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The Perfectionism-Psychological Outcome Link: The Mediating Effect of Personal Resiliency

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ABSTRACT

Perfectionism is a multidimensional personality trait encompassing two higher-order dimensions: perfectionistic strivings and perfectionistic concerns. People high in perfectionistic strivings rigidly and ceaselessly demand perfection of the self and hold unrealistically high personal standards. People high in perfectionistic concerns have overly negative reactions to perceived failures, nagging self-doubts, and excessive concerns over other's expectations. Research suggests perfectionistic strivings are predominantly associated with positive psychological outcomes, whereas perfectionistic concerns are predominantly associated with negative psychological outcomes. Theory suggests differences in personal resiliency may account for the divergent psychological outcomes associated with perfectionistic strivings and perfectionistic concerns. However, this contention has yet to be tested. It is currently unclear which perfectionism dimensions, if any, are uniquely associated with personal resiliency. The present study addresses this gap in knowledge. Perfectionistic strivings and perfectionistic concerns were hypothesized to correlate significantly with personal resiliency. In addition, personal resiliency was hypothesized to mediate the link between perfectionism dimensions and psychological outcomes. A sample of 425 undergraduates completed measures of perfectionistic strivings, perfectionistic concerns, personal resiliency, negative emotionality, positive affect, negative affect, life satisfaction, and coping strategies. All hypotheses were supported. Personal resiliency appears to mediate the relationship between perfectionism dimensions and both positive and negative psychological outcomes.

Keywords: perfectionism, personal resiliency, coping strategies, neuroticism.

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CHAPTER ONE: INTRODUCTION AND LITERATURE REVIEW

1. Introduction

Perfectionism refers to a propensity to strive for flawlessness, set excessively high standards, and experience disappointment or dissatisfaction with anything falling short of perfection (Hewitt & Flett, 1991; Frost et al., 1990; Stoeber, 2012). Traditionally, perfectionism was conceptualized as a one-dimensional personality trait indicative of psychopathology and neurosis (e.g., Burns, 1980; Horney, 1951; Missildine, 1963; Pacht, 1984). Past research using one-dimensional measures of perfectionism (e.g., Garner et al., 1983) support this contention. Perfectionism was found to be associated with depression, anxiety disorders, eating disorders, and obsessive-compulsive disorder (e.g., Ranieri et al., 1987; Rosen et al., 1989; Thompson et al., 1987). However, since the beginning of the 1990s, theory and evidence have converged to suggest perfectionism is a multidimensional, as opposed to a one-dimensional, personality trait not solely associated with adverse psychological outcomes (Aldea & Rice, 2006; Blankstein et al., 2008; Chang et al., 2000; Dunkley et al., 2000; Dunkley et al., 2006; Dunkley et al., 2012; Enns & Cox., 2002; Hill et al., 2010; Martin & Ashby, 2004; Mills & Blankstein, 2000; Sherry et al., 2013a; Slaney et al., 2002; Stoeber & Kersling, 2007; Stoeber & Otto, 2006; Stoeber et al., 2008; Stoeber et al., 2012).

Currently there is a broad consensus on two higher-order dimensions of perfectionism: perfectionistic strivings and perfectionistic concerns (e.g., Cox et al., 2002; Dunkley et al., 2000; Dunkley et al., 2012; Graham et al., 2010; Haase et al., 2013; Mackinnon & Sherry, 2012; McGrath et al., 2012; Stoeber & Otto, 2006; Stoeber & Stoeber, 2009). Individuals with high perfectionistic strivings rigidly and ceaselessly

demand perfection of the self and hold unrealistically high personal standards (Graham et al., 2010; Mackinnon & Sherry, 2012; Stoeber & Otto, 2006). In addition, individuals with high perfectionistic strivings describe themselves as living fast paced lives, working tirelessly towards goals, striving for superiority, and being forceful, dominant, and socially ascendant (Dunkley et al., 2012). Individuals with high perfectionistic concerns have overly negative reactions to perceived failures, excessive concerns over other's criticisms and expectations, and nagging self-doubts (Dunkely, 2003; Mackinnon & Sherry, 2012; McGrath, 2012). Furthermore, persons with high perfectionistic concerns describe themselves as easily discouraged, eager to quit, unprepared, inept, cynical, lonely, sad, hopeless, and prone to anger and frustration (Dunkley et al., 2012). Finally, despite evidence that perfectionistic strivings and perfectionistic concerns correlate moderately and positively (r = .45 to .60; Stoeber & Otto, 2006) research indicates perfectionistic strivings and perfectionistic concerns exhibit divergent patterns of association with various positive and negative psychological outcomes (Dunkley et al., 2012; Stoeber et al., 2006; Stoeber, 2012b).

Although research has attempted to account for this discrepancy by investigating potential mediators (e.g., coping strategies; Dunkley et al., 2000) there is still much to be learned. Specifically, despite evidence that personal resiliency is an important predictor of both positive and negative psychological outcomes (Masten, 2001; Prince-Embury, 2007; Saklofske et al., 2013), research into the perfectionism-psychological outcome link has yet to address the role of personal resiliency. Specifically, evidence suggests personal resiliency accounts for individual differences in coping strategies, sense of mastery, sense of relatedness, and emotional reactivity (Prince-Embury, 2007). Research also indicates

that individuals with high perfectionistic strivings tend to utilize adaptive coping strategies (Dunkley et al., 2000), have a strong sense of mastery (Aldea & Rice, 2006), a good sense of relatedness (Blankstein & Dunkley, 2002), and low emotional reactivity (Aldea & Rice, 2006). Thus, past research suggests perfectionistic strivings have a positive association with personal resiliency. In contrast, individuals with high perfectionistic concerns tend to engage in maladaptive coping (Dunkley et al., 2000), have a poor sense of mastery (Aldea & Rice, 2006; Dunkley et al., 2000), a poor sense of relatedness (Dunkley et al., 2000; Sherry et al., 2008; Sherry et al., 2013a), and high emotional reactivity (Aldea & Rice, 2006). Thus, past research suggests perfectionistic concerns have a negative association with personal resiliency. Given that past research suggests perfectionism dimensions are associated with personal resiliency and given the strong link between personal resiliency and psychological outcomes it seems likely that personal resiliency mediates the link between perfectionism dimensions and psychological outcomes. That is, the link between perfectionistic strivings and positive psychological outcomes (e.g., high satisfaction with life) may be accounted for by adequate personal resiliency, whereas the link between perfectionistic concerns and negative psychological outcomes (e.g., low satisfaction with life) may be accounted for by a deficit in personal resiliency. However, this contention has yet to be tested. The current study addresses this gap in knowledge.

1.1. Perfectionism and psychological outcomes

Perfectionistic strivings are primarily associated with positive characteristics (Stoeber & Otto, 2006). Specifically, research suggests perfectionistic strivings are associated with higher extraversion, conscientiousness, agreeableness, positive affect,

satisfaction with life, self-esteem, self-efficacy, self-actualization, social adjustment, resourcefulness, motivation, perceived control, academic adaptation, achievement striving, test performance, positive appraisal of personal projects, altruistic social attitudes, perceived social support and physical health, and lower attachment avoidance, attachment anxiety, depression, self-blame, perceived hassles, procrastination, suicidal ideation, and interpersonal problems (Blankstein & Dunkley, 2002; Dunkley et al., 2000; Dunkley et al., 2012; Molnar et al., 2006., Stoeber et al., 2008; Stoeber & Kersling, 2007; Stoeber & Otto, 2006). Despite this, it is important to note that while perfectionistic strivings are *primarily* associated with positive characteristics, perfectionistic strivings are not *solely* associated with positive characteristics. For example, perfectionistic strivings are also associated with obsessive-compulsions and narcissism (Blankstein & Dunkley, 2002; Hill et al., 2004; Martin & Ashby, 2004; Rheaume et al., 2000).

