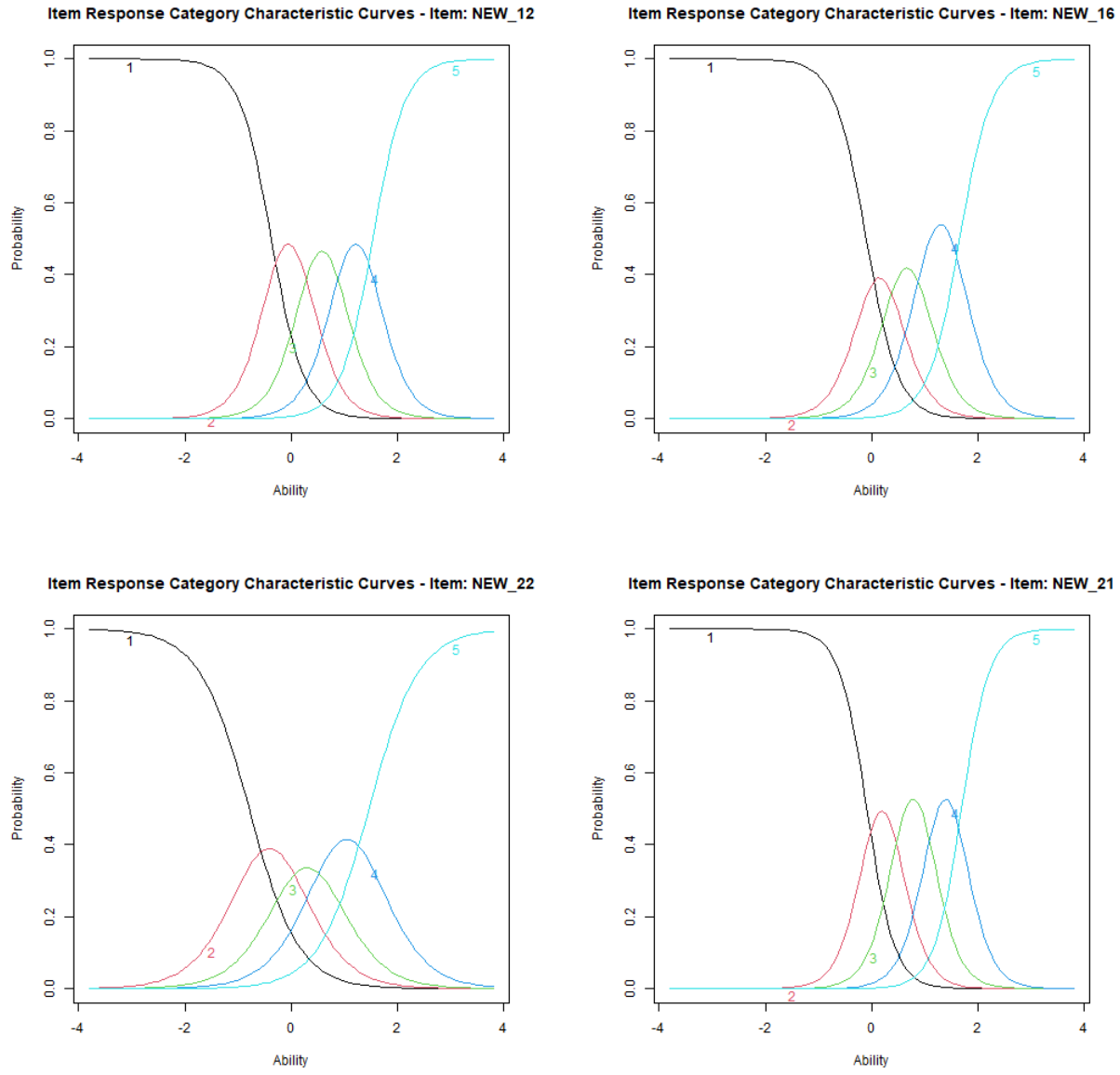
Dissatisfaction Subscale Category Response Curves



Note. All graphs are based on the final scale of 30 items.

Figure 11

Concealment of Imperfection Subscale Category Response Curves



Note. All graphs are based on the final scale of 30 items.

CHAPTER V

DISCUSSION

Summary

The purpose of this study was to develop and provide initial validation for a new perfectionism measure that has utility in both clinical and research settings. Perfectionism is a transdiagnostic process that significantly impacts clinical treatment for a wide array of mental health concerns (Limburg et al., 2017). Perfectionistic tendencies have also increased substantially over the past 30 years (Curran & Hill, 2019), with additional noticeable increases of both perfectionism and mental health issues since the start of the Covid-19 pandemic (Flett & Hewitt, 2020a). While numerous perfectionism measures currently exist, there is a clear need for a comprehensive synthesis of existing theories and models to produce a measure that can inform prevention and intervention as well as further our understanding of this phenomenon.

To attempt to fill this gap, I developed the 30-item Multidimensional Therapeutic Assessment of Perfectionism (MTAP) based on integrating current theories that incorporates five core facets of perfectionism (see Appendix G for the full scale). This brief and holistic scale can be effectively and efficiently employed in both clinical and research settings to gather a more complete understanding of perfectionism and its impact on psychological wellbeing. In developing this scale, I also attempted to address the flaws of the current perfectionism measures by including positive aspects of perfectionism (J. Stoeber, 2018b; J. Stoeber et al., 2014a) and integrating the three components of the Comprehensive Model of Perfectionistic Behavior

(CMPB; traits, cognitions, and presentation; Hewitt et al., 2017). The scale items are also worded broadly enough that future research could explore adapting the instructions to evaluate perfectionism in specific life domains. Additionally, initial invariance testing provided support for measurement invariance across gender, race/ethnicity, and sexual orientation.

While this new measure is not without limitations, this chapter will first address the questions that guided the research process. Implications for counseling psychologists in both clinical and research realms will then be discussed, followed by an acknowledgement of the limitations present in this study and an overview of potential future directions.

Addressing Research Questions

The following research questions guided the analysis:

Q1 Does the proposed model measuring perfectionism (see figure 1) fit the observed data?

H1 The hypothesized model will demonstrate adequate fit to the observed data.

H2 The hypothesized model will demonstrate significant differences between various levels of the latent traits being measured in accordance with the 2 X 2 Model of Perfectionism and the Comprehensive Model of Perfectionistic Behavior.

Q2 Is the developed scale a reliable and valid measure of perfectionism?

H3 The hypothesized model will demonstrate internal consistency and split half reliability, with Cronbach's alpha(s) of greater than .9.

H4 The hypothesized model will demonstrate convergent validity with correlations above .50 with established measures of perfectionism, as well as discriminant validity by demonstrating nonsignificant relationships with measures of other constructs.

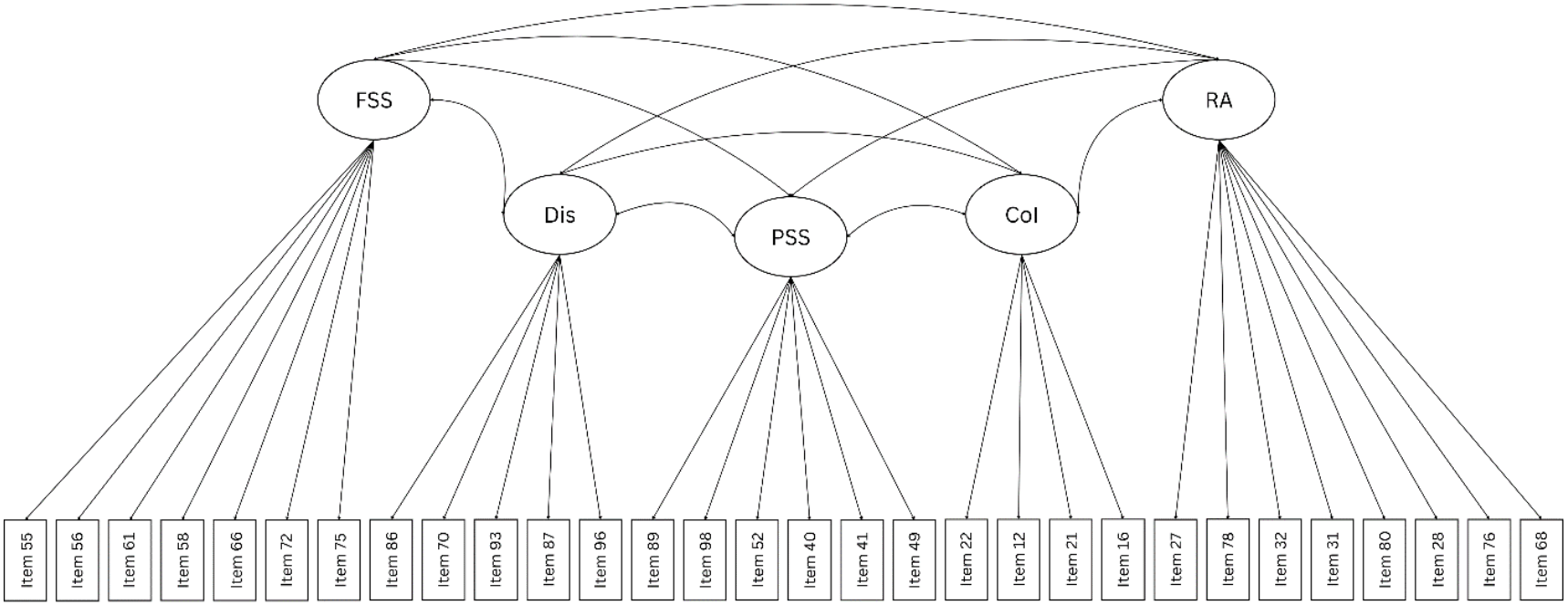
Alignment with Data and Theory

Research Question 1 asks about how well the new scale aligns with both the observed data as well as the theoretical underpinnings of the 2 X 2 Model of Perfectionism and the Comprehensive Model of Perfectionistic Behavior (CMPB). Results from both the Exploratory

Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) demonstrated good model fit for the five factors present in the new scale: Positive Self-Striving (PSS), Rigid Avoidance (RA), Dissatisfaction (D), Concealment of Imperfection (CoI), and Fearful Social Striving (FSS; see Figure 12). While these factors were not identical to the three facets of the CMPB, particularly in the unique names chosen to represent the factors, they captured the more specific essence of these constructs while also incorporating some positive aspects inherent in the 2 X 2 Model as seen in Table 14 and Figure 13.

