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PERFECTIONISM AND PSYCHOLOGICAL FLEXIBILITY IN UNIVERSITY STUDENTS AND COUNSELING CLIENTS

Kathleen McKinney Clark

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This dissertation, PERFECTIONISM AND PSYCHOLOGICAL FLEXIBILITY IN UNIVERSITY STUDENTS AND COUNSELING CLIENTS, by KATHLEEN MCKINNEY CLARK, was prepared under the direction of the candidate’s Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Philosophy, in the College of Education & Human Development, Georgia State University.

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PERFECTIONISM AND PSYCHOLOGICAL FLEXIBILITY IN
UNIVERSITY STUDENTS AND COUNSELING CLIENTS

By

KATHLEEN MCKINNEY CLARK

Under the Direction of Dr. Jeffrey S. Ashby

ABSTRACT

Psychological inflexibility and perfectionism have garnered a great deal of interest as having significant influence on mental health (e.g., Kashdan & Rottenberg, 2010; Curran & Hill, 2017). A number of researchers have examined the connection between perfectionism and psychological flexibility (e.g., Moroz & Dunkley, 2015; Santanello & Gardner, 2007) and suggested that processes involved in psychological flexibility may be important in understanding perfectionism. The current study was developed to further investigate the relationship between perfectionism and the processes of psychological flexibility and psychological inflexibility. The sample included 833 participants recruited from college and university counseling centers and university undergraduate courses, with 535 recruited from the undergraduate courses and 298 recruited from university counseling centers. Measurement invariance tests supported the two-factor structure of the Short Almost Perfect Scale and the Frost Multidimensional Perfectionism Scale – Brief, as well as the six-factor structure of psychological flexibility and psychological inflexibility of the Multidimensional Psychological Flexibility Inventory. The results of a Latent Profile Analyses (LPA) offered support for a four-class model of perfectionism based on factors derived from the two perfectionism measures. Auxiliary analyses revealed variable levels of

psychological flexibility and inflexibility among perfectionism-related latent classes with adaptive perfectionism classes having higher levels of psychological flexibility and lower levels of psychological inflexibility than maladaptive perfectionism classes.

INDEX WORDS: Perfectionism, Psychological Flexibility, Psychological Inflexibility

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CHAPTER 1

PERFECTIONISM CONCEPTUALIZED THROUGH PSYCHOLOGICAL FLEXIBILITY AND ACCEPTANCE AND COMMITMENT THERAPY

A number of empirical studies and reviews identify perfectionism as having important implications for mental health (e.g., Limburg, Watson, Hagger, & Egan, 2017; Egan, Wade, & Shafran, 2011), academic pursuits (e.g., Rice, Ray, Davis, DeBlare, & Ashby, 2015), interpersonal relationships (Ashby, Rice, & Kutchins, 2008) and self-esteem (e.g., Cokley, et al., 2018). Perfectionism is generally viewed as a complex multidimensional personality characteristic described as having two dimensions: perfectionistic strivings, which is generally defined as the setting and pursuit of exceptionally high standards for performance; and perfectionistic concerns, which is expressed as interminable negative self-critique over making mistakes in attempts to meet those standards (e.g., Stoeber, 2018; Stoeber & Otto, 2006). For example, clients who present with perfectionism often push themselves extraordinarily hard to achieve extremely high standards and many of them experience excessive self-criticism when their standards are not met. This may result in significant distress and concerns related to depression, anxiety, stress, and avoidant coping (e.g., O'Connor & O'Connor, 2003; Rice, et al, 2015). However, the pursuit of high standards without excessive self-criticism may result in more positive experiences, life satisfaction, and active coping (e.g., Ashby & Gnilka, 2017; Suh, Gnilka, & Rice, 2017). The presence of perfectionism across a wide range of mental health issues has resulted in it being identified as a transdiagnostic process with broad impact across numerous mental health concerns (Egan, et al., 2011).

Similar to perfectionism, psychological flexibility is multidimensional and has implications for psychological distress and well-being (e.g., Levin, et al., 2014). It is a fundamental aspect of health which involves the abilities to adapt responses to situational demands, adjust behavioral and cognitive strategies accordingly, pay mindful attention moment by moment, and engage in committed actions in ways that are personally meaningful and important (e.g., Kashdan & Rottenberg, 2010). A number of authors (e.g., Kashdan, Barrios, Forsyth, & Steger, 2006; Levin, et al., 2014) consider psychological inflexibility to be at the core of a number of psychological disorders, personal suffering, and emotional distress. For example, research results have identified positive associations between psychological inflexibility and post-traumatic stress disorder, depression, anxiety, eating disorders, and substance abuse (Hermann, Meyer., Schnurr., Batten, & Walser, 2016; Kashdan et al., 2013; Masuda, et al., 2011; Schut & Boelen, 2017). A limited number of studies have investigated the relationship between perfectionism and psychological inflexibility, and several of these studies offer evidence that psychological inflexibility mediates the relationship between perfectionism and mental health concerns (e.g., Moroz & Dunkley, 2015; Santanello & Gardner, 2007). Furthermore, Moroz and Dunkley (2019) conducted a longitudinal study and found that self-critical perfectionism predicted increases in experiential avoidance, and suggested that psychological inflexibility may help explain the vulnerability to depressive and anxious symptoms of individuals reporting self-critical perfectionism. Acceptance and Commitment Therapy (ACT; Hayes, Luoma, Bond, Masuda, & Lillis, 2006), with its emphasis on processes involved in psychological flexibility and psychological inflexibility, offers a promising conceptualization paradigm for perfectionism as well as a treatment approach to help individuals who manifest problematic perfectionism increase psychological flexibility and behavioral and emotional adaptability.

Perfectionism as a construct has a long history in psychology and has received significant attention in the last two decades. Some experts have characterized perfectionism as entirely problematic, while others have considered it as having both problematic and potentially positive dimensions (e.g., Stoeber & Otto, 2006). Alfred Adler (1870-1937) was one of the first to specifically address perfectionism as he emphasized the universality of striving and suggested that, “the striving for perfection is innate in the sense that it is a part of life, a striving, an urge, a something without which life would be unthinkable” (Ansbacher & Ansbacher, 1956, p. 104). He considered perfectionistic strivings as a normal part of the human experience and having the potential to motivate people to work toward improvement as individuals as well as to benefit society. However, according to Adler, when perfectionism is accompanied by rigidity, inflexibility, personal superiority, and critical self-evaluation, it can become problematic and maladaptive. Adler’s representation of perfectionism portrays a multidimensional model with both potential beneficial and detrimental attributes.

Other early theorists, including Horney (1950), Hollender (1965) and Burns (1980), conceptualized perfectionism as unidimensional and generally problematic. In fact, Karen Horney’s description is quite rich as she portrayed it as “the tyranny of the should” (p. 65) and problematic without any positive implications. Burns (1980) viewed perfectionists as measuring their self-worth according to their accomplishments. Similarly, Pacht (1984) described perfectionism as “insidious” and a “kind of psychopathology” (p. 387). In contrast to this largely negative view, Hamachek (1978) considered perfectionism a “clinical mystery” (p. 27) in attempt to understand why some people strive to the best of their ability without much distress while others experience disproportionate worry. He identified a multidimensional conceptualization of perfectionism which distinguished between “normal perfectionists” and

“neurotic perfectionists,” and suggested that both pursue very high standards with the latter experiencing significant distress when the standards are not achieved. Hamachek viewed “normal perfectionists” as focusing on their strengths and motivated by a healthy pursuit of high standards, while “neurotic perfectionists” are driven by fear of failure and focus on their deficits.

Consistent with the early views of Adler (1956) and Hamachek (1978), more recent research supports distinct groupings of perfectionists and nonperfectionists based on the two-factor model of perfectionism; perfectionistic strivings and perfectionistic concerns (Stoeber & Otto, 2006). Using cluster analysis and mixture modeling approaches, researchers have identified three or four groups that vary according to levels of perfectionistic strivings and concerns (e.g., Ashby & Gnilka, 2017; Rice & Taber, 2019; Sironic & Reeve, 2012; Stoeber & Otto, 2006). Several authors suggest that the high perfectionistic strivings and low perfectionistic concerns group (i.e., adaptive perfectionists) demonstrates more adaptability than the high perfectionistic strivings and high perfectionistic concerns group (i.e., maladaptive perfectionists) and emphasize the importance of continued research investigating how they differ (e.g. Ashby & Gnilka, 2017; Rice & Taber, 2019). Additionally, nonperfectionists are identified as having low perfectionistic strivings. Rice, Lopez, and Richardson (2013) found that both adaptive and maladaptive perfectionists earned higher grades than nonperfectionists in STEM courses. The differences between the groups of perfectionists are highlighted in such things as mental health outcomes, stress responses, coping, and levels of self-criticism (e.g., Noble, Ashby, & Gnilka, 2014; Richardson & Rice, 2015). These differences are important to understand because the experiences of each group have implications for conceptualization of identified problems, as well as prescribed interventions and therapeutic relationships (e.g., Kannan & Levitt, 2013; Richardson, Rice, & Devine, 2014).

The group identified as adaptive perfectionists is generally described as those who set and strive for high standards, while not being overly self-critical regarding their performance (e.g., Rice et al., 2013). In contrast, maladaptive perfectionists also strive for high standards, but are often relentless in self-critical evaluation of their performance (e.g., Ashby & Gnilka, 2017). Consequently, adaptive perfectionists are more likely to recognize their strengths and concentrate on achieving their standards for performance, while maladaptive perfectionists may worry and ruminate about their deficiencies and focus on avoiding failure (Hamachek, 1978). In addition, adaptive perfectionists experience a healthy pursuit of excellence, enjoy their accomplishments, and strive for high standards while being able to adjust according to the situation (e.g., Hamachek, 1978; Stoeber & Otto, 2006). On the other hand, despite concerted effort to achieve their standards, maladaptive perfectionists often experience a significant discrepancy between their actual and perceived performance (e.g., Grzegorek, Slaney, Franze, & Rice, 2004; Slaney & Ashby, 1996), an excruciating fear of failure (Sagar & Stoeber, 2009), feelings of inferiority (Ashby & Kottman, 1996), avoidance of painful thoughts and emotions (Moroz & Dunkley, 2015; 2019; Santanello & Gardner, 2007), and avoidance of relationships and events that might lead to perceived failure (e.g., Sherry, Sherry, Hewitt, Mashquash, & Flett, 2015). Therefore, maladaptive perfectionism has the potential to result in procrastination, lower than desired productivity, avoidance of activities that might result in perceived failure, absences from school or work, avoidant coping, and depression (e.g., Egan, et al., 2011; Noble, et al., 2014).

Conceptualizing perfectionism using the lens of psychological flexibility can provide a rich source for understanding the group differences and promising tools for intervention. Results of preliminary research indicate that experiential avoidance (i.e., psychological inflexibility) is

used to cope with self-critical perfectionism (Moroz & Dunkley, 2015) and mediates the relationship between religiosity and maladaptive perfectionism (Crosby, Bates, & Twohig, 2011), as well as between worry and maladaptive perfectionism (Santanello & Gardner, 2007). While these studies addressed global psychological inflexibility, no published research specifically addresses perfectionism and psychological flexibility and psychological inflexibility considering all the individual processes as described by the ACT model.

A foundational principle of the ACT model is that emotional discomfort is part of the human experience and excessive efforts to stop or control difficult internal experiences (i.e., thoughts, feelings, and physical sensations) result in greater resistance and lead to more distress (Hayes, Strosahl, & Wilson, 2012b). According to ACT, psychological flexibility is the ability to mindfully pay attention, moment by moment, and change or continue behaviors in the service of personally held values. In contrast, psychological inflexibility (i.e., experiential avoidance) is the result of trying to suppress and control uncomfortable thoughts, feelings, sensations, and memories, even when doing so interferes with engaging in activities that are important (Hayes, et al., 2012b). The theory that informs ACT suggests that psychological inflexibility, or lack of functionally effective behavior that would maintain or improve well-being in an individual's life, is one of the primary sources of psychopathology (Hayes, Strosahl, & Wilson, 1999).

Psychological inflexibility, likely an issue for those with problematic perfectionism, refers to a rigid style of responding to thoughts, feelings, and bodily sensations which results in psychological distress and avoidant behavior (e.g., Crosby, Armstrong, Nafziger, & Twohig, 2013; Hayes et al., 2006). One of the core characteristics of psychological inflexibility is problematic avoidance. Results of preliminary research demonstrate that maladaptive perfectionists may be more likely to utilize unhelpful avoidance strategies, including experiential

avoidance (e.g., Santanello & Gardner, 2007), avoidant coping (Noble, et al., 2014), and emotional suppression (Richardson, et al., 2014) when encountering difficulties. Changing avoidance behaviors by developing skills of acceptance (of internal experiences like thoughts, feelings, and physical sensations), moment by moment attention, and committed action driven by personally held values is a primary consideration of ACT (Hayes, et al., 2012b). Essentially, the overall goals of ACT are increasing psychological flexibility and decreasing psychological inflexibility, which may help the maladaptive perfectionist use more active (and less avoidant) strategies for dealing with self-critical thoughts, fear of failure, and view of self.

The ACT model is constructed around the global constructs of psychological flexibility and psychological inflexibility and offers extensive information of each of the core processes that contribute to human suffering or psychopathology (Hayes, et al., 2006). Hayes, et al., (2012b) describe it as “simultaneously a model of psychopathology, a model of psychological health, and a model of psychological intervention” (p. 62). Psychological flexibility allows individuals to experience thoughts, feelings, and events while continuing to make decisions and take action in the service of their values, and involves six core processes: acceptance, cognitive defusion, present moment focus, self-as-context, values orientation, and committed action (Rolffs, Rogge, & Wilson, 2016). In contrast to psychological flexibility, ACT posits that psychological inflexibility involves “the rigid dominance of psychological reactions over chosen values and contingencies, in guiding action” (Bond, et. al, 2011, p. 678), resulting in inflexible styles of responding to unwanted private experiences involving thoughts, feelings, and bodily sensations (Hayes et al., 2012b). Psychological inflexibility also consists of six core processes that are related to the flexibility processes, but are also distinct constructs (e.g., Rolffs, et. al., 2016): experiential avoidance, cognitive fusion, lack of contact with the present moment, self-as-

content, lack of contact with values, and inaction or action incongruent with values. Each of these individual processes contributes to overall psychological flexibility and inflexibility in different ways, and are potential constructs for evaluation and intervention (e.g., Hayes, et al, 2012b; Rolffs, et al., 2016; Walser & Westrup, 2007).

Experiential avoidance is the psychological inflexibility process that has received the most attention in relation to perfectionism. It is the attempt to avoid, control, or change unwanted thoughts, feelings, sensations, or memories even when doing so causes problems in relationships and daily living (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). The long-term impact of experiential avoidance is that the range of life experiences begins to narrow as avoided thoughts fester, avoided feelings become overwhelming, avoided situations multiply, and enjoyment fades. The attempt to avoid, control, or change unwanted thoughts, feelings, sensations, or memories ironically creates more struggle and more distress (e.g., Wenzlaff & Wegner, 2000). Maladaptive perfectionists likely use experiential avoidance as an attempt to suppress their unremitting self-critical thoughts about their inability to achieve their standards (e.g., Hayes, Pistorello, & Levin, 2012a; Moroz & Dunkley, 2015; 2019; Van der Kaap-Deeder, et al., 2012). As a result, experiential avoidance may contribute to the maladaptive perfectionist's tendency to utilize avoidant coping strategies (e.g., Gnilka, Ashby, & Noble, 2012). Plagued with self-critical thoughts like, "If I can't get it perfect then don't even try," and "anything less than perfect is failure," the maladaptive perfectionist might skip classes, miss work, or cancel meetings to avoid or delay thoughts and feelings about not being perfect (Santanello & Gardner, 2007).