In contrast, research has consistently found perfectionistic concerns to be robustly related to negative psychological outcomes (e.g., Stoeber & Otto, 2006). Specifically, research indicates perfectionistic concerns are associated with higher neuroticism, negative affect, loneliness, self-criticism, self- and other-blame, paranoia, procrastination, over-generalization of failures, evaluative concerns, hopelessness, suicidal ideation, rumination, and interpersonal problems, as well as lower self-esteem, self-efficacy, self-confidence, satisfaction with life, perceived social support, help-seeking, trust, competence, and physical health (Aldea & Rice, 2006; Blankstein & Dunkley, 2002; Campbell & Paula, 2002; Chang, 2000; Dunkley et al., 2003; Dunkley et al., 2006; Dunkley et al., 2012; Flett, Hewitt, & De Rosa, 1996; Graham et al., 2010; Hill et al., 2010; Molnar et al., 2006; McGrath et al., 2012; Sherry et al., 2013a; Stoeber et al.,

2008). Furthermore, perfectionistic concerns have strong theoretical and empirical links with Axis I disorders such as depression, social phobias, obsessive-compulsive disorder, and eating disorders (e.g., Halmi et al., 2005, Shafran & Mansell, 2001; Sherry et al., 2013; Sherry & Hall., 2009). In addition, evidence suggests perfectionistic concerns are maintained and manifested via various insecure expressions such as intimacy avoidance, disengagement from decisions and actions, and suspiciousness (Dunkley et al., 2006; Dunkley et al., 2012).

The discrepancy between the positive psychological outcomes predominately associated with perfectionistic strivings (e.g., high satisfaction with life) and the negative psychological outcomes predominantly associated with perfectionistic concerns (e.g., low satisfaction with life) may be accounted for by differences in coping strategies (Dunkley et al., 2000; Blankstein & Dunkley, 2002). Specifically, Dunkley et al. (2000) found individuals with high perfectionistic concerns, compared to individuals with high perfectionistic strivings, more readily engage in maladaptive coping. According to Dunkley et al. (2000), this finding accounts for why individuals with high perfectionistic concerns, compared to individuals with high perfectionistic strivings, have difficulty coping with stressors of day-to-day life and are at risk for encountering negative psychological outcomes (Dunkley et al., 2000; Dunkley et al., 2003; Dunkley et al., 2006; Dunkley et al., 2012). However, Dunkley et al.'s (2000) neglects evidence that the efficacy of a coping strategy depends, in part, on situational factors, preferences, and personal resources (Zeidner & Saklofske, 1996).

1.2. Coping strategies and psychological outcomes

Coping strategies refer to cognitive and behavioural efforts to modulate internal and external demands appraised as exceeding personal resources (Endler & Parker, 1990; Lazarus & Fulkman, 1984). Over the past 30 years the relationship between coping strategies and psychological functioning has been a major area of research (Somerfield & McCrae, 2000; McWilliams et al., 2003). Specifically, evidence suggests certain coping strategies may alleviate stress, while others may exacerbate stress and subsequently promote negative psychological outcomes (Endler & Parker, 1994; Parker & Endler, 1992, Zeidner & Saklofske, 1996).

Theory and evidence suggests the majority of individuals use three types of coping strategies: task-oriented coping, emotion-oriented coping, and avoidance-oriented coping (Cohan et al., 2006; Endler & Parker, 1990). Task-oriented coping is characterized by strategies in which individuals attempt to reconceptualise or find solutions to perceived stressors. Research indicates task-oriented coping has a positive association with conscientiousness and negative associations with neuroticism and social loneliness (McWilliams et al., 2003; Zeidner & Saklofske, 1996). In contrast, emotion-oriented coping is characterized by strategies in which individuals attempt to regulate the emotional distress associated with a perceived stressor by engaging in conscious activities related to affect regulation (e.g., self-preoccupation; Parker & Endler, 1996). Evidence suggests emotion-oriented coping has a positive association with neuroticism (McWilliams et al., 2003). Finally, avoidance-oriented coping refers to strategies in which the individual engages in activities and/or cognitive changes in an attempt to avoid the distress associated with a perceived stressor (Endler et al., 1993). Research indicates

avoidance-oriented coping has a positive association with extraversion (McWilliams et al., 2003).

Despite this, whether a coping strategy is efficacious (i.e., facilitates healthy psychological functioning), is far from straightforward (Somerfield & McCrae, 2000). That is, the efficacy of a particular coping strategy is partially determined by the interaction of personal resources, preferences, and situational factors (Zeidner & Saklofske, 1996). Moreover, a coping strategy that is efficacious for one outcome may simultaneously detract from another (Zeidner & Saklofske, 1996). However, in general, when perceived stressors are appraised as changeable task-oriented coping is efficacious and associated with lower levels of psychopathology and higher levels of positive characteristics such as self-esteem, sense of mastery, and self-efficacy (Causey & Dubow, 1992; Sandler et al., 1997; Wills & Hirky, 1996). In contrast, the use of emotion oriented coping, in response to situations evaluated as controllable, tends to amplify distress and promote negative psychological outcomes such as negative emotionality (Endler et al., 1993; Endler & Parker, 1990; Flett et al., 1996; Lazarus, 1993; McWilliams et al., 2003). Furthermore, research suggests avoidance-oriented coping is often an appropriate initial response to an adverse circumstance, but over time is less efficacious than task-oriented coping (Avero et al., 2003; Endler, 1997). Moreover, evidence suggests the propensity to use a particular coping strategy in response to a particular situation is determined in part by personal resiliency (i.e., personal resources and vulnerabilities; Campbell-Sills et al., 2006; Kitano & Lewis, 2005). However, it is unclear if coping strategies advance our understanding of the divergent psychological

outcomes associated with perfectionism dimensions, beyond that accounted for by personal resiliency.

1.3. Personal resiliency and psychological outcomes

Personal resiliency refers to personal attributes that allow one to withstand, adapt, and recover from adverse events and circumstances (Bonanno, 2004; Prince-Embury, 2011). Traditionally, personal resiliency was conceptualized as a unique characteristic applicable only to remarkable individuals flourishing in the face of extreme adversity (Masten, 2001). Examples include Resnick and Laura's (1987) investigation into what differentiates 'resilient' adolescents with cerebral palsy from 'non-resilient' adolescents with cerebral palsy and Buggie's (1995) book review of personal resiliency in economically deprived communities titled "Super Kids of the Ghetto". However, this conceptualization of personal resiliency is antiquated and discordant with our current understanding of personal resiliency as a common phenomenon stemming from basic adaptation systems found in the vast majority of people (Bonanno, 2004; Masten, 2001; Prince-Embury, 2007). That is, personal resiliency is currently theorized to support ordinary functioning in ordinary circumstances and consequently may be more notable in its absence than presence (Saklofske et al., 2013).

Specifically, evidence suggests personal resiliency is a multifaceted competency stemming from three underlying developmental systems: sense of mastery, sense of relatedness, and emotional reactivity (Prince-Embury, 2007; Masten, 2001). Sense of mastery refers to an intrinsically rewarding innate sense of curiosity that drives positive expectations and is considered the source of problem solving skills (Prince-Embury, 2011; White, 1959). Research indicates sense of mastery provides opportunities to

experience cause and effect relationships, which subsequently shapes internalized expectancies, which in turn influence conscious responses (e.g., coping strategies) to stressors (Bandura, 1993; Prince-Embury, 2007). In addition, research suggests internalized expectancies influence the extent to which an individual *perceives* an event as a stressor (Bandura, 1993). Furthermore, research indicates sense of mastery is robustly related to psychological flourishing, satisfaction with life, positive affect, emotional intelligence, emotional stability, extraversion, and conscientiousness (Saklofske et al., 2013).