Figure 12

Model of the Multidimensional Therapeutic Assessment of Perfectionism (MTAP)



Note. CoI = Concealment of Imperfection; D = Dissatisfaction; FSS = Fearful Social Striving; PSS = Positive Self-Striving; RA = Rigid Avoidance.

Table 14

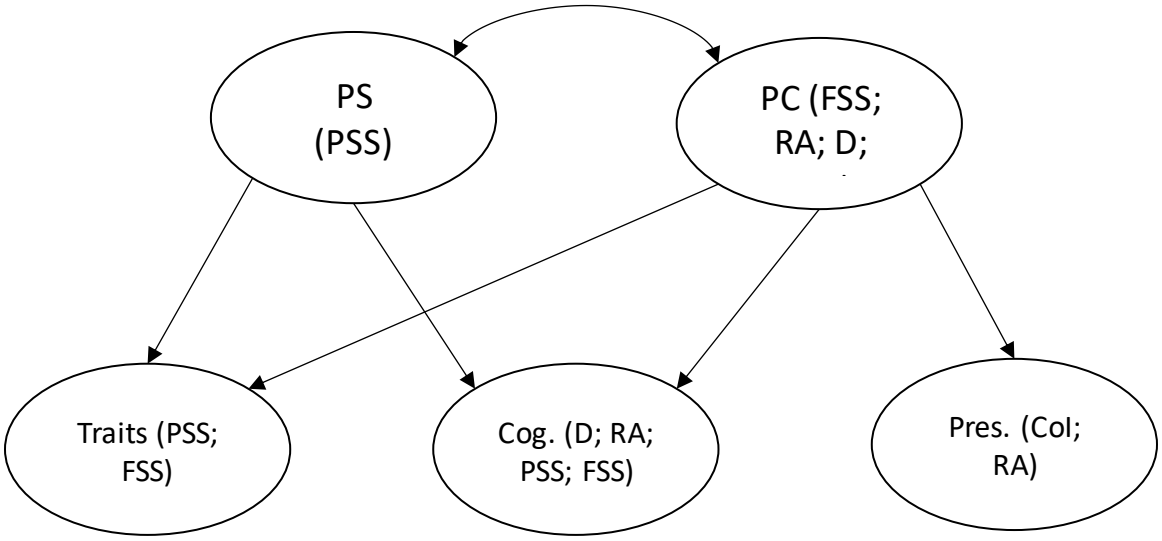
Mapping the Multidimensional Therapeutic Assessment of Perfectionism (MTAP) onto the 2 X 2 Model and the Comprehensive Model of Perfectionistic Behavior

MTAP Subscales	2 X 2 Model	CMPB
Positive Self Striving	PS	Trait (self-oriented); Cognitions
Fearful Social Striving	PC	Trait (socially prescribed); Cognitions
Rigid Avoidance	PC	Cognitions; Presentation (non-display of imperfection)
Dissatisfaction	PC	Cognitions
Concealment of Imperfection	PC	Presentation (non-disclosure of imperfection)

Note. CMPB = Comprehensive Model of Perfectionistic Behavior; PS = perfectionistic striving; PC = perfectionistic concerns.

Figure 13

Resultant Theoretical Model of the Developed Scale



Note. Cog. = Cognitions; CoI = Concealment of Imperfection; D = Dissatisfaction; FSS = Fearful Social Striving; PC = perfectionistic concerns; Pres. = Presentation; PS = perfectionistic strivings; PSS = Positive Self-Striving; RA = Rigid Avoidance.

Positive Self Striving (PSS)aligns with the self-oriented trait dimension of the CMPB and assesses one's internal motivation to strive for perfectionism and the belief that this pursuit leads to positive outcomes. While a unitary striving-oriented cognitions factor was not identified in this study, the PSS also captures some aspects of a positively oriented perfectionistic cognitions dimension through the inclusion of cognitive appraisals of the pursuit of perfectionism. Fearful Social Striving (FSS), conversely, aligns with the socially prescribed trait dimension and also includes failure-oriented perfectionistic cognitions. This subscale assesses one's motivation to strive for perfectionism due to external pressure and the associated negative evaluation of this pursuit. Dissatisfaction aligns purely with the cognitions dimension of the CMPB and assesses ruminative aspects and a disavowal of praise from others.

While Rigid Avoidance (RA) also captures the cognitive dimension, it combines it with the presentation dimension, specifically non-display of perfectionism. It assesses one's all-or-nothing thinking about success and failure as well as an avoidance of activities if the outcome is not guaranteed to be perfect. Similarly, the Concealment of Imperfection (CoI) also aligns with the presentation dimension from the aspect of non-disclosure of imperfection. It assesses help-seeking avoidance and avoidance of sharing information about oneself that could reveal one's imperfections. Both RA and CoI would fall under the perfectionistic concerns dimension of the 2 X 2 model, consistent with previous literature. Notably, one aspect of the presentation dimension was missing from the new scale: perfectionistic self-promotion representing an active promotion-focused style of perfectionistic presentation. Items initially developed to assess this demonstrated numerous high cross-loadings during the EFA and could not be incorporated into this new measure. This may be due to possible negative sociocultural associations with openly endorsing a desire to present oneself as "perfect" (Kellogg Insights, 2022).

It should also be noted that attempts to fit a hierarchical model to the data were unsuccessful, therefore, diminishing this scale's ability to fully align with the 2 X 2 Model. This was the most significant departure from the proposed model. These changes may reflect better alignment with the newer Model of Excellencism and Perfectionism (MEP; Gaudreau, 2019). The MEP distinguishes between perfectionism, excellencism, and nonperfectionism by mapping an individual's levels of both perfectionism and excellencism (Gaudreau et al., 2023). Recent investigations had demonstrated connections between perfectionism and poorer outcomes--or what had previously been considered maladaptive aspects--as well as connections between excellencism and what had previously been considered adaptive aspects (Gaudreau et al., 2023). As the items developed for the MTAP took the MEP into account, the MTAP may actually be

more closely aligned with the purer form of perfectionism described in the MTAP and, therefore, may be more beneficial for both researchers and clinicians moving forward.

Despite the lack of a higher order 2-factor model, the inclusion of a positively oriented subscale that aligns with the PS dimension still accounts for mutual suppression effects and enhances each dimension's predictive validity (J. Stoeber et al., 2014a). Including the PS oriented subscale is also crucial to understanding an individual's unique experience of perfectionism (Gaudreau et al., 2018; Rice & Taber, 2019). While there is not an even distribution of subscales for both the PS and PC dimensions, results from the Item Response Theory analysis indicate that this scale and its subscales can adequately and consistently assess varying levels of the latent trait in question. Therefore, the MTAP demonstrated adequate fit to the data, alignment with existing theories and models, and the capacity to capture varying levels of the latent traits, albeit with better precision at the extremes.

Reliability and Validity

Research Question 2 focuses on the reliability and validity of the finished scale. The first hypothesis states that the new scale will demonstrate strong (alphas greater than .9) reliability as well as sufficient split-half reliability. While the Concealment of Imperfection subscale fell slightly short of this with a Cronbach's alpha of .875, the alphas of the four other subscales (RA = .934, PSS = .928, D = .909, FSS= .943) and the full scale (alpha = .976) all fell above the .9 cutoff considered best practice for utilizing a scale in clinical settings (Boateng et al., 2018; DeVellis, 2017; Taber, 2018) and split-half reliability was also above .9. Compared to existing measures of perfectionism using adult samples, the new scale demonstrates higher alphas from our sample than the primary measures currently in use (i.e., the FMPS, MPS, and PSPS) and similar alphas to that of the PCI. Therefore, the new scale can be considered a reliable measure

of the perfectionism constructs in question when used with an adult sample ranging in age from 18-79).

The second hypothesis states that the new scale will demonstrate strong (correlations above .50) with other perfectionism measures. This predominantly held true with nearly all correlations between the new subscales and existing perfectionism measures above .50 (range = .41-.79), although there were a few notable exceptions. Correlations between the Rigid Avoidance (.48), Dissatisfaction (.48), and Concealment of Imperfection (.41) subscales and the perfectionistic striving (PS) subscale of the FMPS-Brief were slightly lower than the .50 expectation. This could be explained by the conceptual differences between these scales as the above new subscales capture more of the maladaptive perfectionistic concerns (PC) aspect, rather than the perfectionistic striving aspect captured by the PS subscale (Burgess et al., 2016). Similarly, this pattern can be seen in the moderately low correlations between the two existing subscales thought to measure the PS aspect (the FMPS-PS subscale and the MPS-SO subscale) and two of the existing perfectionistic presentation subscales (nondisplay and nondisclosure of imperfection of the PSPS) which are considered strong indicators of the PC aspect (J. Stoeber, 2018a).