Acceptance is the flexible counterpart to experiential avoidance and is described as the willingness to open up to all experiences (internal and external), whether pleasant or painful (Hayes et al., 2012b; Luoma, Hayes, & Walser, 2007). Acceptance does not mean wanting or

liking thoughts, emotions, or experiences, but being willing to have them as they are without attempts to alter them or make them go away (Wilson & DuFrene, 2009). Acceptance may be a particular challenge for maladaptive perfectionists as Van der Kaap-Deeder, et al. (2012) found that adaptive perfectionists experienced similar levels of acceptance in response to both success and failure conditions while maladaptive perfectionists experienced lower levels of acceptance during failure conditions as compared to success conditions. Interventions for increasing acceptance might be designed to help the maladaptive perfectionist become more willing and equipped to accept internal experiences as they are, without attempts to control and avoid them. The goal of acceptance in addressing maladaptive perfectionism would be to increase the flexibility of responding in order to “make space” for the exploration and experience of thoughts and feelings related to self-critical evaluation. The practice of acceptance lays the foundation for the client to let go of control, examine the workability of responses to internal experiences, and increase committed actions in the service of individually chosen values (Walser & Westrup, 2007).

Cognitive fusion and defusion describe the differences in the degree of flexibility a person has with the believability of their thoughts. Cognitive fusion refers to the tendency to get “caught up” in thinking to the point that the literal content of the thoughts takes precedence over their usefulness. It occurs when people believe, or take literally, the contents of their thoughts, without noticing the process of thinking itself (Hayes et al., 2012b). This is particularly salient for those who manifest maladaptive perfectionism, as they seem to get stuck in the self-critical content of their thoughts (e.g., Smith et al., 2017; Stoeber, Hutchfield, & Wood, 2008) and become attached to the content of self-descriptions (e.g., Moroz & Dunkley, 2019). By definition, to fuse is to blend or melt something together, and in the ACT model, fusion

represents “buying into” thoughts as if they hold literal meaning (i.e., “I am what I think and feel”) and making decisions and engaging in behaviors as if the thoughts are literal and true (e.g., Luoma, et al., 2007). Metaphorically, with cognitive fusion, there is no space between thoughts, perceived meaning, and behavior. In maladaptive perfectionism, self-critical thoughts like “I’ll never get this right,” “If it’s not perfect, then it’s a failure,” and “I always fail,” are believed to be literal and true, limiting the repertoire of options for action. If the maladaptive perfectionist is “fused” with such thoughts, and the thoughts are taken literally, then the predicted outcome is failure, resulting in emotional discomfort, more self-critical evaluation, and decreased interest in the activity or task at hand (e.g., Sagar & Stoeber, 2009). In addition, fusion reinforces experiential avoidance because being fused with the thought that “nothing less than perfection is acceptable” tends to result in avoidance of the activity in order to avoid the internal experience related to the “failure” story.

In contrast to the psychological inflexibility process of cognitive fusion, cognitive defusion means to separate from thoughts and their perceived meaning. It involves noticing thoughts, and allowing them to come and go, rather than becoming entangled in them (e.g., Hayes et al., 2012b). A predominant feature of maladaptive perfectionism is entanglement with interminable self-critical thoughts (e.g., Stoeber & Otto, 2006). If these thoughts are believed as if they are literal and true, the maladaptive perfectionist may avoid experiences or stresses that trigger the thoughts and possibly give up on the pursuit of goals (e.g., Hayes, et al., 2006; Moroz & Dunkley, 2015; 2019; Santanello & Gardner, 2007). Defusion creates a separation between thoughts, interpretation, and action, and is presumed to be a particularly difficult process for maladaptively perfectionistic clients as they are usually convinced of the truth of their self-critical thoughts (Besser, Flett, & Hewitt, 2004). Instead of resulting in an immediate change in

the frequency of the internal experiences, cognitive defusion often results in decreased attachment to and belief in thoughts as literal and true (Hayes et al, 2006). Hamachek (1978) described the adaptive perfectionist as being able to experience satisfaction in accomplishments, adjust standards when necessary, and avoid excessive self-criticism. This suggests that adaptive perfectionists may not fuse with the content of their thoughts about their perfectionistic strivings and the potential self-evaluation. Instead, they likely accept the results of their efforts even when they are different than they want them to be, and engage in activities in the service of their chosen values, while experiencing painful thoughts, feelings, or sensations. In other words, they are not likely to be entangled in the “tyranny of the should” (Horney, 1950, p. 65) with which maladaptive perfectionists are likely to fuse (e.g., Pacht, 1984).

The psychological inflexibility process of lack of contact with the present moment, also identified as attentional rigidity to thoughts of the past or future, and the psychological flexibility process of contact with the present moment may be important in conceptualizing perfectionism. Lack of contact with the present moment is the state of not being mindfully aware of experiences moment by moment, but instead attending to the past or future. The processes of cognitive fusion and experiential avoidance may distract the maladaptive perfectionist from intentional contact with the present moment (e.g., Hayes, Levin, Plumb-Villardaga, Villatte, & Pistorello, 2013). Present moment contact is likely problematic for maladaptive perfectionists as their thought processes tend to focus on worry and rumination (Olson & Kwon, 2008; Santanello & Gardner, 2007; Stoeber & Joorman, 2001). In addition, they are perpetually confronted with self-critical thoughts and evaluation, and feelings of failure (e.g., Besser, et al., 2004).

Contact with the present moment, a quality of mindfulness, means to be engaged in deliberate and flexible attention to each moment as it occurs, on purpose, and in a nonjudgmental

way (e.g., Kabat-Zinn, 1994; Wilson & DuFrene, 2009). It involves bringing deliberate and flexible attention to experience as it happens by “showing up” mentally, emotionally, and physically in the “here-and-now,” noticing thoughts, emotions, and physical sensations without engaging in effort to evaluate or change what is noticed. Lack of contact with the present moment, or attentional rigidity to the past and future, is described as not attending to the environment and internal experiences as they occur in the moment, and focusing on thoughts of past experiences or future planning (e.g., Hayes, et al., 2012a). Mindfulness exercises and practices have been shown to be effective in increasing psychological flexibility and lowering distress (e.g., Rudaz, Twohig, Ong, & Levin, 2017). Short and Mazmanian (2013) found that perfectionists who are higher in mindfulness are less likely to experience the negative impact of rumination than those lower in mindfulness. Teaching maladaptive perfectionists to mindfully and flexibly attend to the present moment may help them learn to pause, notice what is happening in the moment, and then determine how to proceed.

Self-as-content (i.e., the conceptualized self), the identification of self that is fused with the content (i.e., stories) of life experiences, is a psychological inflexibility process that may be particularly problematic for maladaptive perfectionists, as the stories with which they identify are likely disproportionately about failure, negative views of self, and the ways in which they don't measure up to expected standards (e.g., Moroz & Dunkley, 2015; Rice, Ashby, & Slaney, 1998; Rice & Dellwo, 2002). Maladaptive perfectionists are likely to define themselves by their inability to achieve their standards and to become entangled in “all or nothing” expectations of themselves (e.g., Flett, Besser, Davis, & Hewitt, 2003). The maladaptive perfectionist is likely to have a view of self that is defined by lack of productivity and inability to meet self-identified

standards (e.g., Burns, 1980; Pacht, 1984) and to develop a view of self based on their current perception of their achievement (e.g., Shafran, Cooper, & Fairburn, 2002).

Self-as-context, sometimes referred to as the observer self, is the psychological flexibility process that involves being able to view oneself from the perspective of an observer, and is distinct from thoughts and feelings about one's self, sensations, and perceived roles (Hayes, 2004). The self-as-context is about recognizing the experience of self as separate from thoughts, feelings, and the story that is created as a result of experiences, titles, and perceived successes and failures. It requires abilities similar to social perspective taking, being able to view an experience from the perspective of another person. The maladaptively perfectionistic client generally has a view of self that is largely influenced by the perceived inability to reach individually set, exceptionally high, standards (e.g., Burns, 1980; Pacht, 1984) and may be characterized by shame (Ashby, Rice, & Martin, 2006). The maladaptive perfectionist's tendency to ruminate on perceived failures, thoughts of self-criticism, and fears, is likely to impede their ability to experience a perspective beyond their own thoughts (e.g., Gilman, Rice, & Carboni, 2014; Joireman, Parrott, & Hammersla, 2002). The goal of interventions in this process might be to help the maladaptively perfectionistic client to "step back," view the content of the experience, and notice it from multiple angles. In other words, it is a process of being able to have a broad perspective on self and experiences. Increasing awareness of the attachment to the conceptualized self that is defined by the stories the mind tells of previous failure and fear of future failure helps the maladaptively perfectionistic client develop a view of self that is more present-focused and not contingent on stories of perceived failures, inabilities, and mentally constructed roles.

In ACT, values are freely chosen directions for living, which provide meaning to experiences, and offer guidance for choices, activities, and interactions (e.g., Hayes, et al., 2006). ACT focuses on values being the guidance for choices and behaviors and an important aspect of psychological flexibility. Values orientation involves identifying values that are important by personal choice and not those imposed by others. Valued living is experienced when identified values are congruent with decisions and actions. ACT focuses on valuing as a choice and action. It offers the perfectionistic client the opportunity to identify alternatives to engaging in problematic thoughts and behaviors (e.g., Hayes, et al., 2012b). Freely chosen values bring vitality, meaning, and purpose to experience and it is important to distinguish them from values clients might identify out of social compliance. Disconnection from values frequently results in high levels of compliance and low levels of purpose and meaning (Hayes, et al., 2012). Lack of contact with values involves being disconnected from or not identifying things that are important; or living according to what others determine is important or of value. Chosen values are independent of the “shoulds” that are likely to be prevalent in psychological inflexibility. Values are often confused with “shoulds” (either internal or external), social and cultural responsibilities, and rules (e.g., Hayes, et al., 2013). Maladaptive perfectionists have an inordinate drive to pursue perfection and avoid failure (e.g., Blatt, 1995). Thus, it is likely that the values that they might identify are entangled in the choreographed list of expectations and “shoulds.” The striving for perfection and the maladaptive response to results of efforts may be the internalized expectations of others (i.e., parents, friends, religions; e.g., Smith, et al., 2018), resulting in maladaptive perfectionists having difficulty knowing what their values are or abandoning their own values and adopting those of others. Furthermore, values are often

confused with goals and standards, which are inherently problematic in maladaptive perfectionism.

Values clarification might be an intervention that could help maladaptively perfectionistic clients access an awareness of what is personally important and valued. Exploration of values includes asking questions like, “What is important to you?” and “What do you want your life to stand for?” Various domains of life (e.g., academics, career, family, friendships, leisure) may involve different values and some values may be consistent across domains. When values are first discussed with the maladaptively perfectionistic client, the clinician might hear responses like, “I was raised to be ...,” “A smart person should be able to ...,” or “My teachers always said ... was important.” The maladaptively perfectionistic client may not have identified personal values, may have adopted the values of others (i.e., friends, family, culture, religion), or may have abandoned personal values in response to the influence of others (e.g., Smith, et al., 2018). The maladaptively perfectionistic client may confuse values with feelings, goals, or rules, and become entangled with identifying the perfect values, or resist identifying values for fear of not being able to accomplish them perfectly (e.g., Walser & Westrup, 2007). When addressing values work with a maladaptively perfectionistic client, it may be helpful to listen for “should” statements, often indicative of fused content that may actually represent imposed expectations presented as values (e.g., Walser & Westrup, 2007).

Committed action involves engaging in activities in the service of chosen values, even when those actions are accompanied by thoughts, feelings, or sensations that are unwanted or uncomfortable (e.g., Hayes, et al., 2006, 2012b; Wilson & DuFrene, 2009). Committed action may be particularly problematic for the maladaptive perfectionist, as it is difficult to engage in committed action when the fear of failure or not achieving set standards is augmented with

internal negative self-evaluation and criticism. A notable theme with psychological inflexibility is waiting until the pain or struggle goes away to engage in values directed living. For maladaptive perfectionists, this might be “when I get this perfect, I will join the club,” “when I achieve X, then I will volunteer at the animal shelter,” or “when I feel better about myself, then I will go out with friends.” This is the “when-then” scenario of psychological inflexibility, when the struggle stops I can then do the things that are important (e.g., Walser & Westrup, 2007). The deceptiveness of this thinking is that the “when it stops” rarely happens, therefore, maladaptive perfectionists may continue to perpetuate this maladaptive cycle. For the maladaptive perfectionist, this process often results in frustration due to procrastination, incomplete tasks, unmet goals, and fear of failure (e.g., Egan, et al., 2011; Sagar & Stoeber, 2009). Work to facilitate the development of committed action can include identifying values-based goals, as well as identifying activities in which the client wants to engage in the service of values. For the maladaptive perfectionist, the goal might likely be to make space for internal experience, while taking action in valued directions and actively living identified values (Walser & Westrup, 2007).

The concepts and processes of psychological flexibility and inflexibility can be used to help conceptualize the differences between adaptive and maladaptive perfectionism. As previously described, identified groups of adaptive perfectionists often exhibit more positive coping strategies and overall well-being, and lower perceived stress, than maladaptive perfectionists (e.g., Ashby & Gnilka, 2017; Suh, et al., 2017) and are likely to demonstrate more psychological flexibility and less psychological inflexibility. An adaptive perfectionist is potentially more equipped to adjust emotional and behavioral responses more flexibly and is likely functioning in a manner consistent with the core processes of psychological flexibility.

The conceptualization of maladaptive perfectionism according to the ACT model would suggest that the struggle for the maladaptive perfectionist is reinforced by inflexible and rigid rules and maladaptive responses to their performance. This inflexibility is likely to be pronounced in several of the core processes of psychological inflexibility and significantly lacking in the core processes of psychological flexibility. In addition, according to the transdiagnostic view of perfectionism, the maladaptive perfectionist's presenting problem may not be identified as perfectionism, but it may well be that their perfectionism is taking a toll on psychological health, relationships, and work and academic performance (Egan, et al., 2011). The cost of this psychological inflexibility has the potential for a debilitating effect on well-being and significant enhancement of psychological dysfunction (e.g., Kashdan, et al., 2006; Kashdan & Rottenberg, 2010; Levin, et al., 2014). In an effort to help perfectionists learn and practice greater psychological flexibility, it is important to assess the present functioning of overall psychological flexibility and the individual processes of psychological flexibility and psychological inflexibility.

In contrast to the experience and presentation of adaptive perfectionists, maladaptive perfectionists seem more likely to report internal experiences and demonstrate behaviors consistent with experiential avoidance, fusion, and self-as-content (e.g., Moroz & Dunkley, 2015; Gilman, et al., 2014). Additionally, they may be less likely than adaptive perfectionists to utilize mindfulness practices (Short & Mazmanian, 2013). The ACT model would hold that the maladaptive perfectionist is likely highly fused with rigid and inflexible self-criticism, making present moment contact intolerable, and reinforcing experiential avoidance. The view of self becomes rigidly influenced by the content of self-critical thoughts of inadequacies and perceived failures (e.g., Stoeber, et al., 2008).

It is important to note that characteristics of perfectionism (e.g., self-criticism) are identified as having an impact on psychological change during intervention processes (Kannan & Levitt, 2013), and perfectionism is shown to impact the change in psychological symptoms over the course of treatment (Rice, Sauer, Richardson, Roberts & Garrison, 2014). For example, Rice, et al. suggest that it is important to address the maladaptively perfectionistic clients' self-criticism early and throughout treatment. Additionally, despite the distress reported by many clients presenting with perfectionism, their willingness to seek help is low (e.g., Shannon, Goldberg, Flett, & Hewitt, 2018). Information regarding the specific processes of ACT and the identification of perfectionism presentation would help to identify the areas of inflexibility and the processes of change that would be helpful to focus on in order to help the individual perfectionist increase their psychological flexibility.