Sense of relatedness refers to an individual's level of perceived social support and sense of how they relate to others. Research suggests sense of relatedness acts as a buffer against stress and promotes the use of adaptive coping strategies (Prince-Embury, 2011). That is, social relationships often provide support for specific situations (Thoits, 1995). In addition, past experiences of support often attenuate the negative impact of a perceived stressor (Prince-Embury, 2007). Research thus indicates that individuals with higher sense of relatedness are less vulnerable to negative psychological outcomes (e.g., negative emotionality) when confronted with perceived stressors (Prince-Embury, 2011; Thompson et al., 2006). Moreover, evidence suggests sense of relatedness is strongly and positively associated with desirable psychological outcomes, such as satisfaction with life, positive affect, and psychological flourishing (Saklofske et al., 2013).

Finally, emotional reactivity refers to the threshold of tolerance that exists prior to the occurrence of a stressful circumstance or event (Prince-Embury, 2007). Individuals with high emotional reactivity have excessive emotional lability (i.e., disproportionate emotional displays; Aldea & Rice, 2006). Moreover, emotional reactivity is thought to

reflect an over-reactive strategy in which negative feelings are amplified in an attempt to elicit support from others (Shaver & Mikulincer, 2002). In addition, research indicates that whether one experiences negative psychological outcomes (e.g., negative emotionality) in response to a perceived stressor is largely determined by ones emotional reactivity (Prince-Embury, 2011). Specifically, evidence suggests the regulation of emotions is crucial for adaptive functioning (Block & Kremen, 1996). Thus, individuals with high pre-existing emotional reactivity are at risk for encountering negative psychological outcomes when faced with perceived stressors (Prince-Embury, 2011). Specifically, Saklofske et al. (2013) found higher emotional reactivity to be associated with lower life satisfaction, positive affect, and emotional intelligence and higher neuroticism.

In sum, research suggests personal resiliency is a multifaceted competency stemming from an interaction of personal strengths (i.e., sense of mastery and sense of relatedness) and vulnerabilities (i.e., emotional reactivity). Furthermore, research indicates personal resiliency supports adaptive functioning in ordinary circumstance and influences the likelihood of encountering positive and/or negative psychological outcomes (Prince-Embury, 2007).

1.4. Advancing the literature on the perfectionism-psychological outcome link

Evidence suggests individuals with high perfectionistic strivings and individuals with high perfectionistic concerns both pursue unrealistically high goals and experience excessive dissatisfaction with performance, subsequently generating stress. (Hewitt & Flett., 2002; Dunkley et al., 2003). Despite this, the elevated levels of stress generated by individuals with high perfectionistic strivings appears to be offset by a tendency to adopt

a mastery orientation towards a perceived stressor and engage in active, task oriented coping until a solution to a perceived stressor has been found (Dunkley et al., 2000). In addition, research suggests individuals with high perfectionistic strivings tend to experience the desire to excel as motivating and have emotional regulatory mechanisms that maintain and enhance healthy psychological functioning (Aldea & Rice, 2006).

In contrast, individuals with high perfectionistic concerns tend to engage in self-defeating styles of cognitive appraisal (e.g., interpreting a minor mistake as indicative of a great personal failure), self-handicapping (e.g., practicing inadequately), and maladaptive coping (e.g., denial) when confronted with perceived stressors (Dunkley et al., 2003, Hewitt & Flett, 2002; Honden & Pliner, 1995; Sherry et al., 2001). This propensity to engage in maladaptive coping, self-handicapping, and self-defeating cognitive appraisals is thought to perpetuate and amplify distress. In addition, the tendency for individuals with high perfectionistic concerns to have a poor sense of mastery is thought to further inhibit adaptive responding to perceived stressors (Dunkley et al., 2000). Moreover, according to the social disconnection model, perfectionistic concerns contribute to social disconnection (i.e., feeling excluded and unwanted by others), which subsequently contributes to adverse psychological outcomes (Sherry et al., 2008; Sherry et al., 2013a). In other words, evidence suggests individuals with high perfectionistic concerns perceive others as disapproving and dissatisfied (i.e., perceive a low level of social support), which thereby predisposes negative emotional symptoms (Dunkley et al., 2006). Finally, research indicates the tendency for individuals with high perfectionistic concerns to experience excessive emotional dysregulation when

confronted with perceived stressors maintains and promotes negative affect (Aldea & Rice, 2006).

Research thus suggests the divergent psychological outcomes associated with perfectionistic strivings and perfectionistic concerns are accounted for by how competent the individual feels, the level of social support the individual perceives, how well the individual regulates emotions, and how the individual copes in response to a perceived stressor. Given that sense of mastery, sense of relatedness, and emotional reactivity comprise personal resiliency (Prince-Embury, 2007), and given that coping strategies stem from personal resiliency, it seems likely that personal resiliency mediates the link between perfectionism dimensions and psychological outcomes. However, this contention has yet to be tested.

Specifically, evidence suggests high perfectionistic strivings are associated with a strong sense of mastery (Aldea & Rice, 2006), a good sense of relatedness (Blankstein & Dunkley, 2002), and low emotional reactivity (Aldea & Rice, 2006). According to Prince-Embury (2007) a strong sense of mastery, a good sense of relatedness, and low emotional reactivity is indicative of adequate personal resiliency. Thus individuals with high perfectionistic strivings, after controlling for perfectionistic concerns, are expected to have sufficient personal resiliency. Furthermore, the adequate level of personal resiliency expected to be associated with high perfectionistic strivings is also expected to account for the link between perfectionistic strivings and positive psychological outcomes (e.g., high satisfaction with life).

In contrast, evidence suggests individuals with high perfectionistic concerns have a poor sense of mastery (Aldea & Rice, 2006; Dunkley et al., 2000), a poor sense of

relatedness (Dunkley et al., 2006; Sherry et al., 2008; Sherry et al., 2013a), and high emotional reactivity (Aldea & Rice, 2006). According to Prince-Embury (2001) a poor sense of mastery, a poor sense of relatedness, and high emotional reactivity is indicative of a deficit in personal resiliency. Thus, individuals with high perfectionistic concerns are expected to have low personal resiliency. Moreover, the deficit in personal resiliency expected to be associated with perfectionistic concerns is also expected to account for the link between perfectionistic concerns and negative psychological outcomes (e.g., low satisfaction with life).

1.5. Rationale and hypotheses

Individuals with high perfectionistic strivings and individuals with high perfectionistic concerns both generate stress (Blankstein & Dunkley, 2002; Dunkley et al., 2000; Hewitt & Flett, 2002). Despite this, perfectionistic strivings are predominantly associated with positive psychological outcomes, whereas perfectionistic concerns are predominantly associated with negative psychological outcomes (Stoeber & Otto, 2006). Although, prior research has investigated the relationship between perfectionism, coping strategies, sense of mastery, perceived social support, emotional reactivity, and psychological outcomes (e.g., Aldea & Rice, 2006; Dunkley et al., 2000; Dunkley et al., 2012; Sherry et al., 2013a), the role of personal resiliency has yet to be studied. The present research addresses this gap in knowledge.

Six hypotheses were proposed: (a) perfectionistic strivings would be related to personal resiliency after controlling for perfectionistic concerns; (b) perfectionistic concerns would be related to personal resiliency after controlling for perfectionistic strivings; (c) perfectionistic strivings would indirectly effect negative emotionality (i.e.,

DASS total), positive affect, negative affect, and satisfaction with life, via personal resiliency, after controlling for perfectionistic concerns; (d) perfectionistic concerns would indirectly effect negative emotional symptoms (i.e., DASS total), positive affect, negative affect, and satisfaction with life, via personal resiliency, after controlling for perfectionistic strivings; (e) the path model with personal resiliency as a mediator (see Figure 1) would provide a better fit and be more likely to replicate than a competing model with emotion-oriented coping as a mediator (see Figure 2), a competing model with avoidance-oriented coping as a mediator (see Figure 3), and a competing model with task-oriented coping as a mediator (see Figure 4).