As explained in Chapter IV, the correlations between the new subscales and existing measures follow a similar pattern to the correlations seen among the existing measures capturing different facets of perfectionism. Measures thought to be capturing the same facet (i.e., cognitions) are more highly correlated with one another than measures thought to capture different facets. This provides strong evidence for the convergent validity of the new scale and its subscales and its ability to effectively measure perfectionistic traits, cognitions, and presentation as well as both the PS and PC facets.

The second hypothesis goes on to state that the MTAP will demonstrate discriminant validity by having nonsignificant correlations with distinct measures (e.g., anxiety, depression, Obsessive-Compulsive Disorder [OCD], self-concealment). While this hypothesis is rejected as all of the new subscales are significantly correlated with these distinct measures, it should be noted that all of the existing perfectionism measures were also significantly correlated with the discriminant scales. Despite having significant correlations, the magnitudes were all lower than those between convergent scales. Furthermore, the pattern of low correlations seen between the new scales and discriminant scales are the same as those seen between existing measures and the discriminant scales. Given the evidence of perfectionism as a transdiagnostic process that has significant implications for many mental health concerns--including anxiety, depression, and OCD--these correlations may serve as an additional indicator of the overlap often seen in clinical settings (Egan et al., 2011; Limburg et al., 2017). Additionally, while some aspects of perfectionism are thought to be more adaptive the differential susceptibility hypothesis explains how these more positive aspects can easily shift into detriments when individuals experience greater stress (Belsky & Pluess, 2009; Dunkley, 2018; Gaudreau et al., 2018). So, despite the rejection of this hypothesis, the new scale could be considered to demonstrate adequate discriminant validity when compared to existing perfectionism measures.

Implications for Counseling Psychologists

Research Utility

Existing perfectionism measurement is disjointed requiring the inclusion of numerous different perfectionism scales in order to accurately assess the multidimensional and multifaceted construct (Limburg et al., 2017; J. Stoeber & Gaudreau, 2017). This not only increases the burden on research participants but adds complication to the analyses when attempting to

account for scores on numerous scales. Additionally, the many different scales do not always consistently align with the primary theories and models informing perfectionism research, which can detract from the resulting conclusions and our subsequent understanding of perfectionism. Perfectionism research needs a single comprehensive yet brief scale that is rooted in theory, and MTAP can begin to fill that gap.

The MTAP is relatively brief with only 30 items, as compared to the minimum of 55 items if one were to use all of the briefest measures available to capture traits, cognitions, presentation, and the general PS and PC aspects. By using one single scale with clear theoretical foundations, researchers can also trust that their findings are a result of the construct in question rather than an artefact of different scale constructions and item wordings. The inclusion of both PS and PC aspects within one scale--as opposed to some existing measures that only capture the PC aspect--provides greater accuracy of measurement due to the accommodation for mutual suppression effects (Limburg et al., 2017; J. Stoeber et al., 2014a).

Including all the theoretical components into one scale also allows for greater identification of patterns both within and between individuals (Limburg et al., 2017) as well as an increased understanding of the numerous unique presentations of perfectionism across individuals (Gaudreau et al., 2018; Rice & Taber, 2019). By utilizing this new scale, researchers can both explore a comprehensive picture of perfectionism and its relationship to other constructs and formulate a greater understanding of and appreciation for the nuances of the lived perfectionism experience. While not directly included in the initial development of the scale, there is the potential capacity to assess perfectionism across different domains by exploring adjustments to the scale directions to direct participants to focus on a specific domain, but research needs to substantiate this type of modification. This potential use is critical for

incorporating valuable information stemming from the Multi-domain Multilevel Model of Perfectionism (MMMP; Franche & Gaudreau, 2016; Gaudreau et al., 2018).

Finally, recent research has begun to more clearly define the distinction between perfectionism and excellencism as a way to understand the longstanding debate of whether perfectionism can truly be adaptive (Gaudreau, 2019; Gaudreau et al., 2022, 2023). The ongoing development of this distinction has led to the Model of Excellencism and Perfectionism (MEP) and subsequent recommendations for distinguishing between the two when developing measures meant to assess perfectionism (Gaudreau, 2019). When generating items for this new scale, these recommendations were utilized to ensure that the construct of perfectionism (i.e., striving toward high, rigid, and elusive standards) was being captured and not excellencism (i.e., striving for high, flexible, and realistic standards; Gaudreau et al., 2022). Aside from a recent scale developed assessing global excellencism and global perfectionism (Gaudreau et al., 2022), this was the first comprehensive and multidimensional perfectionism measure developed utilizing these new findings. While the scale developed by Gaudreau et al. (2022) differentiated between the two factors of global excellencism and global perfectionism, the MTAP assess perfectionism from a comprehensive five-factor model. Moving forward, researchers can utilize this new scale as a comprehensive measure rooted in existing established perfectionism theories that more accurately assesses perfectionism rather than conflating the construct with excellencism.

Clinical Utility

The argument for a single comprehensive measure of perfectionism is particularly relevant when considering the desperate need for informed prevention and clinical intervention (Flett & Hewitt, 2020a; Wade, 2018). Addressing detrimental perfectionistic tendencies in clinical settings remains largely dependent on an individual therapist's knowledge and awareness

of perfectionism as well as their preferred theoretical orientation which has overwhelmingly met a lack of change (Hewitt et al., 2017; J. Stoeber, 2018b; Suh et al., 2019). While there have been attempts to develop specific perfectionism treatment programs, research has shown that not only did perfectionism detract from therapeutic treatment of other mental health concerns, it also was itself resistant to change (Smith et al., 2022). Numerous approaches utilizing cognitive, behavioral, and psychodynamic modalities have resulted in mixed and controversial success (Smith et al., 2022) and clinicians need both more research on treatment approaches but also a comprehensive scale that can be used for outcome and progress monitoring.

The MTAP measures all of the core components of perfectionism according to current theory and emphasizes the perfectionistic experience as opposed to an excellencism perspective. By accurately measuring the facets of perfectionism that can lead to detrimental consequences, clinicians can utilize this scale to understand the nuanced and unique experience of perfectionism within an individual and, therefore, create more accurate and targeted treatment plans. For example, a client presenting with higher scores in the Dissatisfaction subscale may be more in need of cognitive interventions to address rumination and unhelpful cognitive self-appraisals. Likewise, a client presenting with higher scores in the Concealment of Imperfection subscale may instead benefit more from behavioral or psychodynamic interventions aimed at increasing help-seeking behavior and decreasing shame and avoidance.

Additionally, given that perfectionism often has a detrimental effect on engagement in therapy and the therapeutic relationship (Bohart & Wade, 2013), clinicians can utilize this scale to assess for potential early signs of drop out as well as open a conversation with the client about their perfectionistic tendencies, which may increase buy-in and engagement. A client scoring higher in the Positive Self-Striving subscale may be less inclined to view their perfectionistic

tendencies as a detriment and may, therefore, be less engaged in treatment directly targeting perfectionism. Or a client scoring higher in the Concealment of Imperfection scale may be less inclined to openly share about their struggles in therapy and may, therefore, be at greater risk of early termination without additional supportive measures that foster a strong therapeutic alliance. Given the high risk of suicide in relation to perfectionistic tendencies, utilization of a clinical perfectionism measure can also inform risk assessment procedures and subsequent treatment planning (Flett & Hewitt, 2024). By utilizing this new scale, therapists can start an informed and collaborative treatment approach with their clients while also fostering a greater understanding of the factors that may negatively impact treatment without pathologizing client presentations.

As noted above, both clinicians and researchers need a brief but comprehensive outcome measure that can more accurately assess client progress in order to evaluate the efficacy of various treatment approaches. The current lack of brief comprehensive measurement may possibly account for the mixed success of treatment approaches as measurement of global perfectionism does not account for the unique client presentations and underlying components that influence their experience of perfectionism. Psychodynamic group approaches may demonstrate greater effectiveness at addressing the social and presentation components of perfectionism while online cognitive approaches may show greater efficacy in addressing maladaptive cognitions--yet these distinctions and nuances are likely masked if only global measures of perfectionism are used.

Calculating the Reliable Change Index (RCI) is a common method for evaluating clinically significant improvement or deterioration based on scores on self-report measures. The RCI determines the minimum change score necessary on a self-report measure to be considered statistically reliable and not a product of randomness or measurement error (Ogles et al., 1996).

An RCI score of ≥ 1.96 is considered reliable change, whereas scores ≤ 1.96 are considered unreliable (Ogles et al., 1996). The RCI is calculated by dividing the difference between the pretreatment and posttreatment scores by the standard error of the difference between the two scores (RCI = $\frac{(x_{post} - x_{pre})}{\sqrt{2S_E^2}}$; Bauer et al., 2004; Ogles et al., 1996). The standard error (S_E) of the formula is calculated as $S_E = SD\sqrt{1 - rel}$ where "rel" is the coefficient alpha (Bauer et al., 2004). A reliable change score (RC) can also be calculated to determine the minimum change in a scale score indicating reliable change using the following formula RC = $1.96\sqrt{2S_E^2}$.