It is important for clinicians working with perfectionistic clients to recognize that simply talking about the importance of acceptance is not going to help the client acquire the skills of acceptance. Metaphors, analogies, and experiential exercises increase our understanding and provide a means for the acquisition and practice of skills, and are at the heart of ACT (Hayes et al., 2011). It is essential to look for opportunities to practice the core processes of flexibility (acceptance, defusion, mindfulness, self-as-context, chosen values clarification, and committed action) during sessions. When working with a client with maladaptive perfectionism, the clinician should assess the individual's functioning in terms of overall psychological flexibility and psychological inflexibility as well as each of the individual core processes. Assessment at the level of the core processes helps to guide the focus of intervention, and determine on which of the core processes it would be most beneficial to focus (Rolffs, et al., 2016). This level of assessment can be conducted formally with actual measures of psychological flexibility and

inflexibility as well as informally through discussion and interpersonal interactions. Since the ACT model is principle based and “circular” in nature, any core process is an optional entry point for exploration and intervention (Hayes, et al., 2012b).

This article provides a brief exploration of the usefulness of conceptualizing the experience of adaptive and maladaptive perfectionists through the ACT constructs of psychological flexibility and psychological inflexibility. Although there is currently no empirical support for the effectiveness of ACT in treating clients who present with maladaptive perfectionism, research results indicate that the constructs at the core of ACT are involved in the relationship between perfectionism and mental health (e.g., Moroz & Dunkley, 2015; Santanello & Gardner, 2007; Short & Mazmanian, 2013). There is relatively recent and strong empirical support for the application of a cognitive behavioral approach with perfectionistic clients (e.g., Egan & Shafran, 2018), and a number of authors (e.g., Hayes, 2004; Hayes, et al., 2013) consider ACT to be a distinctive model of behavioral and cognitive change and part of the “third-wave” progression of cognitive and behavioral therapies. There is empirical support for the effectiveness of ACT in the treatment of a variety of psychological disorders such as PTSD, substance abuse, anxiety, OCD, and panic (e.g., Hermann, et. al., 2016; Bluett, Homan, Morrison, Levin, & Twohig, 2014) and Crosby, et al. (2011) recommend ACT for the treatment of maladaptive perfectionism. Furthermore, Crosby et al. (2013) provide preliminary conceptual support for ACT’s application in addressing clients’ perfectionism.

The ACT conceptualization and treatment can help the perfectionist recognize and disengage from long held beliefs that are not workable, identify and set personal values, and establish a plan of action to which they can commit. Additionally, the process and interventions of ACT guide the perfectionist in developing a distinction between one’s self and the thoughts

(i.e., self-criticism) and feelings that occur (e.g., Walser & Westrup, 2007). Specifically, helping the perfectionist to have a moment by moment experience that is not rigidly defined by perceived failures. Furthermore, the foundation of ACT is rooted in contextual science and emphasizes the context and workability of cognitions, emotions, and behaviors. Thus, the high standards in perfectionism may not need to change as much as the degree of flexibility experienced regarding the setting and meeting of those standards. For the maladaptive perfectionist, the objective of an ACT approach is less about changing the content of self-critical thoughts or the perfectionistic standards, but more about increasing awareness of the thoughts as well as emotional and behavioral responses, and altering their relationship with the thoughts (e.g., Hayes, 2004). While conceptualization of perfectionism using the ACT model has promise, future research identifying groups of perfectionists, levels of psychological flexibility and inflexibility, and ACT interventions are needed to further develop effective conceptualization and treatment for perfectionism.

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CHAPTER 2
PERFECTIONISM AND PSYCHOLOGICAL FLEXIBILITY IN UNIVERSITY
STUDENTS AND COUNSELING CLIENTS

Introduction

Perfectionism has received increasing attention in the professional literature, in part because it is related to a variety of negative psychological processes and outcomes, including anxiety (e.g., Gnilka, Ashby, & Noble, 2012; Mandel, Dunkley, & Moroz, 2015), lower self-esteem (e.g., Flett, Besser, Davis, & Hewitt, 2003; Rice, Ashby, & Slaney, 1998), shame (Ashby, Rice, & Martin, 2006), avoidant coping (Dunkley, Zuroff, & Blankstein, 2003; Dunkley, Solomon-Krakus, & Moroz, 2016; Noble, Ashby, & Gnilka, 2014), depression (e.g., Ashby, Noble, & Gnilka, 2012; Enns, Cox, & Clara, 2002; Mandel, et al., 2015), and adjustment in college students (Rice & Dellwo, 2002). Recent research also supports positive associations between aspects of perfectionism and life satisfaction and well-being (e.g., Suh, Gnika, & Rice, 2017), active coping (e.g., Ashby & Gnilka, 2017) and academic performance (e.g., Rice, Lopez, Richardson, 2013). A recent meta-analysis (Curran & Hill, 2017) indicated that the occurrence of perfectionism is increasing over time with the authors proposing a link between the rise in perfectionism and psychopathology, and identifying perfectionism as a vulnerability factor in a variety of disorders. Several authors (e.g., Chang 2000; Rice, Richardson, & Clark, 2012) have noted that the mechanisms involved in the relationship of perfectionism with these various outcomes needs to be more thoroughly explored.

One promising line of inquiry examining these relationships is the connection between perfectionism and processes of psychological flexibility and psychological inflexibility, (e.g.,

Moroz & Dunkley, 2015; 2019; Santanello & Gardner, 2007; Short & Mazmanian, 2013). For instance, Santanello and Gardner (2007) found that unhealthy perfectionism (i.e., maladaptive perfectionism) predicted the psychological inflexibility process of experiential avoidance, and that experiential avoidance was a partial mediator of the relationship between maladaptive perfectionism and worry. Similarly, Moroz and Dunkley (2015) found that experiential avoidance mediated that relationship between unhealthy perfectionism and depression. Furthermore, Moroz and Dunkley (2019) suggested that psychological inflexibility may help explain the vulnerability to depressive and anxious symptoms in individuals demonstrating unhealthy perfectionism, and in a longitudinal study found that self-critical perfectionism predicted increases in experiential avoidance. They specifically noted the need for further research to identify other characteristics of psychological flexibility and psychological inflexibility involved in perfectionism, especially in clinical samples. The current study was designed to investigate patterns of psychological flexibility and psychological inflexibility among naturally emerging groups of nonperfectionists, adaptive perfectionists, and maladaptive perfectionists in clinical and nonclinical samples.

Whereas perfectionism has been conceptualized in a variety of ways, there is general agreement in the literature that it involves a striving to meet high personal standards, and often includes excessive self-criticism when those standards are not met (e.g., Stoeber & Otto, 2006). Recent literature identifies it as complex (e.g., Stoeber, 2018), and several authors suggest that more research is necessary to comprehensively understand the differences involved in types of perfectionism and the relationship with mental health concerns (e.g., Rice & Taber, 2019). An extensive history and debate documents the complexities of the potential resilience as well as the problematic nature of perfectionism (e.g., Stoeber, 2018; Stoeber & Otto, 2006). Several early

authors viewed perfectionism as pathological and generally problematic (e.g., Burns, 1980); however, Hamachek (1978) distinguished between what he called “normal perfectionists” and “neurotic perfectionists,” with the former experiencing a sense of satisfaction from meeting high standards and the latter never feeling “good enough” (p. 27). Stoeber and Otto (2006) conducted an extensive review of the literature, which revealed two dimensions of perfectionism consistent with Hamachek’s early conceptualization; perfectionistic strivings (i.e., holding excessively high expectations for oneself) and perfectionistic concerns (i.e., excessive self-critical evaluation of performance). In addition, several recent studies (e.g., Ashby & Gnilka, 2017; Rice & Taber, 2019) have found evidence for identifiable groups of adaptive perfectionists, maladaptive perfectionists, and nonperfectionists; with both adaptive and maladaptive perfectionists setting and striving to achieve very high personal standards. These two groups differ in that maladaptive perfectionists are prone to engaging in harsh self-criticism and evaluation when they fail to reach their standards, experiencing a general sense of inadequacy, and worrying about perceived failures (e.g., Rice, et al., 2012; Stoeber & Otto, 2006). In contrast, adaptive perfectionists are more likely to derive pleasure from meeting their standards and recover relatively quickly when standards are not met (e.g., Hamachek, 1978; Rice & Ashby, 2007). Multiple authors have found differences between maladaptive, adaptive, and non-perfectionists in their reported experience of depression, perceived stress, satisfaction with life (e.g., Ashby, et al., 2012), purpose and meaning in life, and subjective happiness (Suh, et al., 2017). Researchers have also found a relationship between perfectionism and patterns of avoidance, such as avoidant coping (e.g., Dunkley, et al., 2003; 2016; Noble, et al., 2014) and experiential avoidance (e.g., Santanello & Gardner, 2007; Moroz & Dunkley, 2015; 2019), offering additional support for the need for further investigation into psychological flexibility and psychological inflexibility.

The role of psychological flexibility and psychological inflexibility in mental health has garnered increasing interest, and recent research identifies psychological inflexibility as a transdiagnostic process in psychological disorders (Levin, et al., 2014). Psychological flexibility involves the ability to detach from mentally formulated personal rules that are not workable, to accept what cannot be changed, to be engaged in the present moment, to choose life values, and to make decisions and act in the service of those values (e.g., Hayes, Pistorello, & Levin, 2012a; Kashdan, & Rottenberg, 2010). Several studies (e.g., Richardson & Jost, 2019), have offered support for the relationship between psychological flexibility and mental health. Acceptance and Commitment Therapy (ACT) presents a multidimensional conceptualization of psychological flexibility that involves being fully in contact with the present moment without needless defense, openly and flexibly responding to one's feelings and thoughts, and engaging in or changing behaviors in the service of chosen values (e.g., Hayes, Strosahl, & Wilson, 2012b). It involves six core processes identified as acceptance, contact with the present moment, cognitive defusion, self as context, values, and committed action. Acceptance is the purposeful willingness to experience thoughts and emotions fully, even when they are uncomfortable or distressing. Contact with the present moment (i.e., mindfulness) means being psychologically present and consciously connecting with and engaging in whatever is happening in the moment. Cognitive defusion (usually called defusion) involves "stepping back" and detaching from thoughts, images, and memories, and letting them pass without becoming attached to a specific meaning or evaluation of them. Self as context involves the process of perspective taking and observing or noticing oneself and seeing the larger picture. Values represents what truly matters to the individual and how he or she wants to be in the world. Committed action involves taking action that is deliberately linked to identified values (e.g., Hayes et al., 2012b).

A growing body of research offers evidence that psychological inflexibility, in contrast with psychological flexibility, is associated with higher levels of depression, anxiety, and obsessive compulsive symptoms (e.g., Kashdan & Rottenberg, 2010; Abramowitz, Lackey, & Wheaton, 2009; Levin, et al., 2014;). Psychological inflexibility refers to a rigid and inflexible style of responding to unwanted private experiences involving thoughts, feelings, and bodily sensations (Hayes, et al., 2012b). ACT literature distinguishes between psychological flexibility and psychological inflexibility and specifically identifies and defines the processes of psychological inflexibility as experiential avoidance, inflexible attention to the present moment, cognitive fusion, self as content, disruption of values, and inaction or action not congruent with values. Experiential avoidance involves trying to avoid, get rid of, suppress, or escape from unwanted feelings, reactions, and thoughts (Hayes, et al., 2006). Inflexible attention to the present moment involves loss of contact with the here-and-now experience and becoming caught up in memories, rumination, or worry. Cognitive fusion (usually called fusion) involves entanglement in thoughts so they become dominant in the awareness and have a significant influence over behavior. Self as content is over-identification with self-descriptions and lack of perspective taking. Disruption of values involves not identifying personal values or becoming compliant or fused with socially prescribed values. Inaction, impulsivity, or avoidant persistence, involves a narrow rigid pattern of lack of action or ineffective responding that is generally not congruent with chosen personal values (e.g., Hayes, et al., 2012b).

There is limited but informative research exploring the relationship between perfectionism and psychological flexibility and inflexibility. For instance, some specific aspects of psychological inflexibility have been related to maladaptive perfectionism, such as experiential avoidance (e.g., Moroz & Dunkley, 2015; 2019; Santanello & Gardner, 2007),

rumination (Olson & Kwon, 2008), and mindfulness (Short & Mazmanian, 2013). Specifically, Moroz and Dunkley (2015) found that higher levels of self-critical perfectionism were significantly associated with a greater tendency to experientially avoid distressing thoughts and feelings. Additionally, Moroz and Dunkley controlled for the effects of low self-esteem, and found that experiential avoidance mediated the relationship between self-critical perfectionism and depressive symptoms, but not between self-esteem and depressive symptoms. Furthermore, Moroz & Dunkley (2019) examined experiential avoidance over two years and found it to increase along with depressive and anxious symptoms, supporting the idea that avoidance of unwanted thoughts or emotions (i.e., internal experiences) leads to greater distress over time (e.g., Hayes, et al., 2012b; Wenzlaff, & Wegner, 2000). Santanello and Gardner (2007) investigated the role of experiential avoidance (a prominent aspect of psychological inflexibility) in the relationship between maladaptive perfectionism and worry and found that experiential avoidance is a partial mediator in the relationship. Short and Mazmanian (2013) examined cognitive processes underlying perfectionism and psychological distress in university students and found that the mediating effect of rumination on perfectionism was absent in those high in mindfulness (related to present moment focus). Furthermore, Olson and Kwon (2008) found that individuals high in self-oriented perfectionism and brooding rumination (i.e., cognitive fusion) experienced more depressive symptoms under stress than those high in self-oriented perfectionism and low in brooding rumination.

Whereas there is some evidence relating perfectionism to psychological flexibility and inflexibility, most of this research has been conducted using separate measures of experiential avoidance, rumination, and worry. Thus, the specific core processes of psychological flexibility and inflexibility have not been directly evaluated in relationship with perfectionism.

Additionally, the samples studied to date have been adult community or general undergraduate populations. This study was designed to extend previous research by investigating the relationship between perfectionism and a more comprehensive measure of psychological flexibility and inflexibility. In addition, the current study extends the research beyond community samples to include a clinical sample of university students engaged in mental health counseling and a general undergraduate sample. The first objective of this study was to investigate naturally emerging classes of perfectionists within a profile structure for each of the two samples (i.e., clinical and nonclinical). As a prerequisite to making comparisons between clinical and nonclinical samples, as in evaluating sample mean differences of sample differences in class structure and levels of psychological flexibility and inflexibility, the measurement model must be tested and measurement invariance of the instruments must be established (e.g., Millsap & Oliver-Aguilar, 2012). Because the perfectionistic concerns dimension of perfectionism is persistently associated with psychological symptoms (Mandel, et al., 2015; Moroz & Dunkley, 2019), the clinical sample, composed of those participants engaged in mental health services, may systematically report higher levels of perfectionistic concerns than the nonclinical sample. The next objective was to differentiate the classes of perfectionists derived in the clinical and nonclinical samples on levels of psychological flexibility and inflexibility. The hypotheses were that distinct classes of perfectionists (i.e., adaptive, maladaptive, and nonperfectionists) would emerge and the classes would vary on levels of overall psychological flexibility and psychological inflexibility, as well as the processes contributing to these constructs. Specifically, that the individual processes of psychological flexibility would be higher in adaptive perfectionists and lower in maladaptive perfectionists; and the individual processes of

psychological inflexibility would be higher in maladaptive perfectionists and lower in adaptive perfectionists.