CHAPTER TWO: METHOD

2. Method

2.1. Participants

Participants were 425 undergraduate students (109 men; 316 female); the majority (86.1%) were in there first year of study. Average age was 18.77 (*SD* = 4.04) years.

2.2. Measures

2.2.1. Personal resiliency

Personal resiliency was measured using the Resiliency Scale for Young Adults (i.e., RSYA). The RSYA is a modified version of the *Resiliency Scale for Children and Adolescents* (RSCA; Prince-Embury, 2007). Research supports the reliability and validity of the RSCA (Prince-Embury, 2007; Prince-Embury, 2011). However, the RSCA was designed for use with children and adolescents and as such does not include items reflecting the developmental complexity of young adults. To address this a modified version of the RSCA was constructed and refined to be more developmentally appropriate for young adults (see Appendix A).

The RSYA is an 85-item measure containing three global scales: the 28-item sense of mastery scale, the 31-item sense of relatedness scale, and the 26-item emotional reactivity scale. The sense of mastery scale consists of three subscales: the 9-item optimism subscale (e.g., “My life will be happy”), the 11-item self-efficacy subscale (e.g., “I do things well”), and the 8-item adaptability subscale (e.g., “I view obstacles as challenges to overcome”). The sense of relatedness scale consists of four subscales: the 8-item comfort with others subscale (e.g., “I feel calm with people”), the 9-item basic trust subscale (e.g., “I can trust others”), the 6-item tolerance to differences subscale (e.g., “I

can make up with friends after a fight"), and the 8-item perceived social support subscale (e.g., "If something bad happens, I can ask my friends for help"). The emotional reactivity scale consists of three subscales: the 8-item sensitivity subscale (e.g., "I can get so upset that I can't stand how I feel"), the 10-item impairment subscale (e.g., "When I am upset, I get mixed up"), and the 8-item recovery subscale (e.g., "When I am upset I stay upset for several hours").

Participants responded to RSYA items using a 5-point scale ranging from 0 (*never*) to 4 (*almost always*). Scores on the sense of mastery scale range from 0-112. Scores on the sense of relatedness scale range from 0-124. Scores on the emotional reactivity scale range from 0-104. The resource index was calculated as the standardized average of sense of mastery and sense of relatedness. Higher scores on the resource index denote higher levels of perceived personal resources. The vulnerability index was calculated as the standardized difference between emotional reactivity and the resource index. The vulnerability index measures the discrepancy between personal resources and internal fragility (Prince-Embury, 2007). Preliminary findings support the reliability and validity of the RSYA (α = .93-.95; see Appendix A).

2.2.2. Perfectionistic strivings

Perfectionistic strivings were measured by standardizing and summing items from three short form subscales developed by Cox, Enns, and Clara (2002): The 5-item short form of Hewitt and Flett's (1991) *Multidimensional Perfectionism Scale Self-Oriented Perfectionism subscale* (HFMPS-SOP-SF; e.g., "One of my goals is to be perfect in everything I do"), the 4-item short form of Frost et al.'s (1990) *Multidimensional Perfectionism Scale Personal Standards subscale* (FMPS-PS-SF; e.g., "I set higher goals

than most people"), and the 4-item modified form of Garner et al.'s (1983) *Eating Disorder Inventory Self-Oriented Perfectionism subscale* (EDI-SOP; e.g., "I feel that I must do things perfectly or not do them at all").

Participants responded to the 5-item HFMPS-SOP-SF using a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores on the HFMPS-SOP-SF range from 5 to 35. Participants responded to the 4-item FMPS-SF-PS using a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores on the FMPS-SF-PS range from 4-20. Participants responded to the 4-item EDI-SOP using a 6-point scale from 1 (*never*) to 6 (*always*). Scores on the EDI-SOP range from 4-24. The HFMPS-SOP-SF, the FMPS-PS-SF, and the EDI-SOP were selected based on past research indicating that they measure core cognitive, interpersonal, and behavioural features of perfectionistic strivings (Mackinnon & Sherry, 2012; McGrath et al., 2012). Research supports the reliability and validity of this measure (Hewitt et al., 2008; Sherry et al., 2010; Mackinnon & Sherry, 2012; McGrath et al., 2012). The alpha reliability for perfectionistic strivings was .91 in Mackinnon and Sherry (2012).

2.2.3. Perfectionistic concerns

Perfectionistic concerns were measured by standardizing and summing items from three short form subscales developed by Cox, Enns and Clara (2002): The short form of Hewitt and Flett's (1991) *Multidimensional Perfectionism Scale Socially Prescribed Perfectionism subscale* (HFMPS-SPP-SF; e.g., "My family expect me to be perfect"); the short form of Frost et al.'s (1990) *Multidimensional Perfectionism Scale Concern Over Mistakes subscale* (FMPS-COM-SF; e.g., "If I fail partly, it is as bad as being a complete failure"); and the short form of Frost et al.'s (1990) *Multidimensional*

Perfectionism Scale Doubts About Actions subscale (FMPS-DAA-SF; e.g., "I tend to get behind in my work because I repeat things over and over").

Participants responded to the 5-item HFMPS-SPP-SF using a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores on the HFMPS-SPP-SF range from 5-35. Participants responded to the 5-item FMPS-COM-SF and the 4-item FMPS-DAA-SF using a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores on the FMPS-COM-SF range from 5-25. Scores on the FMPS-DAA-SF range from 4-20. The HFMPS-SPP-SF, the FMPS-COM-SF, and the FMPS-DAA-SF were selected based on past research indicating that they measure core cognitive, interpersonal, and behavioural features of perfectionistic concerns (Graham et al., 2010; Mackinnon & Sherry, 2012). Research supports the reliability and validity of this measure (Graham et al., 2010; Mackinnon & Sherry, 2012). The alpha reliability for perfectionistic concerns was .89 in Mackinnon and Sherry (2012).

2.2.4. Coping strategies

Coping strategies were measured using the 21-item short form of the *Coping Inventory for Stressful Situations* (CISS-SF; Endler & Parker, 1999). The CISS-SF contains a 7-item subscale measuring task-oriented coping ("Focus on the problem and see how I can solve it"), a 7-item subscale measuring emotion-oriented coping ("Blame myself for having gotten into this situation"), and a 7-item subscale measuring avoidance oriented coping ("Treat myself to a favorite food or snack"). Participants responded to items using a 5-point scale, ranging from 1 (*not at all*) to 5 (*very much*), to indicate the types of activities they engage in when confronted with difficult, stressful, or upsetting situations. Scores on the task-oriented subscale, the emotion-oriented subscale, and the

avoidance-oriented subscale each range from 7-35. Research supports the reliability and validity of the CISS-SF (Endler & Parker, 1999). Adequate reliability has been found for the task-oriented (α = .78-.87), emotion-oriented (α = .78-.87), and avoidance-oriented (α = .70-.80) subscales (Cohan et al., 2006; Endler & Parker, 1994; Endler & Parker, 1999; Endler et al., 2000). In addition, research suggests the factor structure of the CISS-SF is comparable to the factor structure of the original 48-item CISS (Cohan et al., 2006).