Applying this to the Fearful Social Striving (FSS) subscale of the MTAP, you would first calculate the standard error of the measurement: $S_E = SD\sqrt{1 - rel}$, = $8.08\sqrt{1 - 0.943}$ = 1.93. Then calculate the reliable change score: RC = $1.96\sqrt{2S_E^2}$ = $1.96\sqrt{2(1.93^2)}$ = 5.35. This would mean that the minimum reliable change in score on the FSS would be 5.35 points. To illustrate this requirement with hypothetical client scores using the RCI formula ($\frac{(x_{post} - x_{pre})}{\sqrt{2S_E^2}}$) consider two clients with pretest scores of 26. The first client has a posttest score of 21 (a 5-point difference) while the second has a posttest score of 20 (a 6-point difference). Based on the RC score of 5.35, client one's score is below the minimum while client two's score is above the minimum, therefore, we could conclude that only client two's change is reliable. By calculating the RCI we would see that client one's RCI = 1.83 (below the 1.96 cutoff) and client two's RCI = 2.20 (above the 1.96 cutoff), further supporting the conclusion that only client two has demonstrated reliable change.

There is no shortage of benefits in considering the many uses of a brief, comprehensive measure of perfectionism that can be utilized as an outcome and progress measure as well as inform the evaluation of treatment efficacy. Perfectionism has a clear and often detrimental

impact seen by clinicians across presenting concerns. Utilizing the MTAP can provide better informed prevention and intervention strategies to target the multiple distinct facets of the perfectionism experience, while also making note of potential detriments to the therapeutic alliance or client engagement.

Limitations and Future Directions

All research includes limitations that may influence the conclusions derived from the findings as well as provide rich new avenues for future research to build upon. An overview of the limitations and associated directions for future research are provided to acknowledge shortcomings while setting the stage for ongoing investigations. First, this study exclusively focused on an adult population (age 18-79). There was extensive research exploring perfectionism in children and adolescents (e.g., Affrunti & Woodruff-Borden, 2018) and the proposed development of perfectionism began in childhood (Hewitt et al., 2017). While research and theory indicate significant overlap and similarity in perfectionism throughout the lifespan, the developed scale was only validated for use in adult populations, therefore, further research will be needed to assess validity and reliability of this scale for clinical use with non-adult populations.

Since the estimated reading level of this scale is around the seventh grade level, it may unnecessarily present a barrier for adult individuals with a lower reading level who nonetheless hold perfectionistic tendencies. There is a dearth of research investigating perfectionistic tendencies outside of the stereotypical “high achiever” presentation and future research would likely benefit from expanding investigations. Perfectionism research is often conducted with more highly educated participants (i.e., college students or individuals holding a college degree), and while 47% of this study’s participants held less than a college degree, further research would

continue to benefit from exploring perfectionism across varying educational levels. Additional adaptations of this measure with a lower reading level may benefit this pursuit as well as open the door for child and adolescent adaptations. Given the current reading level, assessing the scale's reliability and validity with adolescents could be a promising starting point for expanding the scale's use. This could also benefit the exploration of perfectionistic tendencies among student athletes, as expectations for sport performance often intensify in late adolescence.

Similarly, this study also exclusively used an adult population within the United States that was predominantly White, cisgender women, and heterosexual that presumably represents Western culture and ideals. While the research exploring perfectionism around the world indicate significant overlap and consistency in conceptualization and outcomes (e.g., Flett & Hewitt, 2020b), there may be significant differences in cultural ideas of perfection, cultural and societal norms and contexts that either encourage or dissuade perfectionism, and the unique beliefs and practices that may relate to perfectionism. Therefore, further research would need to determine the validity and reliability of this scale for clinical use outside of the United States and with diverse populations.

While results demonstrated initial support for the generalizability of the MTAP across gender, sexual orientation, and race/ethnicity, future research would benefit from additional investigation of invariance with a more diverse participant pool. While some of the focus group and cognitive interview participants identify with one or more historically marginalized identities, further research would also benefit from a more extensive investigation of the perfectionistic experience of these individuals as well as other individuals with historically marginalized identities. While invariance is preferred when developing a new scale, further research would benefit from investigating potential differences in the experience of

perfectionism across varying identities and populations. Specifically, following the Multi-level Multidomain model, there may be differences across facets of perfectionism and/or their intensity that may not have been adequately captured by global measures of perfectionism.

Participation in the study was voluntary. Those who chose to complete the survey may be categorically different from those who chose not to complete the survey. Furthermore, this study utilized a crowdsourcing platform to recruit participants. The participants who use this platform may also be categorically different from those who do not. Future research would benefit from using this scale across numerous different settings and populations to provide greater support for the scale's reliability and validity.

This study utilized self-report measures which were subjective and vulnerable to impression management, dishonesty, and inaccuracy through other factors. While a social desirability scale was used to identify participants who may not be responding authentically, this does not guarantee the study is immune from the above vulnerabilities. Utilizing a triangulation approach common in qualitative designs has been recommended to provide greater support for both quantitative and qualitative research findings. Some examples of this are informant ratings, mixed method or experimental designs, and observational studies. While both qualitative and quantitative methods were utilized in the development of this scale, future research pairing this scale with the above methods would add to the quality of findings as well as support for the reliability and validity of the scale. Utilizing various methods of assessment may also better capture the middle levels of the latent traits that were not consistently accounted for in this study. This may also have been a product of sample size so further investigation is warranted.

The MTAP does not have a factor that clearly aligns with the perfectionistic self-promotion (PSP) facet that was previously identified within the presentation component of the

Comprehensive Model of Perfectionistic Behavior. While items designed to represent this facet were included in the analysis, these items were too evenly cross-loaded across multiple factors to be incorporated. While PSP does fall within the presentation component, future research would benefit from exploring the nuances of its relationships with other theoretical components, specifically narcissistic perfectionism or effortless perfectionism. The lack of inclusion in this scale could also be due to problems with the items generated for this facet, or unique qualities of the study population. It may also be possible that the more recent trend in sociocultural norms that promote authenticity and accepting oneself may have influenced participant responses to these items (Kellogg Insights, 2022). Specifically, the open endorsement of an active pursuit to present oneself as flawless may have been seen as an undesirable response style, regardless of whether these qualities and tendencies are part of one's experience. Furthermore, this may be a facet of perfectionism that is subject to one's level of self-awareness, therefore, it may not adequately be measured through self-report designs. The degree to which this facet is either ego-syntonic or ego-dystonic may also influence participant self-awareness and their responses on self-report measures. More research is needed on this facet, how to measure it, and its relationship with other perfectionism components.

The Multi-domain Multilevel Model of Perfectionism (MMMP) has demonstrated significant implications for the presentation and experience of perfectionism both within and between individuals (Franche & Gaudreau, 2016; Gaudreau et al., 2018). The new scale as developed does not currently take different domains (e.g., school, work, sport, appearance, sex) into account and is, therefore, lacking important information for both researchers and clinicians. Despite this limitation, the scale does hold the potential for future adaptations of the scale instructions to assess specific life domains, similar to the structure utilized by the Experiences in

Close Relationships Scale-Relationship Structures (Fraley et al., 2011), and future research would benefit from evaluating the psychometric properties of this scale with domain specific adaptations.

Test-retest reliability was not assessed in this study due to the additional financial cost and future research should evaluate this psychometric property for various lengths of time consistent with other trait like scales (e.g., 3 months or longer). While perfectionism is considered a relatively stable trait, it is important to provide strong support and evidence that this scale has the ability to maintain consistency and accuracy in assessing perfectionism in individuals across time. Without this support, the scale's reliability is not as well-established and both researchers and clinicians should interpret findings cautiously.

While this scale aimed to capture the primary components as outlined in the 2 X 2 Model of Perfectionism and the Comprehensive Model of Perfectionistic Behavior, other nuanced facets of perfectionism have emerged over the years that, while not integrated into these theories, may provide additional important information about the experience of perfectionism and its treatment. Some of these facets include close relatives of existing components, such as effortless perfectionism and self-critical perfectionism, as well as more distinct but no less important aspects such as other-oriented perfectionism and narcissistic perfectionism. More research is needed to clarify the relationships among these constructs and how they may all interact to influence one's experience of perfectionism. Given the high correlation between the Rigid Avoidance and Fearful Social Striving subscales ($r = 0.86$), future research should also continue to assess the independence of these factors to address any possible issues with multicollinearity. Subsequent changes in the theory behind these facets and their measurement may result in increasing the incremental validity of the scale by possibly adding additional subscales to this

existing measure or adding items that can capture these pieces within the umbrella of one of the existing subscales.

Due to cost and complexity, criterion validity was not initially established for the MTAP. Perfectionism and its associated features are generally conceptualized on a continuum and researchers have often utilized cutoff scores based off standard deviations (*SD*) to classify low (one *SD* below the mean) and high (one *SD* above the mean) levels of perfectionism (e.g., Gaudreau et al., 2023). Table 15 shows the application of this process to the MTAP. While cutoff scores based on *SD* can be helpful, as is they lack clinical significance since they have no predictive applicability. At which *SD* would treatment of perfectionism be deemed necessary or beneficial?