Method

Participants

Participants were at least 18 years of age and were recruited within the United States from undergraduate courses at a large university in a southeastern metropolitan city and several university counseling centers. The recruitment information presented the study as an investigation of personality and internal perspectives and provided a link to the research study website. All recruitment and survey information was presented in English and all participants were informed that they were participating voluntarily and anonymously in an online survey. Participants were informed of the potential risks of participation and provided contact information for the principal investigator. The sequence of items was the same for all participants. Once participants accessed the survey, they were provided an informed consent that included information about the study, contact information for the researcher, as well as contact information for the counseling center at their university. They were then asked to provide their consent to participate electronically by clicking “agree” or “not agree” to a consent statement. The study was approved by the university’s Institutional Review Board.

The sample consisted of 833 participants recruited from college and university counseling centers and university undergraduate courses. Five hundred and thirty-six participants were recruited from undergraduate courses and 297 from university counseling centers. Incentive for students enrolled in online undergraduate courses was in the form of 1.0 credit for the research requirement stated in their course syllabus. Incentive for participation for the university counseling center clients was in the form of a \$5.00 donation per completed survey to a mental

health organization with collegiate focus to be selected by the participant at the end of the survey. Additionally, aggregate feedback was offered to all participants and they were instructed to contact the investigator via email if they wanted to receive feedback. Because the only feedback offered was in aggregate, requesting feedback did not jeopardize individual anonymity. As part of the demographic questionnaire, participants were asked to answer “yes” or “no” to indicate if they were currently engaged in mental health counseling. Those who identified that they were currently involved in counseling services were asked to report the number of counseling sessions completed and the primary reason for seeking services. No other information related to their counseling was obtained. The sample included a nonclinical group recruited from undergraduate courses and a clinical group recruited from university counseling centers and including those from undergraduate courses who identified that they were currently receiving counseling services.

The identified clinical sample consisted of 361 participants (236 women, 101 men, 5 trans-women, 5 trans-men, 14 other) who were recruited from university counseling centers and undergraduate courses and self-identified as engaged in mental health services (297 recruited from university counseling centers and 64 from undergraduate courses). Ages ranged from 18-59 years, with approximately 85% between 18-25 years old ($M = 22.56$, $SD = 5.56$). The racial/ethnic distribution was 52.6 % White, Non-Hispanic, European American, 21.3% Black, African American, 11.6% Asian or Asian American, 5.8% multiracial, 5.3% Hispanic/Latino, and 3.3% in other categories.

The nonclinical sample participants were 472 students (291 women, 178 men, 1 trans-man, 2 other) recruited from undergraduate courses who self-identified as not engaged in mental health services. Ages ranged from 18-54 years, with approximately 79% being 18-25 years old

($M = 23.79$, $SD = 5.69$). The racial/ethnic distribution was 39.6% Black, African American, 23.3% White, Non-Hispanic, European American, 19.1 Asian or Asian American, 9.7 Hispanic, Latino, 5.3% multiracial, and 3.0 % other.

Because there were two classifications of participants within the sample, recruitment and participation incentive varied to some degree. The general undergraduate participants were recruited through the courses in which they were enrolled and received participation incentive in the form of course credit. This study was included in a list of optional studies in which research study participation is one method to meet course requirements. Participants were provided with a link to the web address for this study via the research portal for their course. Once the survey was completed, participation credit was provided in the portal. Participants in the clinical sample recruited from counseling centers were informed of the study via cards placed in waiting areas or provided to them by counseling center staff. The cards provided information regarding the title and the purpose of the study along with the website link for the study and contact information for the investigator. Additionally, a few of the university counseling centers sent emails to their client list with the study information as noted on the cards distributed in person.

Instruments

The Short form of the Almost Perfect Scale (SAPS; Rice, Richardson, & Tueller, 2014) is an 8-item self-report instrument based on the Almost Perfect Scale-Revised (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). The 8 items of the SAPS make up two subscales which measure Standards (4 items) and Discrepancy (4 items). The Standards subscale measures the level of perfectionistic striving by assessing one's setting of high expectations for oneself (i.e., "I have a strong need to strive for excellence") whereas the Discrepancy subscale is designed to measure the extent to which distress is experienced when individually set standards are not met

(i.e., “I am hardly ever satisfied with my performance”). Participants rate each item on a 7 point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Rice, et al. (2014) conducted a series of confirmatory factor analyses which supported the two-factor structure of the SAPS. Research using the SAPS has shown good psychometrics in clinical and nonclinical samples (e.g., Rice, Sauer, Richardson, Roberts, & Garrison, 2015; Rice, et al., 2014; Richardson, Rice, Sauer, & Roberts, 2017; Rice & Taber, 2019). Internal consistency coefficients for Standards and Discrepancy are reported in the .82 to .91 range for clinical and nonclinical samples (e.g., Rice, et. al., 2017; Rice & Taber, 2019).

Frost Multidimensional Perfectionism Scale-Brief (F-MPS-Brief; Burgess, Frost, & DiBartolo, 2016) is a recently published 8 item, version of the Frost Multidimensional Perfectionism Scale (F-MPS; Frost, Marten, Lahart, & Rosenblate, 1990). The FMPS-Brief consists of two subscales; Striving (4 items) and Evaluative Concerns (4 items). The Striving subscale measures goal setting and striving for achievement (i.e., “I expect higher performance in my daily tasks than most people”) and Evaluative Concerns measures self-criticism for not reaching one’s goals and worry about negative performance evaluation (“If I fail at work/school, I am a failure as a person”). The new two-factor F-MPS-Brief demonstrated good factor structure across clinical and community samples, measurement invariance across two ethnic groups, strong construct validity, and high internal consistency with coefficient alphas of .85 and .83 for Evaluative Concerns and .85 and .81 for Striving in the clinical and community samples respectively (Burgess, et al., 2016).

The Multidimensional Psychological Flexibility Inventory (MPFI; Rolffs, Rogge, & Wilson, 2016) is a 60-item self-report measure that examines overall psychological flexibility and inflexibility and provides six subscales for each; resulting in 12 subscales and two composite

scales of Psychological Flexibility and Psychological Inflexibility. The Psychological Flexibility composite scale consists of six subscales representative of the processes identified in the hexaflex model of Acceptance and Commitment Therapy; Acceptance (i.e., “When I had an upsetting thought or emotion, I tried to give it space rather than ignoring it.”), Present Moment Awareness (i.e., “I was in tune with my thoughts and feelings from moment to moment.”), Self as Context (“Even when I felt hurt or upset, I tried to see the larger picture.”), Defusion (i.e., “In tough situations, I was able to notice my thoughts and feelings without getting overwhelmed by them.”), Values (i.e., “I was very in touch with what is important to me and my life.”), and Committed Action (i.e., “Even when I stumbled in my efforts, I didn’t quit working toward what is important.”). The Psychological Inflexibility composite scale also consists of six subscales; Experiential Avoidance (i.e., “When something upsetting came up, I tried very hard to stop thinking about it.”), Lack of Contact with the Present Moment (i.e., “I did most things mindlessly without paying much attention.”), Self as Content (i.e., “I told myself I shouldn’t be thinking the way I was thinking.”), Fusion (i.e., “Negative thoughts and feelings tended to stick with me for a long time.”), Lack of Contact with Values (i.e., “My priorities and values often fell by the wayside in my day-to-day life.”), and Inaction (i.e., “Getting upset left me stuck and inactive.”). Participants rate each item on a 6-point scale ranging from *never* to *always* or from *never true* to *always true*. Each subscale consists of five items related to the flexibility or inflexibility process it measures; responses are summed and higher scores represent higher levels of the respective process. The composite scores are the summation of the scores of the six contributing subscale scores and higher scores represent higher levels of either psychological flexibility or psychological inflexibility. Initial study results using the MPFI indicated good internal consistency (ranging between .86 and .94) for each subscale, and supported the dimensional

structure by loading the 12 subscales onto two higher order factors showing good model fit (RMSEA = .040; CFI = .946; SRMR = .060; Rolffs, et al., 2016).

Data Analytic Strategy

Analyses were conducted with IBM SPSS Version 25 (2017) and *Mplus* Version 7.31 (Muthén & Muthén, 2015). Prior to data screening, the total sample consisted of 880 participants. Survey data were eliminated according to indicators of insufficient effort responding, such as rapid survey completion (e.g., DeSimone, Harms, & DeSimone, 2015) and repeated single response option (i.e., straightlining; DeSimone, DeSimone, Harms, & Wood, 2018). Furthermore, following recommendations of DeSimone, et al, (2015), Mahalanobis D was conducted to detect outliers. As a result of data screening, 47 surveys were deleted (12 clinical and 35 nonclinical) and the final total sample consisted of 833 participants. At the start of the data collection process, one item from the SAPS was left out of the survey. Once this error was noticed, the item was added to the survey and the subsequent participants received all items. This item omission impacted 100 surveys in the clinical sample and 150 in the nonclinical sample. The dataset included 35 surveys in the clinical sample (9.7%) and one survey in the nonclinical (.2%) which had only the SAPS completed. These surveys were retained for the purpose of LPA of perfectionism class structure. Controlling for the missing SAPS item and the incomplete surveys, the dataset as a whole had a small percent of missing data; the ratio of missing observations to total possible observations was .23% (sparse matrix method; McKnight, McKnight, Sidani, & Figueredo, 2007), with the percentage of missing data for each item ranging from 0.2 to 1.6%. Little's missing completely at random test (MCAR) for the clinical sample, $\chi^2(385, N = 312) = 407.45, p = .207$, supported they hypothesis that data were missing at randon. For the nonclinical sample, $\chi^2(439, N = 471) = 561.23, p < .001$, this test supported

the hypothesis that data were not missing completely at random. Data were assumed to be missing at random, for which full information maximum likelihood is a preferred method for handling missing data (Schlomer, Bauman, & Card, 2010).

Measurement Invariance. The primary focus of this study was to conduct latent profile analysis (LPA) in order to determine if groups of perfectionists emerged in the data and the varying levels of psychological flexibility and inflexibility processes among these groups. Prior to conducting LPA, confirmatory factor analysis (CFA) was conducted to test the factor loadings and proposed model fit for each latent construct. Evaluation of factor loading was considered according to suggestions of Comrey and Lee (1992) and Tabachnick and Fidell (2007). Whereas there are not absolute measures of factor loading cut offs, these authors recommend that factor loading results of .71 and greater suggest excellent indication of the factor; .63 and greater suggests very good indication; .55 suggests good indication; .45 suggests fair indication; and .32 suggests poor indication. Measurement invariance testing was then conducted to evaluate the psychometric equivalence of constructs across groups. Measurement invariance is evaluated through a series of model comparisons. The first step, configural invariance, is the least stringent and allows for freely estimated parameters between groups to determine if the basic organization of the constraints provide a reasonable representation across the identified groups. If configural invariance is supported, the metric invariance model is then tested by constraining item-to-factor loadings to be invariant between groups. Metric invariance testing constrains the unit of measurement to be the same between groups and is necessary when comparing the association between a measured construct and some criterion. If support for full or partial invariance is obtained, the next step is to test for scalar invariance by constraining the item intercepts to be equivalent in the two groups which adds the constraint of equal item intercepts between groups.

Support for metric or scalar invariance is usually sufficient, depending on the research questions of interest (Brown, 2015; Little 2013; Putnick & Bornstein, 2016).

Evaluation of model fit was considered according to the criteria suggested by Hu and Bentler (1999) and Brown (2015). According to Hu and Bentler, good model fit is supported by root mean-square error of estimation (RMSEA) less than or close to .06 (and $\leq .08$ adequate), comparative fit index (CFI) in the .95 range (.90 range indicates mediocre fit), and standardized root mean square residual (SRMR) value of .08 or less. Following the example of Kang, McNeish, and Hancock (2015), McDonald's noncentrality index (MNCI; McDonald & Marsh, 1990) was also examined as an alternative goodness-of-fit index since it is minimally impacted by sample size, and is sensitive to measurement noninvariance. Configural, metric, and scalar (i.e., weak, strong, and strict respectively) were evaluated. Model differences were examined and potential noninvariance was supported by a significant difference in the scaling-corrected Yuan-Bentler χ^2 , $\Delta CFI > -.002$ (Cheung & Rensvold, 2002), and $\Delta MNCI > -.007$ (Kang, McNeish, & Hancock, 2015; McDonald & Marsh, 1990). Factor loading (for metric invariance) and item intercepts (for scalar invariance) were also evaluated for potential invariance. Partial invariance models were considered acceptable if freeing the estimates for less than half of the number of parameters produced minimal differences between free and constrained models (e.g., Dimitrov, 2010; Putnick & Bornstein, 2016).

Latent profile analysis. LPA was conducted with *Mplus* (Version 7.31; Muthén & Muthén, 2015) using a robust maximum likelihood estimator (MLR) and full information maximum likelihood to address missing data and generate unbiased parameter estimates. LPA is a form of finite mixture modeling conducted to detect relatively homogeneous subpopulations of participants, latent profiles, within the larger population from which the sample was drawn

(Masyn, 2013; Morin, Meyer, Creusier, & Biétry, 2016). LPA was used to examine if qualitatively distinct latent classes of perfectionists and non-perfectionists could be identified from both the clinical and nonclinical samples that are consistent with the classification results found in other studies (e.g., Ashby & Gnilka, 2017; Rice & Richardson, 2014; Rice & Taber; Sironic & Reeve, 2012).

Profile analyses were based on the four measured perfectionism variables of Standards, Discrepancy, Striving, and Evaluative Concerns as continuous indicators of latent class variable. Factor scores derived from the two-factor SAPS (Standards, Discrepancy) and the two-factor FMPS (Striving, Evaluative Concerns) measurement models were utilized in a series of latent profile analyses to determine the best model fit of categorical latent classes of perfectionism. To compare different contender models, Consistent Akaike Information Criterion (CAIC), Bayesian Information Criterion (BIC), and sample-adjusted BIC (SABIC) were used. Smaller CAIC, BIC, and SABIC values suggest better-fitting models. The Lo-Mendell-Rubin (LMR) likelihood ratio test and the parametric bootstrap (BLRT; McLachlin & Peel, 2000) were used to statistically compare k class with $k - 1$ class models (Tein, Coxe, & Cham, 2013). Statistical significance of the LMR and BLRT support the k -class model as a significant improvement over the $k-1$ class model. Statistical, theoretical, and practical considerations determine final selection of the best fit model (Marsh, Lüdtke, Trautwein, & Morin, 2009). After establishing support for class structure in each sample, “distal outcomes” from the MPFI factors were evaluated for each sample to investigate mean level differences in psychological flexibility and inflexibility, as well as the various processes (e.g., acceptance, defusion, values) across the latent profile classes.

Results

Preliminary Analysis

Preliminary data analyses were conducted with IBM SPSS Version 25 (2017). Table 2.1 presents the means, standard deviations, and Cronbach's coefficients alpha based on observed scores for the clinical and nonclinical samples. Score averages and alphas for the SAPS and the FMPS-Brief were consistent with other studies of clinical and nonclinical samples (e.g., Richardson, et al., 2017; Rice, et al., 2014; Burgess, et al., 2016). Although there are no known published studies investigating the MPFI with clinical populations, the score averages and alphas were consistent with research involving nonclinical samples (Rolffs, et al., 2016).

Measurement Invariance

Confirmatory factor analysis (CFA) was used to test the two-factor SAPS structure (Standards, Discrepancy), the two-factor FMPS-Brief (Striving, Evaluative Concerns), and the two-factor MPFI (Psychological Flexibility, Psychological Inflexibility). The factor models were evaluated using the whole sample for each measure. For the two-factor SAPS structure, the model demonstrated good fit, $\chi^2(19, N = 833) = 77.09, p < .0001, CFI = 0.967, RMSEA = 0.061$ (0.047, 0.075), and SRMR = 0.042. Each of the model fit indicators demonstrated good fit according to Hu and Bentler (1999) criteria. The standardized factor loadings ranged from .70 to .83 (Standards) and from .76 to .91 (Discrepancy), indicating that the items served as excellent indicators of their respective factors (Comrey & Lee, 1992; Tabachnick & Fidell, 2007).