2.2.5. Depression, anxiety, and stress

Depression, anxiety, and stress were measured using the 21-item short form of the *Depression, Anxiety and Stress Scale* (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 is a 21-item scale containing three 7-item subscales: a depression subscale (e.g., "I felt that life was meaningless"), an anxiety subscale ("I felt scared without any good reason"), and a stress subscale ("I found it hard to wind down"). Participants responded to items using a 4-point scale ranging from 0 (*Did not apply to me at all*) to 3 (*Applied to me very much, or most of the time*). Scores on the depression subscale, the anxiety subscale, and the stress subscale range from 0 to 12. A composite measure of negative emotional symptoms was calculated as the standardized average of scores on the depression, anxiety, and stress subscales (Lovibond & Lovibond, 1995). Research supports the reliability and validity of the DASS-21 (Lovibond & Lovibond, 1995; Osman et al., 2012). Osman et al. (2012) found good reliability for the depression subscale (α = .85), the anxiety subscale (α = .81), and the stress subscale (α = .88).

2.2.6. Positive and negative affect

Positive and negative affect was measured using the 20-item *Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS is

composed of a 10-item subscale measuring positive affect (e.g., "proud") and a 10-item subscale measuring negative affect (e.g., "nervous"). Participants used a 5-point scale, ranging from 1 (*very slightly or not at all*) to 5 (*extremely*) to indicate the extent to which they felt a certain way in general. Scores on the positive affect subscale range from 10-50. Scores on the negative affect subscale range from 10-50. Research supports the validity and reliability of the PANAS (Watson, Clark, & Tellegen, 1988; Crawford & Henry, 2004). Crawford and Henry (2004) found good reliability for the positive affect subscale ($\alpha = .89$) and the negative affect subscale ($\alpha = .85$).

2.2.7. Satisfaction with life

Satisfaction with life was measured using the 5-item *Satisfaction With Life Scale* (SWLS; e.g., "I am satisfied with my life"; Diener et al., 1985). Participants used a 7-pont scale, ranging from 1 (*strongly disagree)* to 7 (*strongly agree)* to indicate their level of agreement with items. Scores on the SWLS range from 5-35. Scores between 30-35 indicate very high life satisfaction. Scores between 24-29 indicate high life satisfaction. Scores between 20-24 indicate average life satisfaction. Scores between 15-19 indicate slightly below average life satisfaction. Scores between 10-14 indicate below average life satisfaction. Scores between 5-9 indicate very low life satisfaction. Research supports the reliability and validity of the SWLS (Diener et al., 1985; Pavot & Diener, 2004). Good alpha reliabilities have been found for the SWLS ($\alpha = .79$-$.89$; Pavot & Diener, 2004).

2.3. Procedure

The University of Western Ontario's Research Ethic's Board approved the present study. Participants were recruited from the Department of Psychology's subject pool and directed to the online study. Following the completion of the online study participants

were debriefed. As compensation, participants were awarded 1 credit to use towards an introductory psychology course.

CHAPTER THREE: RESULTS

3. Results

3.1. Data analytic strategy

Less than 5% of data points were missing (.00% to 4.2%). For preliminary analysis listwise deletion was used. For hypothesis testing full information maximum likelihood estimation was used (Arbuckle, 1996; Enders & Bandalos, 2001). Research suggests full information maximum likelihood estimation outperforms classical missing data techniques (e.g., regression-based imputation; Kline, 2005; Peters & Enders, 2002; Enders, 2010).

Data screening was conducted via SPSS 20. Specifically, multivariate normality was assessed using Mardia's (1970) normalized estimate of multivariate kurtosis, the skew index (i.e., SI), and the kurtosis index (i.e., KI). Bentler (2005) suggests normalized estimates of multivariate kurtosis less than 5.00 are indicative of data that are normally distributed (Byrne, 2012). Computer simulation studies indicate variables with absolute SI values greater than 3.0 are extreme and tent to impact means (Byrne, 2012; Curran, West, & Finch, 1997; DeCarlo, 1997; Kline, 2005). In addition, research suggests variables with absolute KI values greater than 10 severely affect tests of variance and covariance (Byrne, 2012; Curran, West, & Finch, 1997; DeCarlo, 1997; Kline, 2005). The Mahalanobis distance (i.e., D^2) statistic was computed for each case to assess the presence of multivariate outliers. Multivariate outliers can severely distort the results (Byrne, 2012). A D^2 for a case with a low p value (e.g., $p < .001$) suggests the case is from a different population (Kline, 2005). Participants with a D^2 larger than the critical value of X^2 (i.e., $p < .001$) were excluded. Multivariate collinearity was evaluated by

computing the variance inflation factor (i.e., VIF; $1/(1-R^2_{SMC})$) for each variable (Kline, 2005). Research suggests a variable with a VIF > 10 is redundant (Kline, 2005).

Path analysis was conducted via Mplus 7.0 (Muthen & Muthen, 2010) to test the hypothesis that personal resiliency mediates the relationship between perfectionism dimensions (i.e., perfectionistic strivings and perfectionistic concerns) and negative emotionality (i.e., DASS total), positive affect, negative affect, and satisfaction with life. Maximum likelihood estimation was used to examine model fit. Several fit statistics were used to evaluate path models, including the chi-square test (X^2; Kline, 2005), the root-mean-square error of approximation (RMSEA; Browne & Cudeck, 1993), the comparative-fit-index (CFI; Bentler, 1990), and the standardized root mean square residual (SRMR; Kline, 2005). Specifically, X^2 is a badness-of-fit statistic used to test the exact-fit hypothesis. A non-significant X^2 ($p > .05$) implies the sample variance-covariance matrix is consistent with the model implied variance-covariance matrix. In contrast, a significant X^2 ($p < .05$) indicates the sample variance-covariance matrix differs from the reproduced variance-covariance matrix more than can be reasonably attributed to sampling error. RMSEA is a badness-of-fit index with a noncentrality parameter that allows for a degree of discrepancy between the sample covariance matrix and the covariance matrix implied by the model. RMSEA is used to test the close-fit hypothesis and the poor-fit hypothesis. CFI measures the relative improvement in the fit of the hypothesized model over that of the baseline model (i.e., the independence model). SRMR measures the absolute mean correlation residual. That is, SRMR measures the average difference between the sample correlation matrix and the reproduced correlation matrix. Research suggests a non-significant X^2 ($p > .05$), a RMSEA less than .06, a CFI

around .95, and a SRMR less than .08, suggests a well-fitting model (Blunch, 2008; Byrne, 2012; Hoyle & Panter, 1995; Hu & Bentler, 1999; Kline, 2005).

Mediation occurs when an independent variable (e.g., perfectionistic concerns) leads to a mediator (e.g., personal resiliency), which subsequently leads to a dependent variable (e.g., negative affect). Indirect effects were calculated as the product of the direct effects that comprise them (Kline, 2005; MacKinnon, 2008; Shrout & Bolger, 2002). Mediation is present when indirect effects are statistically significant. The significance of indirect effects was computed using bias-corrected bootstrapping with 20,000 resamples (Geiser, 2013; Mackinnon & Sherry, 2012). Bias-corrected bootstrapping was used as a nonparametric alternative as a consequence of indirect effects tending to have distributions skewed away from 0 (Shrout & Bolger, 2002). Distributions skewed away from 0 may violate assumptions of normality for the product term (Gesier, 2013; Shrout & Bolger, 2002). In addition, ignoring the skewed distribution of indirect effects, when the null hypothesis is false, reduces power to detect mediation and may lead to biased results (Geiser, 2013; MacKinnon et al., 2004; Shrout & Bolger, 2002). Finally, research suggests meditational analysis via bias-corrected bootstrapping requires fewer assumptions than traditional methods of mediation (e.g., mediated regression analysis; Bollen & Stine, 1990; MacKinnon, Fairchild, & Fritz, 2007; Preacher & Hayes, 2008; Preacher & Kelly, 2011; Shrout & Bolger, 2002). If the 95% bias-corrected bootstrapped confidence interval (95% CI) for an indirect effect does not contain 0 it indicates that it is highly likely the indirect effect differs significantly from 0, which suggests mediation has occurred (Bollen & Stine, 1990; Preacher & Hayes, 2008; Shrout & Bolger, 2002).