Table 15

Multidimensional Therapeutic Assessment of Perfectionism (MTAP) Cutoff Scores for "Low" and "High" Classifications

Subscale	Range	*M*	*SD*	Low	High
PSS	6-30	15.42	7.02	≤ 8	≥ 22
RA	8-40	16.17	8.3	≤ 8	≥ 24
D	5-25	12.32	5.89	≤ 6	≥ 18
CoI	4-20	9.19	4.43	≤ 5	≥ 13
FSS	7-35	15.44	8.08	≤ 7	≥ 23
Full Scale	30-150	68.33	30.45	≤ 38	≥ 98

Note. CoI = Concealment of Imperfection; D = Dissatisfaction; FSS = Fearful Social Striving; PSS = Positive Self-Striving; RA = Rigid Avoidance.

Low and High are based off one standard deviation below and above the mean, respectively.

Future research would benefit from further validation of these cutoff scores or the identification of more appropriate cutoff scores (i.e., mild, moderate, or severe categorization) in the context of clinical decision making and treatment planning. This could be accomplished by evaluating MTAP scores among different population groups (i.e., a clinical treatment group vs. a non-clinical group) and subsequent sensitivity (those with perfectionism) and specificity (those without perfectionism) could then be established. Researchers could also utilize the MTAP and the SCOPE (Gaudreau et al., 2022) in tandem to provide further validation of the MTAP's ability to assess perfectionism rather than excellencism via known-groups validation. This would provide additional support for the MTAP assessing tendencies that are associated with more detrimental consequences (Gaudreau et al., 2023).

Finally, while not a specific focus of this study, the noted rise in perfectionistic tendencies (Curran & Hill, 2019) warrants further investigation to better discern potential causes

for this increase. Previous research has speculated about sociocultural changes over the past 30 years, the development and proliferation of the internet and social media, and possible increased or unique stressors (i.e., the Covid-19 pandemic). While these hypotheses have received some initial support, utilizing the MTAP to more accurately assess this trend may help researchers to better understand this phenomenon and potentially identify helpful avenues of prevention or intervention.

Conclusion

The purpose of this study was to develop and provide initial validation for a brief yet comprehensive multidimensional measure of perfectionism that has both clinical and research utility. Results demonstrated that this new 30-item scale can be considered a reliable and valid measure that aligned with established theory as well as existing measures of perfectionism. By incorporating both classical test theory as well as item-response analysis theory in the development of this scale, support was provided for this new measure's ability to demonstrate reliability independent of the sample used and discriminate across levels of the latent variables in question. While not a *perfect* measure of perfectionism, the MTAP aims to move the field toward a more synthesized and holistic approach to understanding and treating perfectionism with the potential for additional adaptations. This scale also has the potential to be a significant asset in the assessment and treatment of perfectionism in clinical settings and provide more nuanced and targeted prevention and intervention planning. While additional and ongoing validation with diverse populations is always warranted, this study serves to provide initial support for the MTAP and encourage future research to build upon this measurement foundation.

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APPENDIX A

DEMOGRAPHIC AND FOCUS GROUP QUESTIONS

DEMOGRAPHIC AND FOCUS GROUP QUESTIONS

Demographics

1. What is your age in years?

2. With which race/ethnicity do you identify?

    a. White or Caucasian
    b. Black or African American
    c. American Indian or Alaska Native
    d. Asian American or Asian
    e. Native Hawaiian or Pacific Islander
    f. Hispanic or Latinx
    g. Middle Eastern
    h. Multiracial / Multi-ethnic
    i. An identity not listed (please include your identity in the space provided)

3. How do you identify your gender?

    a. Transgender Male
    b. Transgender Female
    c. Male
    d. Female
    e. Non-binary
    f. Gender non-conforming or genderqueer
    g. An identity not listed (please include your identity in the space provided)

4. How do you identify your sexual and/or romantic orientation?

    a. Asexual / Aromantic
    b. Bisexual / Biromantic
    c. Gay or Lesbian
    d. Heterosexual / Heteroromantic
    e. Pansexual / Panromantic
    f. Questioning or Queer
    g. An identity not listed (please include your identity in the space provided)

Focus Group Questions

1. How would you define perfectionism?

2. What thoughts do you associate with perfectionism?

3. What feelings do you associate with perfectionism?

4. Where did your perfectionistic tendencies originate?

5. How does perfectionism show up in your life?

    a. How does perfectionism influence your behavior?
    b. How does perfectionism impact your relationships with others?
    c. How does perfectionism impact your identity and sense of self?
    d. How does perfectionism impact your life overall?

6. What other thoughts, feelings, or experiences do you feel are important to understanding perfectionism?

APPENDIX B

FOCUS GROUP THEMES, SUBTHEMES, DESCRIPTIONS, AND EXAMPLES

Table 16

Focus Group Themes, Subthemes, Descriptions, and Examples

Theme	Subtheme and Description	Examples
Striving	Self-Motivated An internal motivation to strive for perfection.	"I remember being very, very young and connecting that I could decide to do something big and then I could work really hard and do it. And it was awesome when I got there. And so, I connected those two really, really early and I was like, this is awesome. I'm going to do it." "It's striving for the absolute best that is possible and maybe sometimes isn't possible, but just the absolute highest best version of anything you can achieve." "I've always felt this internal desire to be perfect in school, in sports, in musicals. Anything I do or did in the past, and I can't really put a finger on it, but I think it came from something internal."
	Other-Motivated An external motivation to strive for perfection.	"I need to be striving because if I don't, people aren't getting the best out of me. And that's unfair to them." "I 100% think it came from my family and then later on from school as a result of just those expectations, whether it wasn't necessarily supposed to be mal-intentioned, but as the oldest of three, my parents would compare what I did to my sister or my brother. And so there was just continuous expectation that the standard and the bar was hit set high." "In the past for me, perfectionism was a lot of, 'I have to do everything right because I need everyone to watch me succeed'."
Cognitive Evaluations of Striving	Beneficial A positive perception of perfectionism and its consequences	"I do think it is a tool in the sense that it can fuel the ambition and accomplishing things and getting you towards those goals and where you're meant to be as a person, whether that be professionally or personally." "It can be a really good thing because it can for me, drive me to set really, really high goals. And obviously I am a believer that if you set really low goals, you may not achieve something way higher than that because your goal was really low in the first place. But if you set higher goals, you might at least have a chance of achieving something even better."

Table 16 (continued)

Theme	Subtheme and Description	Examples
	Detrimental A negative perception of perfectionism and its consequences	"Sometimes it just feels empty. There's always that box you're trying to check, and there's always this next box, we're trying to check or, like you said, that just out of reach thing. So in a lot of ways, it feels empty. What do we really have to show for it at the end of the day?" "Perfectionism in those years was, it was destructive. It was very negative. It definitely took a toll on how I viewed myself, how I talked to myself. There's really no self-compassion ever for really any reason."
	Double-edged sword A mixed perception of perfectionism and its consequences	"I think perfectionism is a tool and it's a very, very powerful one. And like any tool, it can be used to build something or tear it down. And I think it's just depending on how you use it." "So it's kind of pushed me to where I am. But then also in some aspects of my life, it holds me back." "I feel like this is, for me, a blessing and a curse."
	Not Promoting Perfectionism An express desire to avoid promoting perfectionistic tendencies	"I got lots of love and reward for the things that I produced and what, as I reflect back on…what would've been nice is being given love and care for who I am and not what I did." "I try to interact with my students in a way not to pass that trait on. I'm not trying to pass that aspect, those expectations that were placed upon me as an academic when I was a student in college to other generation." "I also have a daughter and I'm really trying to not instill these characteristics that I have in her."
Dissatisfaction	**Raising the Bar** A never-ending increase of perfectionistic expectations	"It feels like this catch 22 of kind of constantly pushing the bar and pushing the standard, but then it always raises. So there's just kind of the constant feeling of I'm trying and it's never enough." "The bar keeps raising and I keep reaching and it, there's like, 'Ugh, what a gap'."
	Never Enough Discontent with oneself and your work	"Which takes me back to the beginning of this discontent because there's always going to be something more and something that I can change or add or to make it better." "It's often striving for an unattainable goal, thinking there's always something I could have done better, I should be doing better."

Table 16 (continued)

Theme	Subtheme and Description	Examples
	Success Negation Rejection of success or feeling accomplished	"I've learned to be very cautious because I can get sloppy after success. And maybe that's my perfectionist voice there. But it says don't let up because if you're not careful, you can screw everything up."
		"There's still definitely a part of me that even in quote unquote success. It's like, wow, gosh, but you could have been more."
	Praise Negation Rejection of external signs of success and praise	"I used to think that people were lying to me whenever they told me that I did a good job because it wasn't done perfectly in my eyes."
		"Or there's this part of me that feels like it wants to like, 'oh, but if you just tweaked this one thing', even though people are like, 'no, that was a pretty bang up job. Congratulations.'"
Imperfection	**Fear of Failure** Persistent fear and avoidance of failure	"Just spiraling, spiraling, spiraling to this place of fear. And which I think goes along with that part of looking at it at things from a deficit perspective of errors, eliminating errors, eliminating things rather than, 'I want to do good on this'. It's like, 'I don't want to do bad on this' because of fear, basically."
		"There was just always this expectation from a very young age that I remember my parents saying, 'if you don't do good in school, you're going to be a garbage truck driver for the rest of your life. And do you want that?' And so just a lot of what they probably meant as encouragement just became this fear of what if I fail?"
	Rumination Negative persistent reflections of failure	"You just ruminate on and think about just, 'oh, I could have done this differently. I should have done this. I should have done this'. And it's a terrible vicious cycle."
		"Whenever some tiny little thing goes wrong, I think about it for the next hour, the next day. Sometimes I'll have dreams about it."
	Self-Criticism Being critical of oneself in times of failure or imperfection	"Yes, it means something bad about me that I didn't push shit that I believe I had the capacity to or didn't show up in a way that I wanted to."
		"I'm like, oh, that was so bad. It makes it hard to actually entertain where to go forward and or even what went well, it feels like shame is so loud that it's, that's all I can hear."
		"I think the criticism can be there, but the criticism also provides an element of motivation. And I think sometimes it gets me doing things that I wouldn't otherwise do."