For the two-factor FMPS-Brief structure, the model demonstrated adequate to good fit, $\chi^2(19, N = 779) = 108.13, p < .0001, CFI = 0.950, RMSEA = 0.078$ (0.064, 0.092), and SRMR = 0.043. Both CFI and SRMR indicated good fit, whereas RMSEA indicated adequate fit (Hu & Bentler, 1999). The standardized factor loadings ranged from .57 to .81 (Striving) and from .67

to .83 (Evaluative Concerns), indicating that the items served as good to excellent indicators of their respective factors (Comrey & Lee, 1992; Tabachnick & Fidell, 2007).

For the MPFI two-factor composite structure, the model demonstrated fair fit, $\chi^2 (1697, N = 784) = 4402.92, p < .0001, CFI = 0.918, RMSEA = 0.045 (0.043, 0.047),$ and $SRMR = 0.079.$ The standardized factor loadings ranged from .37 to .89 (Psychological Flexibility) and from .62 to .93 (Psychological Inflexibility), demonstrating some variability in factor loadings. The standardized factor loading for one item was .37 (between poor and fair indicator of factor; Comrey & Lee, 1992; Tabachnick & Fidell, 2007), suggesting that item did not perform well as an indicator of the construct. All other factor loadings ranged from .65 to .93 indicating that those items served as moderate indicators of their respective factors (very good to excellent factor indicators; Comrey & Lee, 1992; Tabachnick & Fidell, 2007). To investigate the impact of the poor factor loading on the model, that item was removed and another CFA was conducted. This resulted in similar model fit statistics, $\chi^2 (1639, N = 784) = 4259.03.92, p < .0001, CFI = 0.92, RMSEA = 0.045 (0.043, 0.047),$ and $SRMR = 0.077.$ Thus, the inclusion or exclusion of the item did not impact the CFA fit results and analysis proceeded and the item was retained.

Next, three levels of measurement invariance (i.e., configural, metric, and scalar) were assessed for each measure, comparing the clinical and nonclinical groups. Configural invariance testing evaluates the equivalence of model form to determine if the number of factors are the same across groups. Metric invariance tests the equivalence of factor loadings and scalar invariance tests the equivalence of item intercepts (e.g., Putnick & Bornstein, 2016). Table 2.2 and table 2.3 summarize the fit statistics for each of the invariance models for the SAPS, the FMPS-Brief (Table 2.2), and the MPFI composite measures (Table 2.3). Model fit statistics for the SAPS supported the configural invariance. Next, metric invariance analyses indicated that the

factor loadings may be variant for the clinical and the nonclinical groups. Thus, constraining the loadings across groups worsened the model fit. In order to determine if partial metric measurement invariance was possible, the model was modified by releasing factor loading constraints on items two and seven. Item selection was determined by comparing the factor loading results between samples for each item to determine which items had the greatest difference in factor loading values. Item two had the greatest difference between the two samples, followed by item seven. In sequential tests, item two was released and partial metric invariance was conducted using the modified model, which did not support partial metric invariance. Thus, partial metric invariance testing was conducted with both items two and seven freely loaded. The results supported partial metric invariance and the modified model remained below the suggested 20% freed parameters (e.g., Dimitrov, 2010). Configural and Metric invariance were supported for the FMPS-Brief and the MPFI. Scalar invariance was not supported for any of the measures, as results for each measure indicated $\Delta CFI_s > -.002$ (Cheung & Rensvold, 2002). Support for metric and partial metric invariance is sufficient to proceed with further analyses for the models tested (Brown, 2015; Little, 2013). Following the recommendation of Rice and Taber (2019), two measures of perfectionism were used in order to operationalize the perfectionistic strivings and concerns factors beyond that which one measure provides. Factor scores from the measurement models of the SAPS (i.e., Standards and Discrepancy) and the FMP-S (Striving and Evaluative Concerns) were used to derive a two-factor representation of perfectionistic striving and perfectionistic concerns (Morin, et al., 2016).

Latent Profile Analyses

Latent Profile Analyses were conducted based on the factors scores previously derived from the SAPS and the FMPS-Brief as the profile indicators of perfectionistic strivings and

perfectionistic concerns. Previous research derived three- and four-class models of perfectionism (e.g., Ashby & Gnilka, 2017; Rice & Taber, 2019; Sironic & Reeve, 2012). In a conservative approach to LPA, model fit was evaluated for up to a six-class structure (e.g., Marsh, et al., 2009; Morin, et al., 2016).

Separate class identification analyses were conducted for the clinical and nonclinical samples. These analyses resulted in fitting models of up to six classes to discern patterns of decline in CAIC, BIC, SABIC, and statistical significance of LMR. Table 2.4 presents fit and classification accuracy results. Similar considerations for both the clinical and nonclinical arose in the fit indexes. For example, all of the BLRT results were significant ($ps < .0001$) and none of the LMR results were significant (all $ps > .05$), making those tests less informative than the CAIC, BIC, SABIC in the identification of contender models for further investigation. Plots of the CAIC, BIC, and SABIC for the clinical sample (Figure 2.1) and the nonclinical sample (Figure 2.2) suggested a continued decline with the addition of classes and a potential plateau of diminishing declines after the fifth-class model. Lower CAIC, BIC, and SABIC suggest better fitting models along with significant BLRT and LMR. With no clear statistical significance suggesting best model fit, theoretical considerations, published research using class analysis of perfectionism, and interpretability of the model were relied on to determine model fit (e.g., Marsh, et al., 2009).

Specifically, model fit results for the clinical sample demonstrated declining CAIC, BIC, and SABIC with greatest decline between the five- and six-class models. All of the BLRT results were significant ($ps < .0001$) and all LMR results were non-significant (all $ps > .05$). Class separation accuracy was good for each of the models (entropy range = 0.86 - 0.91). Thus, statistical results did not initially eliminate any of the profiles from further consideration. The

two-class model was not considered because there were subsequent models that met criteria and were more consistent with other research (e.g., Ashby & Gnilka, 2017; Rice & Taber, 2019). The six-class model was investigated and determined to include a very small class (< 5% of the sample) and the additional class did not add qualitatively to the model. Thus, the six-class model was not retained. As a result, the three-, four-, and five-class models remained as potential contender models for examination. The LMR indicated nonsignificant improvement with the addition of each class, however, the five-class model revealed a trend effect ($p = .07$). The five-class model was examined against the three- and four-class models that were consistent with other perfectionism studies (e.g., Ashby & Gnilka, 2017; Rice & Taber, 2019; Sironic & Reeve, 2012). Class separation accuracy was good for the five-class model (entropy = .88); however, a small class emerged which appeared to be the result of splitting previous classes in a way that did not contribute to a model of perfectionism in a substantive manner (e.g., Lubke & Muthén, 2005). Characteristically, the fifth class was similar to the fourth class (i.e., low perfectionistic concerns and low perfectionistic striving); therefore, the five-class model did not contribute to the interpretability of the profile structure. Class separation accuracy was good for both the three- and four-class models (entropy = .88 and .86 respectively). Whereas the three-class model was a good contender and supported in other studies, the information indexes were lower for the four-class model and it provided a more interpretable class structure which revealed two seemingly different nonperfectionists classes. Thus, the four-class model was selected consisting of two perfectionistic classes (both with elevated striving and one with high concerns and the other with low concerns) and two nonperfectionist classes (both with low perfectionistic strivings, and one with low and the other high perfectionistic concerns). Results of other perfectionism studies have derived similar class structures (e.g., Boone, Soenens, Braet, &

Goossens, 2010; Rice & Taber, 2019; Sironic & Reeve, 2012). Although Rice and Taber argued that the fourth class did not help differentiate classes of perfectionists, Sironic and Reeve (2012) emphasized the importance of the interactions between the core perfectionism dimensions (i.e., strivings and concerns) in support of four perfectionistic subgroups. The posterior probabilities of class membership (Figure 2.3) indicated that the largest group in the clinical sample (37%) had moderately elevated perfectionistic strivings (.62 SD above the mean) as well as moderately elevated perfectionistic concerns (.68 SD above the mean); the next largest class (32%) had slightly elevated perfectionistic strivings (.26 SD above the mean) and low perfectionistic concerns (1.03 SD below the mean); the next largest class (22%) had moderately low perfectionistic strivings (.59 SD below the mean) and moderately elevated perfectionistic concerns (.62 SD above the mean); and the smallest class (10%) had extremely low perfectionistic strivings (1.8 SD below the mean) and moderately low perfectionistic concerns (.60 SD below the mean).

Similar to the clinical sample, the nonclinical sample resulted in decreasing information indexes and nonsignificant LMR ($p > .05$) and all significant BLRT ($p < .0001$). Results of the LPA for the nonclinical sample indicated that information indexes continued to decrease for the one to six class models and entropy increased. Class separation accuracy was good for all six models (entropy = .81-.82). Given that the five-class model contains a class representing only 2% of the sample and potentially too small to be a significant class, review of the four-class model can be considered. The five- and six-class models each consisted of one very small class (2%) and the addition of the fifth and sixth class appeared to develop from the splitting of others classes that did not contribute to class interpretation. The three- and four-class models were considered as the most likely contenders for best model fit based on class size proportions,

interpretability, and prior research. Class separation accuracy was good for both models (entropy = .82). Comparison of the two models revealed a small class (5%) in the four-class class which could make the three-class model a stronger contender. Furthermore, the LMR value for the three-class model, although nonsignificant, was closer to significance than for the four-class model. However, inclusion of the additional class in the four-class model provided variability in class structure according to perfectionistic strivings and perfectionistic concerns that could contribute to interpretation, especially when considering levels of psychological flexibility. Similar to the clinical sample, the four-class model was selected. The posterior probabilities for the nonclinical sample (Figure 2.4) indicated that the largest class (43%) had moderately elevated perfectionistic strivings (.53 SD above the mean) and moderately low perfectionistic concerns (.58 SD below the mean); the next largest class (28%) had slightly elevated perfectionistic standards (.27 SD above the mean) and very elevated perfectionistic concerns (1.0 SD above the mean); class three (23%) having moderately low perfectionistic strivings (.76 SD below the mean) and slightly low perfectionistic concerns (.24 SD below the mean); and the smallest of the four classes (5%) had extremely low perfectionistic standards (2.65 SD below the mean) and moderately elevated perfectionistic concerns (.51 SD above the mean).

The class profiles of perfectionism dimensions derived in the LPA for both the clinical and nonclinical samples in this study are similar to those identified in other perfectionism research (e.g., Boone, et al., 2010; Rice & Taber, 2019; Sironic & Reeve, 2012). According to research evaluating perfectionism classes and their relationships with mental health outcomes, identified classes with high perfectionistic strivings and low perfectionistic concerns have a number of adaptive characteristics and, as a result, are generally designated as classes of adaptive perfectionists. Classes with high perfectionistic strivings and high perfectionistic concerns are

consistently associated with negative mental health outcomes and have generally been identified as classes of maladaptive perfectionists. Classes that are low on perfectionistic strivings and high or low on perfectionistic concerns are considered to be nonperfectionists, and have been identified as extreme or moderate nonperfectionists depending on degree of low perfectionistic striving (Rice & Taber, 2019). Sironic & Reeve (2012) identified classes with similar dimensional constructs as low striving maladaptive perfectionists (i.e., low perfectionistic strivings and elevated perfectionistic concerns) and nonperfectionists (i.e., low perfectionistic strivings and low perfectionistic concerns).

Patterns of psychological flexibility and psychological inflexibility for the latent classes. A major purpose of the current study was to examine if perfectionism-related latent classes demonstrated varying levels of psychological flexibility and psychological inflexibility. In order to do so, the Auxillary DU3Step procedure in *Mplus* (Asparouhov & Muthén, 2014) was conducted to examine between class differences on the MPFI composite scores and individual process subscale scores. The DU3Step command produces an omnibus test of differences for each MPFI score across classes, and separate pairwise comparisons to identify specific sources of class differences in each of the samples. These results are summarized in Tables 2.5 and 2.6 for the clinical and nonclinical samples respectively.

In the clinical sample, all but one of the 14 separate omnibus tests were significant, $ps < .0001$; the one non-significant omnibus test was for the psychological inflexibility process of experiential avoidance. Recall that higher scores on all the measures of psychological flexibility and inflexibility, as well as the contributing processes, indicate more of the construct. On measures of overall psychological flexibility and the individual processes, the class described as having high perfectionistic standards and low perfectionistic concerns accounted for the second

largest proportion (36%) of the sample and had significantly high levels of psychological flexibility compared with the other classes. Indeed, all but two of the 21 comparisons involving this presumed adaptive perfectionist class reported significantly higher levels of psychological flexibility than the other three classes, $ps < .026$. The similarities occurred between the adaptive perfectionist class and the maladaptive perfectionist and extreme nonperfectionist classes on the psychological flexibility process of acceptance. The only class that was significantly lower was the moderate nonperfectionist class that was characterized by moderately low perfectionistic concerns and moderately elevated concerns. Relatedly, the adaptive perfectionist class had significantly lower levels of psychological inflexibility than all of the other classes on most of the comparisons, $ps < .034$. The few similarities involving the adaptive perfectionist class was with the extreme nonperfectionist class on the psychological inflexibility processes of self-as-content and fusion.

The largest class making up the clinical sample (37%) was characterized by moderately elevated perfectionistic standards and moderately elevated concerns. This presumably maladaptive perfectionist class had significantly higher flexibility scores for eight of its 21 comparisons with other classes and lower scores for six. The six lower scores were all significantly lower than the presumed adaptive perfectionist class. The maladaptive perfectionist class was significantly higher than both of the nonperfectionist classes on global flexibility, connection with values, and committed action. In addition, they were significantly higher on present moment focus and self-as-context than the moderate nonperfectionists class. In terms of psychological inflexibility, this class reported significantly higher scores (i.e., more inflexible) on the processes of self-as-content and fusion than the adaptive perfectionist and extreme nonperfectionist classes, $ps < .001$. The maladaptive perfectionist class was similar to the

moderate nonperfectionist class. Recall that, despite their difference on perfectionistic standards, both of these classes are characterized by elevated concerns. Whereas the two classes of nonperfectionists are both characterized by low perfectionistic concerns, they differ on their level of concern. The psychological flexibility and inflexibility profiles are similar, only demonstrating significant difference on 2 of the two of the 14 comparisons. The moderate nonperfectionist class, with moderately high level of concern, reported significantly higher levels of self-as-content and fusion than the extreme nonperfectionists class. Note that the extreme nonperfectionist class had very low perfectionistic standards and low levels of concern.

In the nonclinical sample, each of the 14 separate omnibus tests was significant, $ps < .04$. Recall the largest class in the nonclinical sample had moderately high levels of perfectionistic strivings and low perfectionistic concerns, consistent with adaptive perfectionism. Indeed, this class reported significantly higher levels of overall flexibility, present moment focus, self-as-context, defusion, connection with values, and committed action compared to the other three classes ($ps < .03$). The only similarity was between the presumed adaptive perfectionist class and the presumed maladaptive perfectionist class on the flexibility process of acceptance. Furthermore, compared to all other classes, this group reported significantly lower levels of global psychological inflexibility and all but one inflexibility process ($ps < .04$). In fact, the adaptive perfectionist class scored significantly higher on experiential avoidance (i.e., more avoidance) than the extreme nonperfectionists class and similar to the maladaptive perfectionist and moderate nonperfectionist classes. Thus, the adaptive perfectionist class reported significantly higher levels of psychological flexibility and lower levels of psychological inflexibility on 38 of the 42 comparisons with other classes.