If mediation is observed a standardized effect size will be calculated using kappa squared (i.e., k^2; Preacher & Kelly, 2011). K^2 measures the proportion of the maximum possible indirect effect that could have occurred based on sample variances and the strength of the associations amongst variables (Preacher & Kelly, 2011). K^2 will be computed using the MBESS (Kelly & Lai, 2010) R (R Development Core Team, 2010) package. Values of k^2 range between 0 (i.e., no indirect effect) and 1 (i.e., maximum possible indirect effect attained by the data). Preacher & Kelly (2011) recommend k^2 be interpreted in an analogous way to R^2 using Cohen's (1988) guidelines (i.e., small effect = .01, medium effect = .09, large effect = .25). K^2 was chosen to measure effect size, opposed to the mediation ratio (i.e., P_M; Palwin & Hauser, 1975) or Sobel test (R_M; Sobel, 1982), due to P_M and R_M suffering from severe limitations such as bias towards values that exaggerate small effects and trivialize large effects (MacKinnon, Fairchild, & Fritz, 2007; Preacher & Kelly, 2011). See Preacher and Kelly (2011) for a detailed review of k^2 and critique of P_M and R_M.

Following Cheung and Rensvold (2002), comparative fit index difference tests (ΔCFI) were used for hierarchical model comparisons; these authors found a $\Delta CFI \leq .01$ provided strong support that one model does not significantly differ from another model (Byrne, 2012). Specifically, ΔCFI was used to determine if the partially mediated perfectionism-personal resiliency model (PPRM) (i.e., the model with both direct and indirect effects) differed significantly from the fully mediated PPRM (i.e., the model with direct paths from independent variables to dependent variables constrained to zero). The Akaike Information Criterion (i.e., AIC; Anderson, Burnham, & Thompson, 2000) was used to compare competing non-hierarchical models. Specifically, AIC values were used

to compare the PPRM (see Figure 1) to competing model A (see Figure 2), competing model B (see Figure 3), and competing model C (see Figure 4). The model with the lowest AIC value was preferred (Byrne, 2010; Kline, 2005).

3.2. Preliminary analyses

Means, standard deviations, alpha reliabilities, the skew index, the kurtosis index, and bivariate correlations for measured variables are presented in Table 1. Means for measures were similar to prior studies of undergraduates (e.g., Smith & Saklofske, 2013). Alpha reliabilities for all measures were adequate ($\alpha \geq .76$) and complement past research (Crawford & Henry, 2004; Cohan et al., 2006; Pavot & Diener, 2004; Prince-Embury, 2007; Mackinnon & Sherry, 2012; Osman et al., 2012; Sherry et al., 2013b). Large effect sizes were found for all relevant correlations (Cohen, 1988; see Table 1). The variance-covariance matrix for the perfectionism-personal resiliency model is presented in Table 2. The variance-covariance matrix for competing model A (emotion-oriented coping) is presented in Table 3. The variance covariance matrix for competing model B (task-oriented coping) is presented in Table 4. The variance covariance matrix for competing model C (avoidance-oriented coping) is presented in Table 5.

3.3. The personal-resiliency perfectionism model

Results indicate perfectionistic strivings correlates positively with personal resiliency after controlling for perfectionistic concerns ($\beta = .25$, $p < .001$; refer to Figure 1). In addition, results indicate perfectionistic concerns correlates negatively with personal resiliency after controlling for perfectionistic strivings ($\beta = -.72$, $p < .001$). Furthermore, the direct effects from perfectionistic strivings to negative emotionality ($\beta = .071$, $p > .05$), satisfaction with life ($\beta = -.009$, $p > .05$), and negative affect ($\beta = -.031$, p

> .05), as well as the direct effects from perfectionistic concerns to positive affect (β = -.093, p > .05) and satisfaction with life (β = .034, p > .05) are non-significant and did not improve model fit (see Table 3 and Table 4). These paths were not added to the final model. Based on past research all residuals were correlated.

The final personal-resiliency perfectionism model presented in Figure 1 fit the data well: $X^2(5) = 6.938$, $p = .225$, RMSEA = .030 (90% CI = .000; .079), PCLOSE = .689, CFI = .998, SRMR = .011. Specifically, the model chi-square is non-significant at the .05 level and thus the exact-fit hypothesis is not rejected. This suggests there are no discrepancies between the population covariance and those produced by the model (Kline, 2005). In addition, the value of RMSEA was .030 and based on the lower bound of its 90% confidence interval (.000) the close-fit hypothesis is retained (p = .689). Furthermore, based on the upper bound of the 90% RMSEA confidence interval (.079) the poor fit hypothesis is rejected (Kline, 2005). The results also indicate that the relative fit of the final model is a 99.8% improvement over that of the baseline model. Correlation residuals for the final model are presented in Table 6. No correlation residual exceeded .10 in absolute value. The average discrepancy between the sample correlation matrix and the reproduced correlation matrix was .011. The final PPRM model presented in Figure 5 accounts for 35.4% of the variance in personal resiliency, 44.2% of the variance in negative emotionality, 42.4% of the variance in negative affect, 37.2% of the variance in positive affect, and 41.9% of the variance in satisfaction with life.

The decomposition for effects of exogenous variables (i.e., perfectionistic strivings and perfectionistic concerns) on endogenous variables (i.e., personal resiliency, negative emotionality, negative affect, and satisfaction with life) are presented in Table 3.

Specifically, the bias-corrected bootstrapped indirect effects of perfectionistic strivings, through personal resiliency, on negative emotionality 95% CI [-.182 to -.076], negative affect 95% CI [-.186 to -.076], positive affect 95% CI [.069 to .201], and satisfaction with life 95% CI [.099 to .232] were significant. However, the bias-corrected bootstrapped total effect of perfectionistic strivings on negative emotionality is not significant 95% [-.169 to .052]. Despite this, the bias-corrected bootstrapped confidence intervals for the total effect of perfectionistic strivings on negative affect 95% CI [-.274 to -.050], positive affect 95% CI [.257 to .484], and satisfaction with life 95% CI [.045 to .268] are significant.

The bias-corrected bootstrapped confidence intervals for the indirect effect of perfectionistic concerns, through personal resiliency, on negative emotionality 95% CI [.295 to .451], negative affect 95% CI [.292 to .466], positive affect 95% CI [-.495 to -.335], and satisfaction with life 95% CI [-.567 to -.388] are significant. In addition, the bias-corrected bootstrapped confidence intervals for the total effects of perfectionistic concerns on negative emotionality 95%CI [.457 to .653], negative affect 95% CI [.480 to .678], positive affect [-.616 to -.402], and satisfaction with life 95% CI [-.558 to -.329] are significant.

The mediating effect of personal resiliency on the association between perfectionistic strivings and negative affect (k^2 = .22), positive affect (k^2 = .18), and satisfaction with life (k^2 = .24) is medium in size. The mediating effect of personal resiliency on the association between perfectionistic concerns and negative emotionality (k^2 = .36), negative affect (k^2 = .36), positive affect (k^2 = .41), and satisfaction with life (k^2 = .44) is large in size.