Table 16 (continued)

Theme	Subtheme and Description	Examples
	Avoiding Activities Avoidance of activities or pursuits that are not guaranteed to be successful	"I wouldn't raise my hand if I wasn't absolutely sure I had the answer. So I think that perfectionistic tendency was kind of keeping me away from failing or trying something if I knew that I wasn't completely 100% sure. So I'll kind of shy away from things if I know I can't do them or if I think I can't do them to be perfect."
		"The idea that unless you can do something absolutely perfect, you shouldn't do it. Unless it has no errors, no flaws, no problems, you can't do it."
		"For a long time I couldn't have hobbies because I didn't feel perfect at them. So, I used to play instruments and I was really good, but there were always people that were better. So I stopped doing that because I couldn't be the best."
Presentation	**Fear of External Evaluation** Fearing external judgement or criticism for a lack of perfection	"I think of expectations. I picture, who's going to read this? Who's going to go over this? What are they going to think? I did really well the time before. Their expectation's going to be pretty high."
		"I've probably kept a lot of that hidden as a fear of I don't want people to think differently of me, or I don't want people to not see me as this upstanding, perfectionist type person."
		"The fear of failure, fear of being a fraud or being found out that what I'm doing is not actually enough."
	Hiding Behind a Façade Hiding aspects of oneself to present a perfect image or avoid revealing imperfection	"I would say that same sort of stress of just holding up the facade or holding up this image and wanting to keep that image keep going."
		"I think that makes it a little bit harder just personally for when I'm having these internal struggles often with perfectionism is that no one else knows."
		"It was often you just have to project that everything is fine all the time and nothing is ever bothering you. And that was part of my perfectionism was everyone thought I was fine all the time."
	Lack of Connection to Others Relational difficulty as a consequence of perfectionism	"It's hard to be vulnerable, because if you're deep into the very negative side of perfectionism, if you're perfect then you don't really have to be vulnerable because you did everything right and you have your feelings under control."
		"The shame component of perfectionism definitely impacts my relationships. I think sometimes the shame is so present that I shut down."

APPENDIX C

INITIAL 135 ITEM LIST

INITIAL 135 ITEM LIST

Presentation: Perfectionistic Self-Promotion

1. I often obsess over how others perceive me and strive to maintain a faultless image.
2. I meticulously curate my outward appearance and behavior to project an impeccable image.
3. I prioritize having a flawless persona, even if it means sacrificing authenticity.
4. I often go to great lengths to present myself as flawless to others.
5. Maintaining a perfect image is very important to me when interacting with others.
6. I find myself striving for perfection in my public image to impress others.
7. I showcase qualities that display flawlessness to gain approval or admiration from others.
8. I feel an extreme need to present myself as flawless to gain approval from others.
9. I am highly concerned about appearing error-free in all aspects of my life, even when it may be unreasonable.
10. I must outwardly display that everything is okay all of the time.
11. I set exceedingly high expectations for myself to stand out and impress others.
12. I must present a perfect image out of fear of being "found out."
13. I feel like I have to maintain a façade of effortless accomplishment.
14. I must maintain an image of perfection at all times.
15. Maintaining a flawless persona is often exhausting but I can't stop.
16. I crave recognition of my impeccable output to know if it was good enough.
17. I often seek validation from others regarding my impeccable performance.
18. I fine-tune how I present myself to others to come across as flawless.
19. I have to constantly project a perfect image, or others will change their minds about me

Presentation: Nondisclosure of Imperfection

1. If I make a mistake, I avoid telling anyone.
2. I would be mortified if someone discovered I'd made a mistake.
3. I tend to hide my mistakes and flaws to maintain the illusion of perfection.
4. If I revealed my imperfections, others would lose respect for me.
5. I tend to conceal my efforts and make my achievements appear effortless to others.
6. I avoid admitting information that may reveal my imperfections or flaws.
7. I often conceal my efforts to appear flawless.
8. I find it challenging to admit information that may reveal my imperfections.
9. I feel I can't reveal my internal struggles to others, or it would reveal my flaws
10. More often than not, I don't ask others for help because it would reveal my imperfections.
11. If others know how much effort I put in, my accomplishments will be diminished.
12. Seeking help from others is a sign that you failed.
13. If I share my internal struggle with others, it will negate my impeccable reputation
14. I must hide my mistakes and flaws from others at all costs.
15. If others knew how much effort I put in, they wouldn't be impressed with me.

16. If I don't solve my problems on my own, I will be perceived as a failure.
17. My accomplishments must look effortless or else they don't count.
18. I would feel shame if others knew that I made a mistake.

Presentation: Nondisplay of Imperfection

1. If I make a mistake in front of others, they will think less of me.
2. I can't stop replaying events in my mind, obsessing over any small mistake I might have made.
3. If I can't do something perfectly, then there's no point in starting.
4. I often procrastinate starting tasks because I fear I won't be able to do them perfectly.
5. I worry that a less-than-perfect end result will reveal my inadequacies.
6. I obsess over small details when preparing to begin because I fear others will judge me for even the smallest imperfection.
7. I have to ensure my work is flawless before sharing it with others.
8. If I am not the best at something, I don't enjoy doing it.
9. I struggle to do things for leisure because I may not do them flawlessly.
10. I struggle to commit fully to something if I'm not confident the outcome will be perfect.
11. I take longer to complete tasks than is needed to eliminate any flaws.
12. I avoid activities that will show others that I'm not perfect.
13. I cannot do anything that would reveal my mistakes and flaws to others.
14. I make excuses to avoid activities that would reveal my imperfections.
15. I feel embarrassed if others see the errors in my performance.
16. The shame of others seeing my flaws would be unbearable.
17. There's no point in doing something if you're not doing it to an extremely high standard.
18. Anticipating an imperfect outcome makes me want to avoid the activity altogether.
19. I feel the need to hide any imperfections I have when I'm in social situations.
20. Any sign of imperfection could lead others to question my capabilities.

Traits: Self-Oriented

1. I expect myself to produce flawless work.
2. I relentlessly pursue flawlessness in all that I do.
3. I will not settle for a less-than-perfect outcome.
4. My expectations for myself are above and beyond what is required of me.
5. Everything I do must be impeccable at all times.
6. I won't rest until I have produced a flawless outcome.
7. I spend more time and effort than is necessary to ensure my work is perfect.
8. I continuously raise the bar for what I should achieve.
9. I find satisfaction in the meticulous process of perfecting my work.
10. I set high expectations for myself that others may consider unreasonable or excessive.
11. At times, I feel overwhelmed by the pressure to meet the expectations I set for myself.
12. I often revise and refine my work well beyond what is required.
13. When I don't reach the level I expected, I can't shake the feeling that I let myself down.
14. My self-worth is tied to my ability to produce a flawless outcome.
15. I am constantly competing with others in my mind to be the best.
16. My extremely high standards help me become the best version of myself.

17. I can accomplish more than I would have otherwise by setting extremely high standards for myself.
18. A mistake or failure is mortifying, even if others never know about it.
19. I set extremely high expectations for myself in areas that others might think are unnecessary.
20. I take pride in setting exceedingly high standards and achieving more than others.

Traits: Socially Prescribed

1. At times, I feel overwhelmed by the pressure to meet the expectations others have for me.
2. I can't shake the feeling that I let others down by not reaching the level they expected.
3. I feel intense anxiety thinking that I might fall short of the expectations others have for me.
4. My self-worth is tied to my ability to meet the extremely high expectations others have for me.
5. If I don't meet the high expectations others have for me, I am worthless.
6. The fear of disappointing others drives me to excel at all costs, often at the expense of my own wellbeing.
7. I feel like a failure if someone expresses even a small degree of disappointment with me.
8. I must be flawless in what I do so that others aren't disappointed in me.
9. Even small mistakes are a sign that I'm not living up to the excessively high expectations others have for me.
10. I worry that others will judge me for anything less than perfect.
11. My work is not good enough unless others would see it as impeccable.
12. I often worry if what I am doing is good enough in the eyes of others.
13. I feel undue pressure to avoid failing when others expect me to produce flawless outcomes.
14. I am constantly competing with others in my mind to avoid doing worse than them.
15. Even a small mistake will negate other successes or accomplishments in the eyes of others.
16. I often feel that I am waiting for others to discover my flaws and be disappointed in me.
17. I will be seen as a failure in society for anything less than perfect.
18. I must continuously raise the bar in order to keep others in my life.

Cognitions: Perfectionistic Concerns

1. If I make even a small mistake, it means I am not good enough.
2. If my work isn't flawless, it's a reflection of my incompetence.
3. Everything I do falls short of my expectations.
4. I can't help focusing on the parts of my work that are flawed, despite receiving positive feedback.
5. I feel inadequate if others do better than me.
6. If someone's finished product is better than mine, my entire outcome is a failure.
7. Even minor setbacks feel like monumental failures.
8. I worry others are disappointed with my work, even if they said it was well done.
9. The shame of failing is unbearable.