The second largest proportion of the sample (28%), characterized by slightly elevated perfectionistic strivings and very elevated perfectionistic concerns, reported the highest levels of overall psychological inflexibility, as well as the individual processes. Indeed, these results indicated significantly higher (i.e., more inflexible) on 14 of the 21 comparisons with the other groups on measures of psychological inflexibility ($p < .05$). They were significantly higher on the process of fusion than all the other groups. Interestingly, the presumed maladaptive perfectionist group was similar (i.e., not significantly different) to the extreme nonperfectionist group on all measures of psychological inflexibility, with the exception of reporting significantly higher levels of experiential avoidance and fusion. Recall the extreme nonperfectionist class had extremely low perfectionistic strivings and moderately elevated perfectionistic concerns. The moderate and extreme nonperfectionist classes, while separately classified, had similar patterns of psychological flexibility. However, the moderate nonperfectionist class reported significantly higher scores on the psychological flexibility processes of self-as-context ($p = .01$), defusion ($p = .04$) and committed action ($p = .04$) than the extreme nonperfectionists.

In summary, the latent profile structure of perfectionism as measured by factor scores derived from the two factor SAPS and the two factor FMPS-Brief reflected different patterns of elevation for the two measured factors of perfectionistic strivings and perfectionistic concerns across four latent classes in both the clinical and nonclinical samples. Patterns of psychological flexibility and inflexibility were clearly different between the two classes of perfectionists. The adaptive perfectionist class had significantly higher flexibility and lower inflexibility across almost all of the comparisons in both the clinical and nonclinical samples. In the clinical sample, the maladaptive perfectionist class reported significantly higher overall psychological flexibility than both of the nonperfectionists classes and was similar in overall psychological inflexibility.

In the nonclinical sample, they reported higher overall psychological flexibility scores than the extreme nonperfectionists and higher overall psychological inflexibility than the moderate nonperfectionists. There was more similarity than difference between the two classes of nonperfectionists in both samples. However, the flexibility and inflexibility processes on which they were significantly different indicated that the nonperfectionists with elevated perfectionistic concerns in both samples demonstrated more problematic scores on several of the processes (i.e., higher inflexibility and lower flexibility).

Discussion

This study had two main objectives. One was to identify naturally emerging classes of perfectionists in clinical and nonclinical samples as described in previous research investigating identified groups of adaptive, maladaptive, and non-perfectionists (e.g., Ashby & Gnilka, 2017; Rice & Taber, 2019). Two brief measures of perfectionism were used to create factor scores for perfectionistic standards and perfectionistic concerns about performance. Confirmatory factor analysis was first conducted on all measures and then measurement invariance analyses were performed which showed that all measures supported metric and partial metric invariance, indicating that the measures worked across the clinical and nonclinical samples in similar ways. A set of latent profile models were compared following recommendations of Hallquist and Wright (2014) and Morin, et al. (2016). LPA allows for the examination of several models in order to settle one of best fit in accordance with guidelines for results of statistical analyses, theoretical and empirical support, and interpretive value (Marsh, et al, 2009). A four-class model met these conditions for both samples and consisted of an adaptive perfectionist class (i.e., high perfectionistic strivings and low perfectionistic concerns), a maladaptive perfectionist class (i.e., high perfectionistic strivings and high perfectionistic concerns), a moderate nonperfectionist

class and an extreme nonperfectionists class (i.e., low perfectionistic strivings and variability on perfectionistic concerns).

Previous research has derived both three-class (e.g., Ashby & Gnilka, 2017; Rice, Ashby, & Gilman, 2011) and four-class models of perfectionism (e.g., Boone, et al., 2010; Rice & Taber, 2019; Wang, Slaney, & Rice, 2007; Sironic & Reeve, 2012). The three-class model generally consists of one class high in perfectionistic strivings and low in perfectionistic concerns (i.e., adaptive perfectionists), the next high in perfectionistic strivings and high in perfectionistic concerns (i.e., maladaptive perfectionists) and the final, nonperfectionist class, low in perfectionistic standards with variability in perfectionistic concerns (e.g., Ashby & Gnilka, 2017; Rice & Ashby, 2007). Other studies have identified a four-class model, similar to the results of the current study, with two classes of perfectionists (adaptive and maladaptive) and two classes of nonperfectionists (extreme and moderate; Rice & Taber, 2019; Sironic & Reeve, 2012). Rice and Taber argued that the fourth class did not help differentiate classes of perfectionists. However, Sironic and Reeve (2012) emphasized the importance of the interactions between the core perfectionism dimensions (i.e., strivings and concerns) in support of four perfectionistic subgroups. Additionally, they suggested that the low perfectionistic strivings and high perfectionistic concerns class may have little insight into, and deny, their perfectionism.

In the current study, the three- and four-class models were closely examined for the clinical and nonclinical samples, and statistical analyses demonstrated decreasing information indexes, nonsignificant LMR, significant BLRT, and good class separation accuracy for both models. Consequently, the results suggested that there might be a model of better fit than the three-class model, but did not provide statistically significant evidence. Ultimately, the four-class model was selected because it allowed for examination of the differences in psychological

flexibility and inflexibility across all combinations of perfectionism dimensions (Sironic & Reeve, 2012). The additional class in the four-class model differentiated nonperfectionists according to levels of perfectionistic concerns, therefore comparisons of psychological flexibility and inflexibility patterns could be evaluated between those with high as well as low perfectionistic concerns combined with both high and low perfectionistic strivings.

The second objective of this study was to compare the latent classes of perfectionists on levels of psychological flexibility and psychological inflexibility and each of the contributing core processes. The results indicated that, in both clinical and nonclinical samples, the adaptive perfectionists reported significantly higher overall psychological flexibility and lower overall psychological inflexibility (higher scores mean more of the construct) than all of the other classes. Furthermore, this group had significantly higher scores on all processes of psychological flexibility (acceptance, present moment focus, self-as-context, defusion, values, and committed action) and lower scores on all but one of processes of psychological inflexibility (lack of contact with the present moment, self-as-content, fusion, disconnection from values, and inaction or impulsivity) than most of the other classes. This higher level of psychological flexibility and lower inflexibility of adaptive perfectionists, relative to maladaptive perfectionists and nonperfectionists, is consistent with the results of other studies supporting the adaptiveness of this class of perfectionists (e.g., Ashby & Gnilka, 2017; Rice & Taber, 2019, Suh et al., 2017). The findings of this study suggested that adaptive perfectionists are less likely than maladaptive perfectionists or nonperfectionists to become fused (i.e., ruminate) with negative thoughts about meeting their standards (e.g., Olson & Kwon, 2008), and evaluate their identity according to their successes and failures (e.g., Hamachek, 1978; Sherry, Mackinnon, & Nealis, 2018). Furthermore, they are more apt to engage in committed action, identify what is important to

them, and flexibly shift standards and expectations according to situational demands (e.g., Stoeber, Hutchfield, & Wood, 2008). Moreover, adaptive perfectionists are more likely to be more present moment focused by utilizing facets of mindfulness consistent with psychological flexibility (e.g., Short & Mazmanian, 2013).

The results of this study also indicated some variability in the comparisons between the maladaptive perfectionist and the nonperfectionist classes in both the clinical and nonclinical samples. For instance, in the clinical sample, the maladaptive perfectionists had higher overall psychological flexibility and similar overall psychological inflexibility compared with both nonperfectionist classes. Whereas, in the nonclinical sample, the maladaptive perfectionists reported significantly higher levels of overall psychological flexibility than the extreme nonperfectionists and levels similar to the moderate nonperfectionists. Regarding levels of overall psychological inflexibility, the maladaptive perfectionists reported significantly higher levels than the moderate nonperfectionists and similar levels to the extreme nonperfectionists.

There are several considerations to note related to these similarities and differences. One is that these findings might suggest that the perfectionistic strivings dimension may be useful and contribute positively to the maladaptive perfectionist in certain domains. For example, in both samples, maladaptive perfectionists reported higher levels of overall psychological flexibility than the nonperfectionists with high perfectionistic concerns (i.e., moderate nonperfectionists in the clinical sample and extreme nonperfectionists in the nonclinical sample). Other studies have found evidence for the potentially beneficial aspects of higher perfectionistic strivings for maladaptive perfectionists when compared to nonperfectionists. For instance, Rice, Lopez, and Richardson (2013) found that both adaptive and maladaptive perfectionists earned higher grades than nonperfectionists in undergraduate STEM courses. Psychological flexibility may, similarly,

be one of those domains where the maladaptive perfectionist enjoys the benefits of the positive aspects of perfectionistic strivings.

Another consideration in understanding the comparisons of maladaptive perfectionists to nonperfectionists in this study is that the dimension of perfectionistic concerns may contribute more to the construct of psychological inflexibility than to psychological flexibility. Recall that, in the results of the current study with the nonclinical sample, maladaptive perfectionists had similar levels of psychological inflexibility as the extreme nonperfectionists (i.e., high perfectionistic concerns) and higher levels than the moderate nonperfectionists (i.e., low perfectionistic concerns). These results suggested that elevated perfectionistic concerns (i.e., self-critical evaluation), shared by maladaptive perfectionists and extreme nonperfectionists in the nonclinical sample, are positively associated with psychological inflexibility (e.g., Yadavaia, Hayes, & Vilaradaga, 2014). Interestingly, the maladaptive perfectionists in the clinical sample reported similar levels of psychological inflexibility as both of the nonperfectionist classes. It may be important to note that the clinical sample was composed of those students already seeking mental health services and, as a result, may be experiencing greater distress, and related psychological inflexibility, than participants in the nonclinical sample.

Particularly notable in both the clinical and nonclinical samples were the significantly higher scores on the self-as-content and cognitive fusion processes of psychological inflexibility for the maladaptive perfectionist classes. In the clinical sample, maladaptive perfectionists reported significantly higher levels of these two processes than adaptive perfectionists and extreme nonperfectionists. Relatedly, maladaptive perfectionists in the nonclinical sample reported significantly higher levels of self-as-content than adaptive perfectionists and moderate nonperfectionists, and significantly higher levels of fusion than all of the other classes. These

two processes seem central to the experience of maladaptive perfectionists as self-as-content is related to an over identification with thoughts about oneself (i.e., self-evaluation; Hayes, et al., 2012a) and fusion is related to the degree to which a person takes their thoughts to be literal (i.e., negative self-critique; Moroz & Dunkley, 2019). A number of authors (e.g., Hamachek, 1978; Moroz & Dunkley, 2019; Sherry, et al., 2018) note that maladaptive perfectionists may be fused with their thoughts of negative self-evaluation and views of themselves as incapable, never doing enough, or flawed. In addition, research results suggest that maladaptive perfectionists seem to become stuck in the self-critical content of their thoughts (Stoeber, Hutchfield, & Wood, 2008) and pay more attention to negative information related to perfectionism than positive information (Howell, et al., 2016). Thus, they are likely to ruminate (e.g., Olson & Kwon, 2008; Xie, Kong, Yang, Chen, 2019) and become fused with, and dominated by, the self-critical content about their inadequacy and perceived failures (e.g., Blatt, 1995; Rice, et al., 2012; Stoeber & Otto, 2006). Additionally, maladaptive perfectionists are reported to have an intense fear of failure and view themselves according to their accomplishments and failures (e.g., Burns, 1980; Flett, Hewitt, Nepon, & Besser, 2018; Sagar & Stoeber, 2009; Mackinnon, Sherry, & Pratt, 2013), and by a perceived inability to reach individually set exceptionally high standards (e.g., Moroz & Dunkley, 2015; Flett, et al., 2003).

The maladaptive perfectionists in the clinical sample were similar to the moderate nonperfectionists (also with elevated perfectionistic concerns) on the processes of self-as-content and fusion. Furthermore, the maladaptive perfectionists in the nonclinical sample were similar to the extreme nonperfectionists (also with elevated perfectionistic concerns) on the process of self-as-content. One possible consideration regarding the similarities between these groups on these psychological inflexibility processes is, as noted above, the elevated level of perfectionistic

concerns across these classes. These findings offer support for the detrimental impact of excessive self-critical evaluation (e.g., Kannan & Levitt, 2013) demonstrated in the perfectionistic concerns dimension of perfectionism which differentiates adaptive and maladaptive perfectionists (e.g., Stoeber & Otto, 2006).

In addition to the processes of inflexibility described above, the maladaptive perfectionist class in the nonclinical sample reported significantly higher levels of overall psychological inflexibility, lack of present moment contact, disconnection from values, and inaction than the adaptive perfectionists and moderate nonperfectionists. Although these processes have not been specifically examined in relationship to perfectionistic strivings and perfectionistic concerns, studies related to these constructs provide results consistent with the results of this study. For example, the results of the current study indicated that maladaptive perfectionists may not pay mindful attention moment by moment (i.e., lack of present moment contact) and could likely benefit from mindfulness practices, especially as Short and Mazmanian (2013) found that mindfulness mediates the relationship between socially prescribed perfectionism and psychological distress, and Argus and Thomson (2008) found that mindful awareness is associated with less severe depressive symptoms. Additionally, the maladaptive perfectionist likely makes decisions in accordance with perceived “shoulds” (Horney, 1950) and does not identify personal values beyond their internalized standards of performance. Smith et al. (2018) suggested that the maladaptive perfectionists’ drive to meet the expectations of others places them at risk for depression.

The finding in this study of higher levels of the psychological inflexibility process of inaction among maladaptive perfectionists is consistent with the results of research examining perfectionism and coping. For instance, research has consistently demonstrated that maladaptive

perfectionists utilize more avoidant and less active coping strategies than adaptive perfectionists (e.g., Ashby & Gnilka, 2017; Dunkley, et al., 2003; Dunkley, et al., 2016; Dunkley, Sanislow, Grilo, & McGlashan, 2006; Gnilka, et al., 2012; Vanstone & Hicks, 2019). These styles of coping may be another manifestation of the maladaptive perfectionist's broader process of avoidance and inaction (e.g., Moroz & Dunkley, 2019).

This study has several limitations to note. Although it included both clinical and nonclinical samples, all the participants were university students. Thus, the results may be limited in generalizability to university populations. Furthermore, participants may have been from diverse backgrounds, however, most were enrolled in universities in the southeast United States. Additionally, the data used for analysis is based on a single collection time. Future research could extend this study to include multiple time points of evaluation independent of, or in conjunction with, ACT interventions. Such longitudinal studies would potentially advance the understanding of classes of perfectionists, potential change in psychological flexibility or inflexibility, and the impact of ACT interventions.

ACT is a useful model for intervention to help increase psychological flexibility and decrease psychological inflexibility (e.g., Hayes, et al., 2013). The results of this study suggest that the ACT constructs of psychological flexibility and inflexibility may be an effective frame through which to conceptualize multidimensional perfectionism. In addition, using ACT to conceptualize perfectionism offers a wide range of interventions to change emotional, cognitive, and behavioral responses to the maladaptive aspects of self-critical perfectionism. As suggested in this study, perfectionism may not be the desired target of therapeutic intervention as it appears that adaptive perfectionists (e.g., strivings for high standards) are more psychologically flexible and less psychologically inflexible than maladaptive perfectionists and nonperfectionists. The

more appropriate focus of change might be the concerns related to fusion with pernicious self-criticism and a conceptualized view of self-defined by accomplishment or failures (e.g., Sagar & Stoeber, 2009).