3.4. Competing model A

For competing model A, with emotion-oriented coping as a mediator, the direct effect from perfectionistic strivings to negative emotionality (β = .002, p > .05), negative affect (β = -.062, p > .05), and satisfaction with life (β = .091, p > .05) are non-significant and do not improve model fit (see Table 8 and 9). These paths were not added to final competing model A. Residuals were correlated. The final model for competing model A (see Figure 6) fit the data well: $X^2(3) = 4.008$, $p = .261$, RMSEA = .028 (90% CI = .000; .091), PCLOSE = .630, CFI = .999, SRMR = .012. The decomposition for effects of exogenous variables (i.e., perfectionistic strivings and perfectionistic concerns) on endogenous variables (i.e., emotion-oriented coping, negative emotionality, negative affect, and satisfaction with life) are presented in Table 8. The bias-corrected bootstrapped confidence intervals for the indirect effect of perfectionistic strivings, through emotion-oriented coping, on negative emotionality 95% CI [-.100 to -.027], negative affect 95% CI [-.151 to -.049], positive affect 95% CI [.023 to .091] and satisfaction with life 95% CI [.048 to .272] were significant. However, as with the final PPRM, the total effect of perfectionistic strivings on negative emotionality 95% CI [-.105 to .109] is not significant. Bias-corrected bootstrapped confidence intervals for the effect of perfectionistic concerns, through emotion-oriented coping, on negative emotionality 95% CI [.151 to .303], negative affect 95% CI [.283 to .434], positive affect 95% CI [-.282 to -.125], and satisfaction with life 95% CI [.030 to .107] are significant.

The mediating effect of emotion-oriented coping on the link between perfectionistic strivings and negative affect ($k^2 = .164$) is medium. However, the mediating effect of emotion-oriented coping on the link between perfectionistic strivings

and positive affect (k^2 = .060), and satisfaction with life (k^2 = .087) is small. In contrast the mediating effect of emotion-oriented coping on the association between perfectionistic concerns and negative affect (k^2 = .339) is large. Despite this, the mediating effect of emotion-oriented coping on negative emotionality (k^2 = .212), positive affect (k^2 = .175), and satisfaction with life (k^2 = .220) is medium.

3.5. Competing model B

For competing model B, with task-oriented coping as a mediator, the direct effect from perfectionistic strivings to negative emotionality emotionality (β = -.008, p > .05), negative affect (β = -.100, p > .05), and satisfaction with life (β = .056, p > .05) are non-significant and do not improve model fit (see Table 10 and Table 11). These paths were not added to final competing model B. Residuals were correlated. The final model for competing model B (see Figure 7) fit the data well: $X^2(3) = 4.260$, $p = .235$, RMSEA = .032 (90% CI = .000; .093), PCLOSE = .603, CFI = .998, SRMR = .012. The decomposition for effects of exogenous variables (i.e., perfectionistic strivings and perfectionistic concerns) on endogenous variables (i.e., task-oriented coping, negative emotionality, negative affect, and satisfaction with life) are presented in Table 8. The 95% bias-corrected bootstrapped confidence intervals for the indirect effect of perfectionistic strivings, through task-oriented coping, on negative emotionality 95% CI [-.083 to -.013], negative affect 95% CI [-.103 to -.023], positive affect 95% CI [.054 to .156], and satisfaction with life 95% CI [.048 to .156] are significant. However, as with the final PPRM and final competing model A, the total effect of perfectionistic strivings on negative emotionality was not significant 95% CI [-.167 to .055]. Bias-corrected bootstrapped confidence intervals for the indirect effect of perfectionistic concerns,

through task-oriented coping, on negative emotionality 95% CI [.017 to .088], negative affect [.029 to .107], positive affect [-.165 to -.064], and satisfaction with life 95% CI [-.161 to -.061] are significant.

The mediating effect of task-oriented coping on the link between perfectionistic strivings and negative affect (k^2 = .072) is small. However, the mediating effect of task-oriented coping on positive affect (k^2 = .118), and satisfaction with life (k^2 =.117) is medium. In contrast, the mediating effect of task-oriented coping on the link between perfectionistic concerns and negative emotionality (k^2 = .064), and perfectionistic concerns and negative affect (k^2 =.079) is small, while the mediating effect of task-oriented coping on positive affect (k^2 = .119), and satisfaction with life (k^2 =.117) is medium.

3.6. Competing model C

Finally, in regards to competing model C, the direct effect from perfectionistic strivings to avoidance-oriented coping (β = .013, p > .05), and negative emotionality (β = -.055, p > .05) are not significant. In addition the direct effect of perfectionistic concerns to avoidance-oriented coping (β = .053, p > .404) is not significant. Furthermore, the direct effect from avoidance-oriented coping to negative emotionality (β = .033, p > .05) and negative affect (β = .017, p > .05) are non-significant (see table 13). These paths do not improve model fit and were not added to final competing model C (see Table 12). Residual correlations were correlated. Final competing model C (see Figure 8) fit the data well: $X^2(3) = 2.142$, $p < .544$, RMSEA = .000 (90% CI = .000 to .072), PCLOSE = .837, CFI = 1.00, SRMR = .014.

The decomposition for effects of exogenous variables (i.e., perfectionistic strivings and perfectionistic concerns) on endogenous variables (i.e., avoidance-oriented coping, negative emotionality, negative affect, and satisfaction with life) for competing model C are presented in Table 13. Specifically, the bias-corrected bootstrapped confidence interval for the indirect effect of perfectionistic strivings, through avoidance-oriented coping, on negative affect 95% CI [-.006 to .006], positive affect 95% CI [-.030 to .025], and satisfaction with life 95% CI [-.033 to .027] are non-significant. In addition, the bias-corrected bootstrapped confidence interval for the indirect effect of perfectionistic concerns, through avoidance-oriented coping, on negative emotionality 95% CI [-.007 to .010], negative affect 95% CI [-.007 to .008], positive affect 95% CI [-.017 to .039] and satisfaction with life 95% CI [-.018 to .042] are non-significant. Moreover, the total effect of perfectionistic strivings on avoidance-oriented coping 95% CI [-.145 to .108], as well as the total effect of perfectionistic concerns on avoidance-oriented coping 95% CI [-.076 to .174] are non-significant. Fit statistics for the final PPRM, competing model A, competing model B, and competing model C are presented in table 15.

CHAPTER FOUR: DISCUSSION

4. Discussion

Hypotheses were supported. Both perfectionistic strivings and perfectionistic concerns are significantly related to personal resiliency. Specifically, perfectionistic strivings has a small positive regression coefficient (i.e., r = .25) with personal resiliency, after controlling for perfectionistic concerns, whereas perfectionistic concerns has a strong negative correlation (i.e., r = .-72) with personal resiliency after controlling for perfectionistic strivings. Moreover, the hypothesis that perfectionistic strivings indirectly effects negative emotionality, positive affect, negative affect, and satisfaction with life through personal resiliency was supported. However, the total effect of perfectionistic strivings on negative emotionality was not significant. Thus, personal resiliency was not found to mediate the perfectionistic strivings-negative emotionality link. Despite this, personal resiliency was found to fully mediate the relationship between perfectionistic strivings and satisfaction with life and fully mediate the relationship between perfectionistic strivings and negative affect. In addition, results suggest personal resiliency partially mediates the relationship between perfectionistic strivings and positive affect.

Furthermore, the hypothesis that perfectionistic concerns indirectly effects negative emotionality, positive affect, negative affect, and satisfaction with life through personal resiliency, was supported. Specifically, path analysis indicates personal resiliency as a mediator fully explains the relation between perfectionistic concerns and positive affect, and fully explains the relation between perfectionistic concerns and satisfaction with life. Results also indicate personal resiliency as a mediator partially

explains the relation between perfectionistic concerns and negative affect and partially explains the relation between perfectionistic concerns and negative emotionality.