10. I feel a deep sense of failure from even minor feedback.
11. There is no room for error in anything I do.
12. I am constantly trying to eliminate flaws in myself and my work.
13. I delay starting a task to avoid the extreme pressure to make it perfect.
14. The only way to be successful is to eliminate all possibility of failure.
15. I struggle to feel accomplished because the expectation of flawlessness never ends.
16. I can never make a mistake or my previous successes will be discarded.
17. Things are either flawless or a failure; there is no in-between.
18. If something is only good enough, it is a failure.
19. I worry too much about how others will perceive a flaw or mistake.
20. I fear what will happen if others discover my flaws.
21. I spend too much energy worrying about the consequences of a less-than-perfect outcome
22. Receiving constructive feedback means that I failed.
23. I worry that others will notice flaws in my work and think less of me because of them.

Cognitions: Perfectionistic Strivings

1. Even when I achieve success, I obsess over ways I could improve.
2. I spend a great deal of time planning my approach to completing the task in minute detail to ensure flawlessness.
3. Anything less than flawless work is unacceptable.
4. Even the smallest error or imperfection is unacceptable.
5. I struggle with completing tasks because I keep finding new ways to improve them, leading to delays.
6. I find it hard to celebrate my achievements because I'm fixated on the ways it could have been better.
7. I often don't acknowledge my successes because I've already moved on to the next thing.
8. The only way to succeed in life is to constantly demand more of yourself.
9. Even when I do well, I raise my expectations for next time.
10. There are always aspects of my work that should have been better.
11. I am constantly trying to achieve the impossible.
12. Feeling proud of my work is only justified if I went above and beyond.
13. I am more passionate about perfecting challenging activities than easy ones.
14. It is difficult for me to accept praise from others because I can see the flaws in my work.
15. I often feel that the perfect version of myself I'm constantly seeking is just out of reach.
16. I am constantly seeking ways to improve on minor flaws, even when it does not change the outcome.
17. The only way to succeed is to be perfect

APPENDIX D

98 ITEM LIST INCLUDED IN ANALYSIS

98 ITEM LIST INCLUDED IN ANALYSIS

Presentation: Self-promotion

1. I put in great effort to present myself as flawless to others.
2. I feel the need to present myself as flawless to gain approval from others.
3. I am extremely concerned about appearing error-free in all aspects of my life, even when it may be detrimental.
4. I feel like I must present an image to others that all of my accomplishments are easy.
5. Maintaining a flawless persona is often exhausting, but I can't stop.
6. I crave recognition of my work to know if it was good enough.
7. If I don't present myself perfectly, then others will think less of me.
8. I actively present myself as perfect to try to impress others.
9. I must always present a flawless image to others.
10. I feel the need to present myself as perfect to others.
11. I am concerned with how I physically appear to others.

Presentation: Nondisclosure

12. If I make a mistake, I avoid telling anyone.
13. If I revealed my imperfections, others would lose respect for me.
14. I avoid telling others about the effort I put into something to appear flawless.
15. I find it challenging to admit information that may reveal my imperfections.
16. I don't ask others for help because it would reveal my imperfections.
17. Seeking help from others is a sign that I failed.
18. If others knew how much effort I put in, they wouldn't be impressed with me.
19. If I don't solve my problems on my own, I will be perceived as a failure.
20. I would feel shame if I told others about my mistakes or failures.
21. I conceal my flaws from others by not admitting my mistakes or failures.
22. I must keep my problems to myself.
23. I must solve my problems without the help of others.
24. I avoid admitting any information that would reveal my imperfections.

Presentation: Nondisplay

25. If I make a mistake in front of others, they will think less of me.
26. I can't stop replaying events in my mind, obsessing over any small mistake I might have made.
27. If I can't do something perfectly, then there's no point in starting.
28. I procrastinate starting tasks because I fear I won't be able to do them perfectly.
29. I obsess over small details because I fear others will judge me for even the smallest imperfection.
30. I must ensure my work is flawless before sharing it with others.
31. If I am not the best at something, I don't enjoy doing it.
32. I struggle to do things for leisure because I may not do them perfectly.
33. I struggle to commit fully to something if the outcome may not be perfect.

34. I avoid doing anything that will show others that I'm not perfect.
35. I make excuses to avoid activities that would reveal my imperfections.
36. I feel ashamed when others see me make a mistake.
37. The shame of others seeing my flaws would be unbearable.
38. I conceal my flaws from others by not doing anything I can't do perfectly.
39. I avoid making mistakes in front of others at all costs.

Traits: Self-Oriented

40. I expect myself to produce flawless work.
41. My expectations for myself are above and beyond what is required of me.
42. I won't stop until I have produced a flawless outcome.
43. I continuously raise the bar for what I should achieve.
44. I find satisfaction in the meticulous process of perfecting my work.
45. Others consider the high expectations I have for myself unreasonable or excessive.
46. I can feel overwhelmed by the pressure to meet the expectations I set for myself.
47. I revise and refine my work well beyond what is required.
48. I am constantly competing with others in my mind to be the best.
49. My extremely high expectations help me become the best version of myself.
50. I can accomplish more than I would have otherwise by setting extremely high expectations for myself.
51. I take pride in setting exceedingly high expectations and achieving more than others.
52. I am motivated by an internal desire to pursue perfection.
53. I set exceedingly high expectations for myself.
54. I am constantly trying to eliminate flaws in myself and my work.

Traits: Socially Prescribed

55. I can feel overwhelmed by the pressure to meet the expectations others have for me.
56. I feel intense anxiety thinking that I might fall short of the expectations others have for me.
57. I am worthless if I don't meet the extremely high expectations others have for me.
58. The fear of disappointing others drives me to excel at all costs, even at the expense of my well-being.
59. I feel like a failure if someone expresses even a small degree of disappointment with me.
60. I must avoid failing so that others aren't disappointed in me.
61. I worry that others will judge me for anything less than perfection.
62. My work is not good enough unless others see it as flawless.
63. I worry if what I am doing is good enough in the eyes of others.
64. I feel that I am waiting for others to discover my imperfections and be disappointed in me.
65. Others will see me as a failure if I'm anything less than perfect.
66. I can never escape the exceedingly high expectations others have for me.
67. I feel compelled to pursue perfection to maintain my relationships with others.

Cognitions: Concerns

68. If I make even a small mistake, it means I am not good enough.
69. Everything I do falls short of my expectations.
70. I can't help focusing on the parts of my work that are flawed, despite receiving positive feedback.
71. I feel like a failure if others do better than me.
72. I worry others are disappointed with my work, even if they said it was well done.
73. The shame of failing is unbearable.
74. I feel a deep sense of failure from even minor feedback.
75. I struggle to feel accomplished because the expectation of flawlessness never ends.
76. I must avoid making mistakes, or my previous successes don't count.
77. Things are either flawless or a failure; there is no in-between.
78. If something is only good enough, it is a failure.
79. Receiving constructive feedback means that I failed.
80. Even one small mistake or flaw ruins the entire outcome.
81. I avoid making mistakes at all costs.
82. I am intensely afraid of failing.
83. My accomplishments must appear effortless, or else they don't count.

Cognitions: Striving

84. Even when I achieve success, I obsess over ways I could improve.
85. I struggle with completing tasks because I keep looking for ways to improve them, leading to delays.
86. Celebrating my achievements is difficult because I fixate on the ways it could have been better.
87. I don't acknowledge my successes because there is always more to do.
88. The only way to succeed in life is to constantly demand more of yourself.
89. Even when I do well, I raise my expectations for the next time.
90. There are always aspects of my work that should have been better.
91. I relentlessly strive toward being perfect.
92. I am more enthusiastic about perfecting challenging activities than easy ones.
93. It is difficult for me to accept praise from others because I can see the flaws in my work.
94. I am constantly seeking ways to improve on minor flaws, even when it does not change the outcome.
95. I attempt to go above and beyond my high expectations.
96. I never feel satisfied with my performance.
97. A mistake or failure is shameful, even if others never know about it.
98. I spend more time and effort than is necessary to ensure my work is perfect.

APPENDIX E

INSTITUTIONAL REVIEW BOARD APPROVAL

UNIVERSITY OF
NORTHERN COLORADO

Institutional Review Board

Date:	04/15/2022
Principal Investigator:	Jordan Martell
Committee Action:	**IRB EXEMPT DETERMINATION – New Protocol**
Action Date:	04/15/2022
Protocol Number:	2201034792
Protocol Title:	DEVELOPMENT AND VALIDATION OF AN INTEGRATED MULTIDIMENSIONAL PERFECTIONISM SCALE FOR USE IN MULTIPLE CONTEXTS USING IRT
Expiration Date:	

The University of Northern Colorado Institutional Review Board has reviewed your protocol and determined your project to be exempt under 45 CFR 46.104(d)(702) for research involving

Category 2 (2018): EDUCATIONAL TESTS, SURVEYS, INTERVIEWS, OR OBSERVATIONS OF PUBLIC BEHAVIOR. Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met: (i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects; (ii) Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or (iii) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by 45 CFR 46.111(a)(7).

You may begin conducting your research as outlined in your protocol. Your study does not require further review from the IRB, unless changes need to be made to your approved protocol.