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Table 2.1

Descriptive Statistics for Nonclinical and Clinical Samples

Measure	Sample					
	<i>M (SD)</i>	<i>Clinical</i>	α	<i>M (SD)</i>	<i>Nonclinical</i>	α
<u>SAPS</u>						
Standards	6.04 (1.26)		.82	6.13 (1.06)		.90
Discrepancy	4.66 (1.82)		.88	3.81 (1.75)		.84
<u>FMPS-Brief</u>						
Striving	3.81 (1.05)		.81	3.70 (0.99)		.82
Evaluative Concerns	3.21 (1.30)		.79	2.49 (1.21)		.80
<u>MPFI</u>						
Psychological Flexibility						
Acceptance	3.63 (1.26)		.95	4.10 (1.19)		.95
Present Moment Contact	3.33 (1.23)		.77	3.57 (1.25)		.80
Self as Context	3.95 (1.25)		.89	4.30 (1.15)		.91
Defusion	3.75 (1.30)		.89	4.29 (1.22)		.91
Values	2.85 (1.23)		.90	3.65 (1.24)		.92
Committed Action	4.04 (1.27)		.89	4.39 (1.16)		.90
Psychological Inflexibility						
Experiential Avoidance	3.89 (1.28)		.93	4.41 (1.14)		.89
Lack of Present Moment Contact	3.46 (1.44)		.95	2.78 (1.26)		.95
Self as Content	3.91 (1.38)		.92	3.84 (1.31)		.93
Fusion	3.09 (1.36)		.94	2.63 (1.23)		.90
Disconnect from Values	3.56 (1.57)		.94	2.72 (1.28)		.91
Inaction	3.87 (1.45)		.95	2.83 (1.34)		.95
	2.88 (1.40)		.93	2.36 (1.16)		.91
	3.46 (1.48)		.95	2.44 (1.24)		.94

Note. α = Cronbach's coefficient alpha.

Table 2.2

Measurement Invariance Models Comparing the Clinical and Nonclinical Samples on the Short Almost Perfect Scale and the Frost Multidimensional Perfectionism Scale-Brief

Measurement Invariance Models Comparing the Clinical and Nonclinical Samples for each measure

Short Almost Perfect Scale

Model	χ^2	df	$\Delta\chi^2$	Δ df	<i>p</i>	CFI	Δ CFI	MNCI	Δ MNCI	RMSEA	90% CI	SRMR
Configural	91.66	38				0.972		0.968		0.058	0.043, 0.074	0.044
Metric	127.78	44	33.54	44	<.0001	.957	-0.015	0.951	-0.017	0.068	0.054, 0.081	0.081
Partial Metric	93.782	42	3.25	4	0.5166	0.973	0.001	0.969	0.001	0.054	0.040, 0.069	0.048
Scalar	124.28	48	32.10	6	<.0001	0.969	-0.012	0.955	-0.014	0.062	0.049, 0.075	0.058

Frost Multidimensional Perfectionism Scale-Brief

Model	χ^2	df	$\Delta\chi^2$	Δ df	<i>p</i>	CFI	Δ CFI	MNCI	Δ MNCI	RMSEA	90% CI	SRMR
Configural	138.28	38				0.942		0.938		0.082	0.068, 0.097	0.049
Metric	150.21	44	11.46	6	0.075	0.938	-0.004	0.934	-0.004	0.079	0.065, 0.093	0.058
Scalar	183.55	50	34.10	6	<.0001	0.922	-0.012	0.955	-0.016	0.083	0.070, 0.096	0.066

Note. CFI = Comparative Fit Index. RMSEA = Root Mean Square Error of Approximation. 90% CI = confidence interval for RMSEA. SRMR = Standardized Root Mean Square Residual. MNCI = McDonald's Noncentrality Index. $\Delta\chi^2$ based on the Yuan-Bentler scaling correction.

Table 2.3

Measurement Invariance Models Comparing the Clinical and Nonclinical Samples on the Multidimensional Psychological Flexibility Scale; Psychological Flexibility Composite and the Psychological Inflexibility Composite

Multidimensional Psychological Flexibility Scale; Psychological Flexibility Composite

Model	χ^2	df	$\Delta\chi^2$	Δ df	<i>p</i>	CFI	Δ CFI	MNCI	Δ MNCI	RMSEA	90% CI	SRMR
Configural	1679.48	780				0.930		0.563		0.054	0.051, 0.058	0.053
Metric	1707.02	804	21.01	24	0.6380	0.929	-0.001	0.562	-0.001	0.054	0.050, 0.057	0.054
Scalar	1777.78	828	34.10	6	<.0001	0.926	-0.003	0.546	-0.017	0.054	0.051, 0.058	0.055

Multidimensional Psychological Flexibility Scale; Psychological Inflexibility Composite

Model	χ^2	df	$\Delta\chi^2$	Δ df	<i>p</i>	CFI	Δ CFI	MNCI	Δ MNCI	RMSEA	90% CI	SRMR
Configural	1707.66	780				0.944		0.553		0.055	0.052, 0.059	0.047
Metric	1747.42	804	36.58	24	0.0482	0.939	-0.005	0.548	-0.006	0.055	0.051, 0.058	0.048
Scalar	1825.41	828	82.13	24	<.0001	0.940	0.001	0.529	-0.019	0.055	0.052, 0.059	0.049

Note. CFI = Comparative Fit Index. RMSEA = Root Mean Square Error of Approximation. 90% CI = confidence interval for RMSEA. SRMR = Standardized Root Mean Square Residual. MNCI = McDonald's Noncentrality Index. $\Delta\chi^2$ based on the Yuan-Bentler scaling correction.

Table 2.4
Fit Results from Latent Profile Analyses

Sample	k	LL	#fp	CAIC	BIC	SABIC	Entropy	LMR <i>p</i>	BLRT <i>p</i>
Clinical									
	1	-1,937.07	8	3,890.55	3,921.25	3895.87			
	2	-1,746.73	13	3,520.51	3,570.02	3528.78	0.875	<.0001	<.0001
	3	-1,649.47	18	3,336.94	3,404.94	3347.83	0.880	.1257	<.0001
	4	-1,577.87	23	3,205.01	3,291.18	3218.21	0.859	.2023	<.0001
	5	-1,496.51	28	3,053.91	3,157.90	3069.07	0.882	.0707	<.0001
	6	-1,452.81	33	2,978.47	3,099.94	2995.25	0.906	.1228	<.0001
Nonclinical									
	1	-2,539.63	8	5,095.56	5,128.51	5103.12			
	2	-2355.735	13	4,738.26	4791.51	4750.25	0.810	<.0001	<.0001
	3	-2,250.05	18	4,537.61	4,610.92	4553.79	0.818	.0857	<.0001
	4	-2,193.96	23	4,436.38	4,529.53	4456.53	0.819	.5378	<.0001
	5	-2,127.29	28	4,314.24	4,426.97	4338.11	0.822	.0661	<.0001
	6	-2,078.74	33	4,228.59	4,360.65	4255.91	0.821	.3688	<.0001

Note. Bolded models represent the optimal number of latent classes based on nonsignificant LMR, CAIC, BIC, SABIC, and interpretability of the contender models. LL = model log likelihood; #fp = number of free parameters; CAIC = Consistent Akaike Information Criterion; BIC = Bayesian Information Criterion; SABIC = sample-size adjusted BIC; LMR = Lo, Mendell, and Rubin likelihood ratio test; BLRT = bootstrap likelihood ratio test.

Table 2.5
Differences Between Latent Profiles on MPFI Subscales (Auxiliary Analyses) Clinical Sample

Auxiliary Variables	Adaptive Perfectionists M (SE)	Maladaptive Perfectionists M (SE)	Moderate Non-Perfectionists M (SE)	Extreme Non-Perfectionists M (SE)
<i>Psychological Flexibility</i>	4.10 (0.07) ^{MP, MNP, ENP}	3.69 (0.08) ^{AP, MNP, ENP}	3.16 (0.09) ^{AP, MP}	3.22 (0.16) ^{AP, MP}
<i>Acceptance</i>	3.52 (0.09) ^{MNP}	3.35 (0.10)	3.07 (0.12) ^{AP}	3.22 (0.26)
<i>Present Moment Contact</i>	4.37 (0.10) ^{MP, MNP, ENP}	3.93 (0.10) ^{AP, MNP}	3.54 (0.12) ^{AP, MP}	3.56 (0.23) ^{AP}
<i>Self-as-Context</i>	4.33 (0.12) ^{MP, MNP, ENP}	3.66 (0.11) ^{AP, MNP}	3.26 (0.13) ^{AP, MP}	3.25 (0.42) ^{AP}
<i>Defusion</i>	3.37 (0.13) ^{MP, MNP, ENP}	2.66 (0.12) ^{AP,}	2.49 (0.18) ^{AP}	2.67 (0.19) ^{AP}
<i>Values</i>	4.59 (0.09) ^{MP, MNP, ENP}	4.12 (0.10) ^{AP, MNP, ENP}	3.40 (0.13) ^{AP, MP}	3.38 (0.18) ^{AP, MP}
<i>Committed Action</i>	4.48 (0.11) ^{MP, MNP, ENP}	3.97 (0.10) ^{AP, MNP, ENP}	3.18 (0.12) ^{AP, MP}	3.20 (0.23) ^{AP, MP}
<i>Psychological Inflexibility</i>	2.93 (0.10) ^{MP, MNP, ENP}	3.73 (0.90) ^{AP}	3.79 (0.10) ^{AP}	3.44 (0.16) ^{AP}
<i>Experiential Avoidance</i>	3.96 (0.13)	3.99 (0.13)	3.76 (0.16)	3.76 (0.19)
<i>Lack of Present Moment</i>	2.63 (0.12) ^{MP, MNP, ENP}	3.20 (0.13) ^{AP}	3.48 (0.15) ^{AP}	3.23 (0.28) ^{AP}
<i>Self-as-Content</i>	3.87 (0.16) ^{MP, MNP}	4.04 (0.14) ^{AP, ENP}	3.91 (0.17) ^{AP, ENP}	3.12 (0.22) ^{MP, MNP}
<i>Fusion</i>	3.22 (0.15) ^{MP, MNP}	4.34 (0.14) ^{AP, ENP}	4.15 (0.16) ^{AP, ENP}	3.53 (0.21) ^{MP, MNP}
<i>Disconnect from Values</i>	2.02 (0.10) ^{MP, MNP, ENP}	3.12 (0.13) ^{AP}	3.48 (0.15) ^{AP}	3.24 (0.10) ^{AP}
<i>Inaction</i>	2.62 (0.14) ^{MP, MNP, ENP}	3.71 (0.14) ^{AP}	4.09 (0.15) ^{AP}	3.77 (0.25) ^{AP}

Note: In each column, superscripts indicate significant differences between latent classes on MPFI subscale means ($p < .05$) based on Wald chi-square tests. AP = adaptive perfectionist class; MP = maladaptive perfectionist class; MNP = moderate nonperfectionist; ENP = Extreme nonperfectionist class. MPFI subscale item scores range from 1-6 with higher scores indicating higher levels of characteristics.

Table 2.6
Differences Between Latent Profiles on MPFI Subscales (Auxiliary Analyses) Nonclinical Sample

Auxiliary Variables	Adaptive Perfectionists M (SE)	Maladaptive Perfectionists M (SE)	Moderate Non-perfectionists M (SE)	Extreme Non-Perfectionists M (SE)
<i>Psychological Flexibility</i>	4.56 (0.06) ^{MP, MNP, ENP}	3.80 (0.07) ^{AP, ENP}	3.76 (0.08) ^{AP}	3.39 (0.17) ^{AP, MP}
<i>Acceptance</i>	3.75 (0.07) ^{MNP, ENP}	3.52 (0.091)	3.35 (0.11) ^{AP}	3.26 (0.15) ^{AP}
<i>Present Moment Contact</i>	4.76 (0.07) ^{MP, MNP, ENP}	4.08 (0.10) ^{AP}	3.80 (0.11) ^{AP}	3.85 (0.23) ^{AP}
<i>Self-as-Context</i>	4.81(0.08) ^{MP, MNP, ENP}	3.95 (0.10) ^{AP, ENP}	3.96 (0.10) ^{AP, ENP}	3.29(0.23) ^{AP, MP, MNP}
<i>Defusion</i>	4.16 (0.08) ^{MP, MNP, ENP}	3.17 (0.10) ^{AP}	3.45 (0.10) ^{AP, ENP}	2.90 (0.24) ^{AP, MNP}
<i>Values</i>	4.93 (0.70) ^{MP, MNP, ENP}	3.03 (0.09) ^{AP}	3.97 (0.10) ^{AP}	3.55 (0.24) ^{AP}
<i>Committed Action</i>	4.97 (0.07) ^{MP, MNP, ENP}	4.02 (0.08) ^{AP, ENP}	3.02 (0.09) ^{AP, ENP}	3.52 (0.23) ^{AP, MP, MNP}
<i>Psychological Inflexibility</i>	2.36 (0.08) ^{MP, MNP, ENP}	3.42 (0.07) ^{AP, MNP}	2.77 (0.08) ^{AP, MP}	3.07 (0.17) ^{AP}
<i>Experiential Avoidance</i>	3.84 (0.10) ^{ENP}	4.03 (0.11) ^{ENP}	3.74 (0.11)	3.25 (0.27) ^{AP, MP}
<i>Lack of Present Moment</i>	2.13 (0.11) ^{MP, MNP, ENP}	3.24 (0.11) ^{AP, MNP}	2.67 (0.16) ^{AP, MP}	2.99 (0.16) ^{AP}
<i>Self-as-Content</i>	2.26 (0.12) ^{MP, MNP, ENP}	3.36 (0.12) ^{AP, MNP}	2.70 (0.12) ^{AP, MP}	3.01 (0.26) ^{AP}
<i>Fusion</i>	2.14 (0.08) ^{MP, MNP, ENP}	3.82 (0.11) ^{AP, MNP, ENP}	2.72 (0.22) ^{AP, MP}	3.17 (0.29) ^{AP, MP}
<i>Disconnect from Values</i>	1.77 (0.10) ^{MP, MNP, ENP}	3.02 (0.09) ^{AP, MNP}	2.44 (0.10) ^{AP, MP}	2.84 (0.24) ^{AP}
<i>Inaction</i>	1.80 (0.10) ^{MP, MNP, ENP}	3.24 (0.10) ^{AP, MNP}	2.45 (0.12) ^{AP, MP}	3.13 (0.32) ^{AP}

Note: In each column, superscripts indicate significant differences between latent classes on MPFI subscale means ($p < .05$) based on Wald chi-square tests. AP = adaptive perfectionist class; MP = maladaptive perfectionist class; MNP = moderate nonperfectionist class; ENP = extreme nonperfectionist class. MPFI subscale item scores range from 1-6 with higher scores indicating higher levels of characteristics

Figure 2.1
Elbow Plot of LPA Perfectionism Class Fit Indexes Clinical Sample

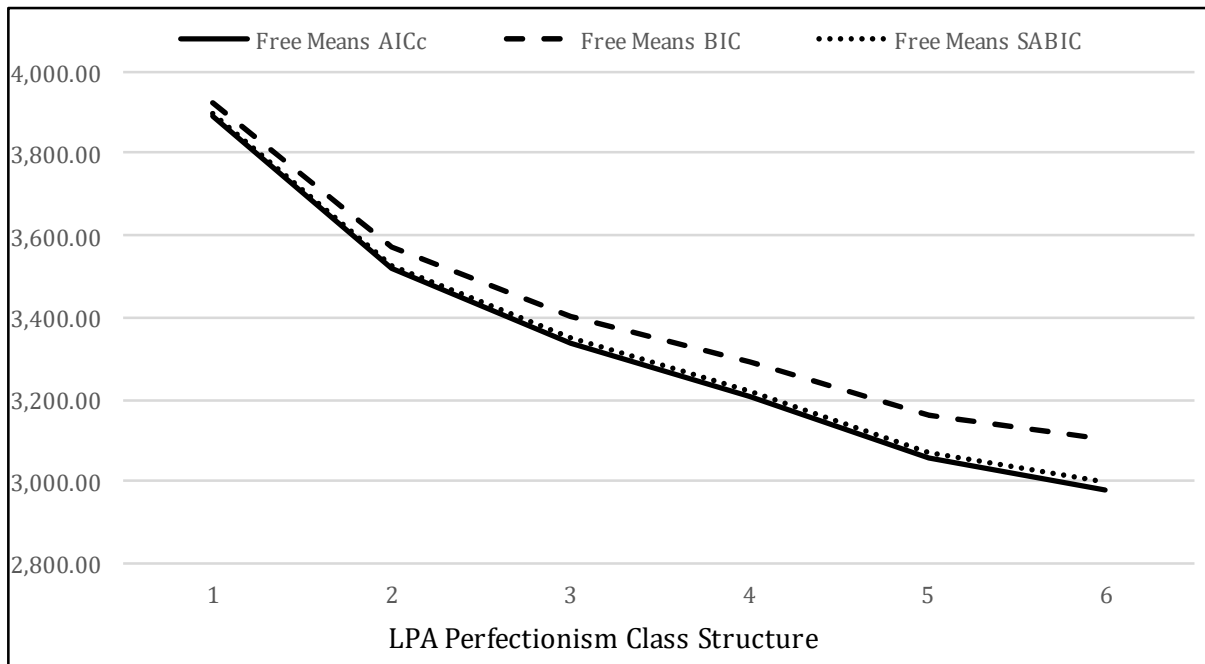


Figure 2.2
Elbow Plot of LPA Perfectionism Class Fit Indexes Nonclinical Sample

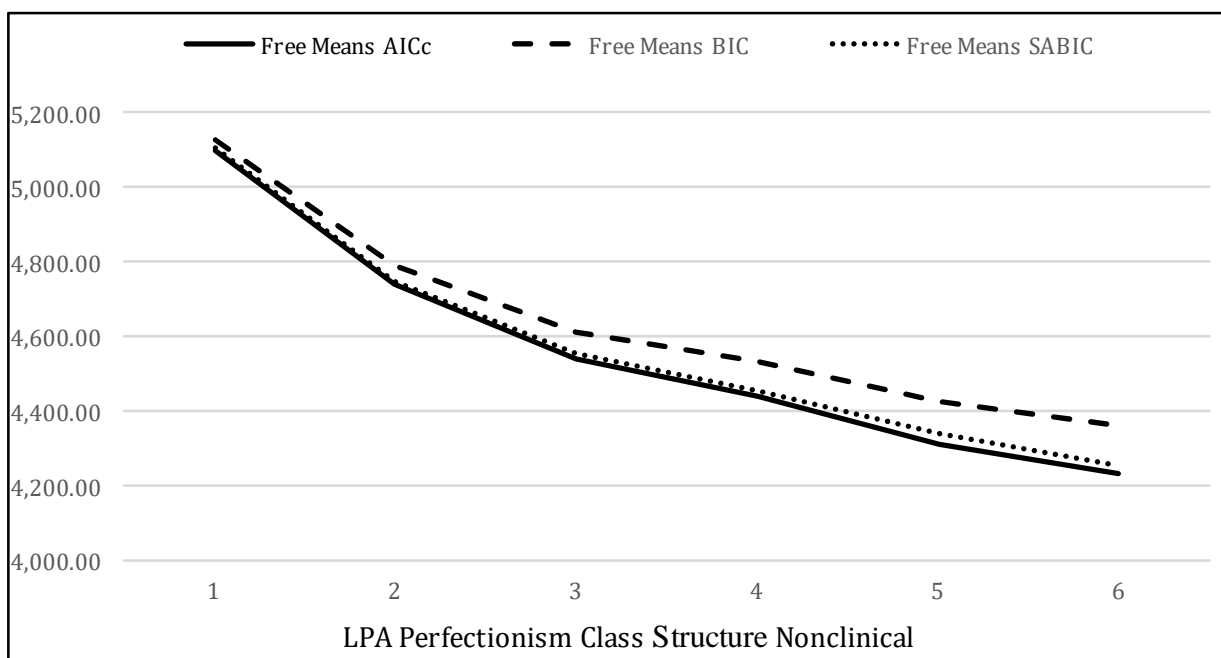


Figure 2.3

Differences between most likely class membership on perfectionistic striving and perfectionistic concerns factor scores for clinical sample.

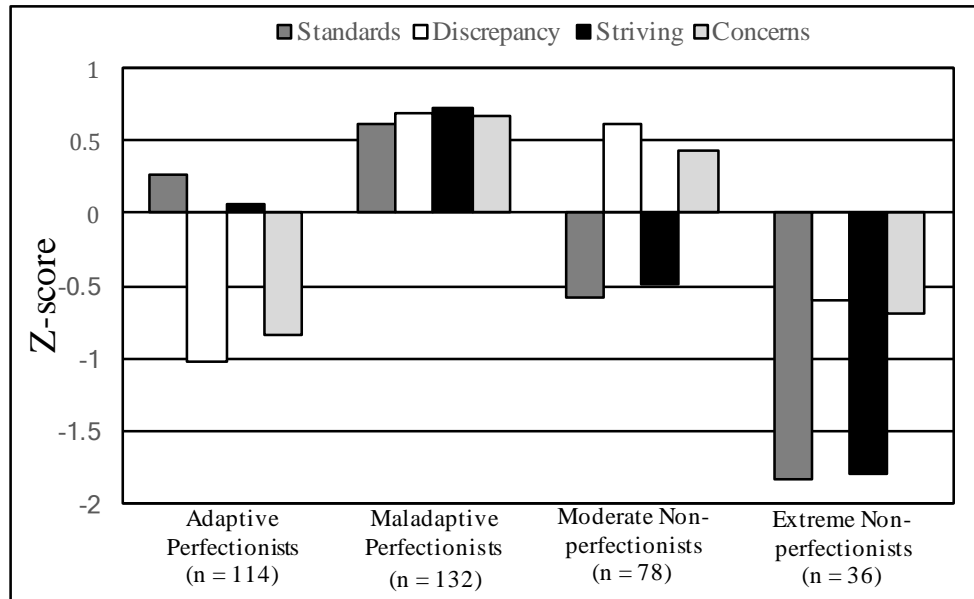
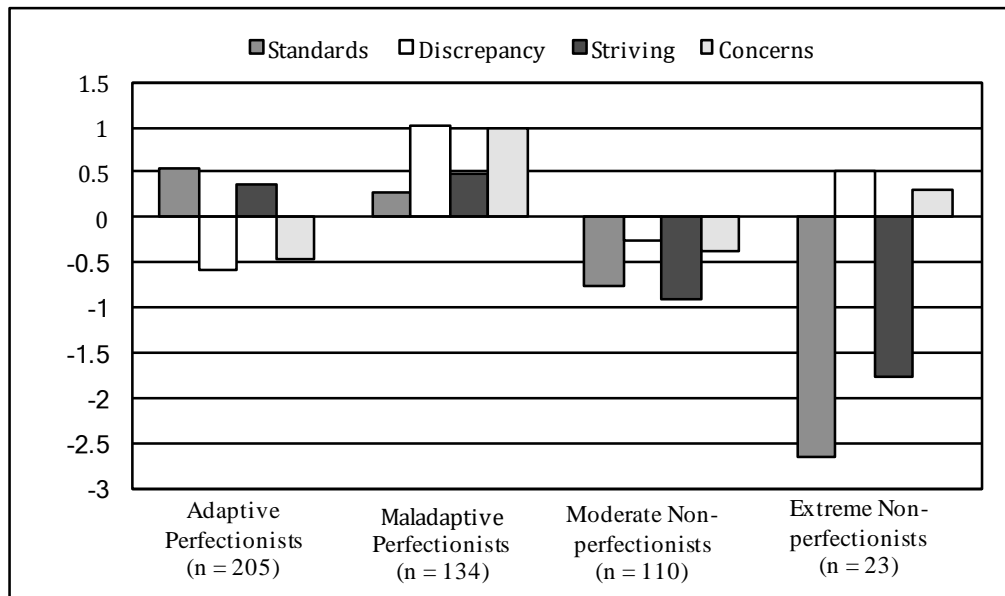


Figure 2.4

Differences between most likely class membership on perfectionistic striving and perfectionistic concerns factor scores for nonclinical sample.



APPENDICES**Appendix A**Demographic Survey

What is your age? _____

What is your gender?

Male

Female

Trans-Female

Trans-Male

Other _____

What is your sexual orientation?

Heterosexual

Gay

Lesbian

Bisexual

Pansexual

Asexual

Other _____

What is your academic status?

Freshman

Sophomore

Junior

Senior

Graduate Student

How do you identify your race? You can provide a description.

Asian or Asian-American _____

Black, African-American _____

Hispanic, Latino, Mexican-American _____

Pacific Islander _____

Native American or American Indian _____

White, European American _____

Multicultural Mixed Race _____

Other, please specify _____

The following questions refer to counseling given by a trained clinician, such as a psychologist, counselor, or social worker. This does NOT include counseling received from a religious figure, family member, or friend.

Are you currently receiving counseling services? This refers to any meeting in a counseling center (or similar setting) whether it be a one-time initial meeting or ongoing services

Yes

No

In what type of counseling services are you participating (select all that apply)?

Individual Counseling

Group Counseling

Other_____

How long (in months) have you been in counseling?

What is the estimated number of sessions you have attended?

What is the primary reason for seeking counseling services?

Appendix B

SAPS (Short Almost Perfect Scale)

Rice, Richardson, & Tueller, 2014

The following items are designed to measure certain attitudes people have toward themselves, their performance, and toward others. It is important that your answers be true and accurate for you. In the space next to the statement, please enter a number from "1" (strongly disagree) to "7" (strongly agree) to describe your degree of agreement with each item.

STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
1	2	3	4	5	6	7

- _____ 1. I have high expectations for myself.
- _____ 2. Doing my best never seems to be enough.
- _____ 3. I set very high standards for myself.
- _____ 4. I often feel disappointment after completing a task because I know I could have done better.
- _____ 5. I have a strong need to strive for excellence.
- _____ 6. My performance rarely measures up to my standards.
- _____ 7. I expect the best from myself.
- _____ 8. I am hardly ever satisfied with my performance.

Citation:

Rice, K. G., Richardson, C. M., & Tueller, S. (2014). The Short Form of the Revised Almost Perfect Scale. *Journal of Personality Assessment*, 96, 368-379.
doi:10.1080/00223891.2013.838172

Appendix C

F-MPS-Brief (Frost Multidimensional Perfectionism Scale – Brief)

Burgess, Frost, & DiBartolo, 2016

Please answer the following questions in relation to how much they apply to you. Do not spend too much time on any one question.

Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
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- _____ 1. If I fail at work/school, I am a failure as a person.
- _____ 2. I set higher goals for myself than most people.
- _____ 3. If someone does a task at work/school better than me, then I feel like I failed at the whole task.
- _____ 4. I have extremely high goals.
- _____ 5. Other people seem to accept lower standards from themselves than I do.
- _____ 6. If I do not do well all the time, people will not respect me.
- _____ 7. I expect higher performance in my daily tasks than most people.
- _____ 8. The fewer mistakes I make, the more people will like me.

Citation:

Burgess, A.M., Frost, R.O., & DiBartolo, P.M. (2016). Development and Validation of the Frost Multidimensional Perfectionism Scale–Brief. *Journal of Psychoeducational Assessment* 34(7), 620–633. doi:10.1177/0734282916651359

Appendix D
Multidimensional Psychological Flexibility Inventory (MPFI)

Never True	Rarely True	Occasionally True	Often True	Very Often True	Always True
Flexibility Subscales					
Acceptance			Defusion		
In the last two weeks.....			In the last two weeks.....		
I was receptive to observing unpleasant thoughts and feelings without interfering with them			I was able to let negative feelings come and go without getting caught up in them		
I tried to make peace with my negative thoughts and feelings rather than resisting them			When I was upset, I was able to let those negative feelings pass through me without clinging to them		
I made room to fully experience negative thoughts and emotions, breathing them in rather than pushing them away			When I was scared or afraid, I was able to gently experience those feelings, allowing them to pass		
When I had an upsetting thought or emotion, I tried to give it space rather than ignoring it			I was able to step back and notice negative thoughts and feelings without reacting to them		
I opened myself to all of my feelings, the good and the bad			In tough situations, I was able to notice my thoughts and feelings without getting overwhelmed by them		
Present Moment Awareness			Values		
In the last two weeks.....			In the last two weeks.....		
I was attentive and aware of my emotions			I was very in-touch with what is important to me and my life		
I was in tune with my thoughts and feelings from moment to moment			I stuck to my deeper priorities in life		
I paid close attention to what I was thinking and feeling			I tried to connect with what is truly important to me on a daily basis		
I was in touch with the ebb and flow of my thoughts and feelings			Even when it meant making tough choices, I still tried to prioritize the things that were important to me		
I strived to remain mindful and aware of my own thoughts and emotions			My deeper values consistently gave direction to my life		
Self As Context			Committed Action		
In the last two weeks.....			In the last two weeks.....		
Even when I felt hurt or upset, I tried to maintain a broader perspective			Even when I stumbled in my efforts, I didn't quit working toward what is important		
I carried myself through tough moments by seeing my life from a larger viewpoint			Even when times got tough, I was still able to take steps toward what I value in life		
I tried to keep perspective even when life knocked me down			Even when life got stressful and hectic, I still worked toward things that were important to me		
When I was scared or afraid, I still tried to see the larger picture			I didn't let set-backs slow me down in taking action toward what I really want in life		
When something painful happened, I tried to take a balanced view of the situation			I didn't let my own fears and doubts get in the way of taking action toward my goals		

Never True	Rarely True	Occasionally True	Often True	Very Often True	Always True
Inflexibility Subscales					
Experiential Avoidance			Fusion		
In the last two weeks.....			In the last two weeks.....		
When I had a bad memory, I tried to distract myself to make it go away			Negative thoughts and feelings tended to stick with me for a long time.		
I tried to distract myself when I felt unpleasant emotions			Distressing thoughts tended to spin around in my mind like a broken record.		
When unpleasant memories came to me, I tried to put them out of my mind			It was very easy to get trapped into unwanted thoughts and feelings.		
When something upsetting came up, I tried very hard to stop thinking about it			When I had negative thoughts or feelings it was very hard to see past them.		
If there was something I didn't want to think about, I would try many things to get it out of my mind			When something bad happened it was hard for me to stop thinking about it.		
Lack of Contact with the Present Moment			Lack of Contact with Values		
In the last two weeks.....			In the last two weeks.....		
I did most things on "automatic" with little awareness of what I was doing.			My priorities and values often fell by the wayside in my day to day life		
I did most things mindlessly without paying much attention.			When life got hectic, I often lost touch with the things I value		
I went through most days on auto-pilot without paying much attention to what I was thinking or feeling			The things that I value the most often fell off my priority list completely		
I floated through most days without paying much attention.			I didn't usually have time to focus on the things that are really important to me		
Most of the time I was just going through the motions without paying much attention			When times got tough, it was easy to forget about what I truly value		
Self as Content			Inaction		
In the last two weeks.....			In the last two weeks.....		
I thought some of my emotions were bad or inappropriate and I shouldn't feel them			Negative feelings often trapped me in inaction		
I criticized myself for having irrational or inappropriate emotions			Negative feelings easily stalled out my plans		
I believed some of my thoughts are abnormal or bad and I shouldn't think that way			Getting upset left me stuck and inactive		
I told myself that I shouldn't be feeling the way I'm feeling			Negative experiences derailed me from what's really important		
I told myself I shouldn't be thinking the way I was thinking			Unpleasant thoughts and feelings easily overwhelmed my efforts to deepen my life		

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Citation:

Rolffs, J.L., Rogge, R.D., & Wilson, K.G. (2016). Disentangling components of flexibility via the hexaflex model: Development and validation of the Multidimensional Psychological Flexibility Inventory (MPFI). *Assessment*, 1-25.
doi:10.1177/1073191116645905