As the Principal Investigator (PI), you are still responsible for contacting the UNC IRB office if and when:

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Institutional Review Board

- You wish to deviate from the described protocol and would like to formally submit a modification request. Prior IRB approval must be obtained before any changes can be implemented (except to eliminate an immediate hazard to research participants).
- You make changes to the research personnel working on this study (add or drop research staff on this protocol).
- At the end of the study or before you leave The University of Northern Colorado and are no longer a student or employee, to request your protocol be closed. *You cannot continue to reference UNC on any documents (including the informed consent form) or conduct the study under the auspices of UNC if you are no longer a student/employee of this university.
- You have received or have been made aware of any complaints, problems, or adverse events that are related or possibly related to participation in the research.

If you have any questions, please contact the Research Compliance Manager, Nicole Morse, at 970-351-1910 or via e-mail at nicole.morse@unco.edu. Additional information concerning the requirements for the protection of human subjects may be found at the Office of Human Research Protection website - http://hhs.gov/ohrp/ and https://www.unco.edu/research/research-integrity-and-compliance/institutional-review-board/.

Sincerely,

Nicole Morse
Research Compliance Manager

University of Northern Colorado: FWA00000784

APPENDIX F

DESCRIPTIVES FOR 98 ITEM LIST

Table 17

Descriptives for All 98 Items

Item	*M*	*SD*	Skew	Kurtosis
NEW_1	2.25	1.347	.691	-.836
NEW_2	2.12	1.305	.857	-.520
NEW_3	2.11	1.279	.854	-.458
NEW_4	2.00	1.250	.988	-.214
NEW_5	2.15	1.333	.751	-.833
NEW_6	2.51	1.385	.414	-1.132
NEW_7	2.10	1.251	.878	-.404
NEW_8	1.95	1.208	1.039	-.173
NEW_9	2.13	1.297	.789	-.702
NEW_10	2.19	1.296	.728	-.700
NEW_11	2.98	1.389	-.021	-1.262
NEW_12	2.35	1.322	.575	-.911
NEW_13	2.11	1.265	.805	-.609
NEW_14	2.17	1.247	.672	-.814
NEW_15	2.35	1.355	.627	-.854
NEW_16	2.22	1.315	.711	-.726
NEW_17	1.99	1.230	1.077	.080
NEW_18	1.99	1.282	1.041	-.159
NEW_19	2.25	1.337	.706	-.752
NEW_20	2.31	1.312	.621	-.843
NEW_21	2.15	1.251	.817	-.406
NEW_22	2.81	1.365	.169	-1.235
NEW_23	2.66	1.412	.232	-1.258
NEW_24	2.26	1.253	.704	-.553
NEW_25	2.44	1.391	.441	-1.166
NEW_26	2.82	1.468	.124	-1.371
NEW_27	2.06	1.298	.918	-.474
NEW_28	2.44	1.409	.509	-1.085
NEW_29	2.46	1.392	.376	-1.264
NEW_30	2.70	1.367	.223	-1.181

Table 17 (continued)

Item	*M*	*SD*	Skew	Kurtosis
NEW_31	2.13	1.291	.825	-.504
NEW_32	2.01	1.242	.928	-.435
NEW_33	2.28	1.303	.606	-.926
NEW_34	2.11	1.306	.874	-.498
NEW_35	2.34	1.405	.595	-1.064
NEW_36	2.61	1.395	.265	-1.276
NEW_37	2.08	1.288	.886	-.437
NEW_38	2.08	1.250	.862	-.467
NEW_39	2.61	1.352	.317	-1.085
NEW_40	2.66	1.398	.202	-1.257
NEW_41	2.80	1.471	.120	-1.404
NEW_42	2.29	1.290	.622	-.790
NEW_43	2.68	1.352	.252	-1.132
NEW_44	2.62	1.313	.287	-1.141
NEW_45	2.14	1.292	.753	-.729
NEW_46	2.62	1.445	.313	-1.279
NEW_47	2.63	1.316	.282	-1.083
NEW_48	2.27	1.355	.600	-1.022
NEW_49	2.57	1.347	.396	-1.024
NEW_50	2.49	1.315	.390	-1.031
NEW_51	2.43	1.362	.523	-.970
NEW_52	2.54	1.314	.375	-1.050
NEW_53	2.83	1.383	.146	-1.216
NEW_54	2.72	1.327	.175	-1.137
NEW_55	2.33	1.371	.638	-.924
NEW_56	2.43	1.455	.496	-1.178
NEW_57	2.00	1.268	.956	-.338
NEW_58	2.19	1.361	.749	-.837
NEW_59	2.50	1.385	.435	-1.120
NEW_60	2.33	1.360	.545	-1.112
NEW_61	2.23	1.302	.668	-.803

Table 17 (continued)

Item	*M*	*SD*	Skew	Kurtosis
NEW_62	2.09	1.247	.842	-.486
NEW_63	2.71	1.328	.209	-1.108
NEW_64	2.11	1.323	.878	-.519
NEW_65	1.99	1.232	.883	-.583
NEW_66	2.00	1.264	1.055	-.064
NEW_67	2.07	1.311	.879	-.578
NEW_68	2.08	1.236	.776	-.638
NEW_69	2.17	1.280	.780	-.625
NEW_70	2.67	1.386	.243	-1.248
NEW_71	2.17	1.302	.834	-.475
NEW_72	2.38	1.369	.557	-.968
NEW_73	2.21	1.328	.712	-.807
NEW_74	2.31	1.349	.594	-.956
NEW_75	2.23	1.395	.714	-.938
NEW_76	2.07	1.323	.814	-.786
NEW_77	2.02	1.337	1.058	-.243
NEW_78	1.95	1.212	1.013	-.182
NEW_79	2.07	1.240	.895	-.328
NEW_80	2.22	1.264	.614	-.892
NEW_81	2.54	1.329	.363	-1.073
NEW_82	2.52	1.446	.449	-1.204
NEW_83	1.92	1.166	1.021	-.114
NEW_84	2.63	1.418	.294	-1.269
NEW_85	2.32	1.310	.568	-.922
NEW_86	2.50	1.414	.419	-1.182
NEW_87	2.45	1.321	.470	-.955
NEW_88	2.53	1.291	.365	-.987
NEW_89	2.75	1.321	.140	-1.142
NEW_90	3.13	1.329	-.134	-1.089
NEW_91	2.36	1.334	.599	-.831
NEW_92	2.46	1.295	.339	-1.099
NEW_93	2.64	1.429	.278	-1.240

Table 17 (continued)

Item	*M*	*SD*	Skew	Kurtosis
NEW_94	2.58	1.313	.327	-1.001
NEW_95	2.88	1.360	.023	-1.236
NEW_96	2.51	1.396	.521	-1.002
NEW_97	2.19	1.274	.685	-.754
NEW_98	2.60	1.371	.291	-1.213

Note. *N* = 200. All item responses ranged from 1-5. Skew standard deviation = 0.172. Kurtosis standard deviation = 0.342.

APPENDIX G

FINAL 30 ITEM SCALE

FINAL 30-ITEM SCALE

Instructions: Please answer the following questions in relation to how much they describe you *in general.*

1 = Does not describe me
2 = Describes me slightly well
3 = Describes me moderately well
4 = Describes me very well
5 = Describes me extremely well

1. My extremely high expectations help me become the best version of myself.
2. My expectations for myself are above and beyond what is required of me.
3. I expect myself to produce flawless work.
4. I am motivated by an internal desire to pursue perfection.
5. I spend more time and effort than is necessary to ensure my work is perfect.
6. Even when I do well, I raise my expectations for next time.
7. If I can't do something perfectly, then there's no point in starting.
8. If something is only good enough, it is a failure.
9. I struggle to do things for leisure because I may not do them perfectly.
10. If I am not the best at something, I don't enjoy doing it.
11. Even one small mistake or flaw ruins the entire outcome.
12. I procrastinate starting tasks because I fear I won't be able to do them perfectly.
13. I must avoid making mistakes, or my previous successes don't count.
14. If I make even a small mistake, it means I am not good enough.
15. Celebrating my achievements is difficult because I fixate on the ways it could have been better.
16. I can't help focusing on the parts of my work that are flawed, despite receiving positive feedback.

17. It is difficult for me to accept praise from others because I can see the flaws in my work.

18. I don't acknowledge my successes because there is always more to do.

19. I never feel satisfied with my performance.

20. I must keep my problems to myself.

21. If I make a mistake, I avoid telling anyone.

22. I conceal my flaws from others by not admitting my mistakes or failures.

23. I don't ask others for help because it would reveal my imperfections.

24. I can feel overwhelmed by the pressure to meet the expectations others have for me.

25. I feel intense anxiety thinking that I might fall short of the expectations others have for me.

26. I worry that others will judge me for anything less than perfection.

27. The fear of disappointing others drives me to excel at all costs, even at the expense of my well-being.

28. I can never escape the exceedingly high expectations others have for me.

29. I worry others are disappointed with my work, even if they said it was well done.

30. I struggle to feel accomplished because the expectation of flawlessness never ends.

Scoring Instructions: Sum the items for each subscale. Higher scores indicate greater endorsement of each perfectionistic facet.

Positive Self-Striving = Items 1-6

- The internally motivated pursuit of high standards and a positive evaluation of this pursuit.

Rigid Avoidance = Items 7-14

- Rigid all-or-nothing evaluations and avoidance of activities that might result in a less than perfect outcome.

Dissatisfaction = Items 8-19

- A ruminative dissatisfaction with one's work and rejection of success or praise.

Concealment of Imperfection = Items 20-23

- The concealment of imperfections and help-seeking avoidance.

Fearful Social Striving = Items 24-30

- The fear-oriented pursuit of high expectations perceived to be set by others and a negative evaluation of the pursuit.