Results clarify and advance our understanding of the divergent pattern of associations related to perfectionism dimensions. Both perfectionistic strivings and perfectionistic concerns generate stress (Blankstein & Dunkley, 2002; Dunkley et al., 2000; Hewitt & Flett, 1993; Hewitt & Flett, 2002). Individuals with high perfectionistic strivings experience high stress as a consequence of a propensity to perceive performance as falling short of their own lofty expectations, whereas individuals with high perfectionistic concerns experience high stress due to a nagging sense of falling short of the expectations of others. Despite this, perfectionistic strivings are predominantly associated with positive psychological outcomes (e.g., high life satisfaction), whereas perfectionistic concerns are predominantly associated with negative psychological outcomes (e.g., low life satisfaction). Results suggest the divergent pattern of positive and negative psychological outcomes associated with perfectionism dimensions is largely accounted for by differences in personal resiliency.

Specifically, individuals with high perfectionistic strivings and low perfectionistic concerns appear to have high personal resiliency, which may subsequently promote adaptive responding to stressful situations. Moreover, the high level of personal resiliency associated with perfectionistic strivings may predispose individuals with high perfectionistic strivings and low perfectionistic concerns to experience the desire to excel as motivating and allow for the regulation of emotions in such a way that maintains and enhances healthy psychological functioning. In other words, the elevated stress associated with perfectionistic strivings may be offset by a high sense of mastery, high sense of

relatedness, and low emotional reactivity (i.e., high personal resiliency). In contrast, individuals with high perfectionistic concerns appear to have low personal resiliency, which subsequently inhibits adaptive responding to perceived stressors. Furthermore, the low personal resiliency associated with high perfectionistic concerns may predispose individuals with high perfectionistic concerns to engage in self-defeating cognitive appraisals (e.g., interpreting a minor mistake as indicative of a great personal failure), and inhibit effective regulation of emotions. Thus the elevated levels of stress associated with perfectionistic concerns may be amplified by a poor sense of mastery, poor sense of relatedness, and high emotional reactivity (i.e., low personal resiliency).

Moreover, results indicate personal resiliency advances our understanding of the divergent pattern of associations associated with perfectionism dimensions beyond that explained by emotion-oriented coping, task-oriented coping, and avoidance-oriented coping. The final PPRM, compared to competing model A (emotion-oriented coping), competing model B (task-oriented coping), and competing model C, provided the most parsimonious solution (see Table 15). In addition, AIC values indicate the final PPRM, in contrast to the three competing models, best minimizes information loss and thus is most likely to replicate.

Specifically, the mediating effect of personal resiliency on the link between perfectionistic strivings and negative affect, positive affect, and satisfaction with life is medium in size. The mediating effect of emotion-oriented coping on the link between perfectionistic strivings and negative affect is also medium in size. However, the mediating effect of emotion-oriented coping on the link between perfectionistic strivings and positive affect and satisfaction with life are both small in size. Furthermore, as with

personal resiliency, the mediating effect of task-oriented coping on the link between perfectionistic strivings and positive affect and satisfaction with life is medium in size. However, the mediating effect of task-oriented coping on negative affect is small in size. Thus, personal resiliency appears to outperform both emotion-oriented coping and task-oriented coping, as a mediator of the link between perfectionistic strivings and negative affect, positive affect, and satisfaction with life.

In regards to perfectionistic concerns, the mediating effect of personal resiliency was large in size for all outcome variables. As with personal resiliency, the mediating effect of emotion-oriented coping on the link between perfectionistic concerns and negative affect is large. However, the mediating effect of emotion-oriented coping on the link between perfectionistic concerns and satisfaction with life is medium. In addition, the mediating effect of emotion-oriented coping on the link between perfectionistic concerns and positive affect and satisfaction with life is medium and small for negative emotionality and negative affect. Thus, personal resiliency, compared to coping strategies was found to best account for the relationship between perfectionistic concerns and negative emotionality, negative affect, positive affect, and satisfaction with life.

No evidence was found to support Dunkley et al's (2000) contention that individuals with high perfectionistic concerns, compared to individuals with high perfectionistic strivings, more readily engage in avoidance-oriented coping (i.e., conscious activities and/or cognitive changes made in an attempt to avoid distress generated from a perceived stressor). Moreover, neither perfectionism dimension was significantly related to avoidance-oriented coping. Furthermore, avoidance-oriented coping was not significantly related to either negative emotionality or negative affect.

The finding that personal resiliency outperforms coping strategies as a mediator of the perfectionism-psychological outcome relationship may stem from personal resiliency being a higher-order dispositional tendency that underlies and predisposes lower-order characteristic adaptations such as coping strategies. Research suggests the extent to which a coping strategy is efficacious (i.e., promotes healthy psychological functioning) varies depending on situational factors, personal resources, and vulnerabilities (Zeidner & Saklofske, 1996). By definition, personal resiliency is a multifaceted competency stemming from an interaction of personal resources (i.e., sense of mastery and sense of relatedness) and vulnerabilities (i.e., emotional reactivity). Thus, it follows that efficacy of a coping strategy may depend on personal resiliency. Additional analysis, conducted via multiple regression, partially support this contention. That is, the effect of emotion-oriented coping on negative emotionality was found to be moderated by personal resiliency ($\beta = -.312$, $p = .029$). Negative emotionality measures emotional symptoms related to depression, anxiety, and stress. Thus it follows, that the extent to which emotion-oriented coping promotes depression, anxiety, and stress depends on personal resiliency (i.e., personal strengths and vulnerabilities). Moreover, results indicate that individuals with high perfectionistic strivings tend to have higher levels of personal resiliency compared to individuals with high perfectionistic concerns. Consequently, the use of emotion-oriented coping (i.e., conscious activities related to affect regulation) may have more deleterious effects for individuals with high perfectionistic concerns, compared to individuals with high perfectionistic strivings, due to differences in personal resiliency. In addition, the effect of task-oriented coping on negative affect was found to be moderated by personal resiliency ($\beta = -.465$, $p = .013$).

Thus the extent to which task-oriented coping (i.e., actively trying to find a solution to a perceived problem) attenuates negative affect appears to depend on personal resiliency. Consequently, task-oriented coping may be more efficacious for individuals with high perfectionistic strivings, compared to individuals with high perfectionistic concerns.

4.1. Limitations and directions for future research

The design of our study was cross-sectional precluding us from addressing questions of directionality that would require a multiwave longitudinal study. Future research may consider using latent growth curve modeling to better our understanding of the effect of perfectionistic strivings and perfectionistic concerns on outcomes such as professional achievement, academic achievement, and psychological well-being. As noted by Stoeber and Otto (2006) it is premature to consider perfectionistic strivings 'adaptive' before long-term effects have been demonstrated. Future research might also consider that while perfectionistic strivings and perfectionistic concerns are stable and resistant to change (Mackinnon & Sherry, 2012), personal resiliency is to a certain extent modifiable (Prince-Embury, 2007) and thus enhancing personal resiliency (i.e., increasing personal resources and/or decreasing vulnerabilities) may amplify the association between perfectionistic strivings and positive psychological outcome (e.g., high life satisfaction) and attenuate the relationship between perfectionistic concerns and negative psychological outcomes (e.g., low life satisfaction). In addition, future research might consider testing a model in which personal resiliency moderates the mediating effect of coping strategies on the link between perfectionism dimensions and psychological outcomes. Finally, future studies might consider investigating the extent to which findings generalize to a clinical sample.

4.2. Concluding remarks

The present study supported the hypothesis that personal resiliency mediates the perfectionism-psychological outcome link. Individuals with high perfectionistic strivings and low perfectionistic concerns may experience positive psychological outcomes (e.g., high life satisfaction) due to the presence of basic adaptational systems (i.e., personal resiliency) providing the support needed to withstand, adapt, and recover from perceived stressors. In contrast, individuals with high perfectionistic concerns may experience negative psychological outcomes (e.g., low life satisfaction) due to an absence of the basic adaptational systems (i.e., personal resiliency) needed to support adaptive functioning in the presence of perceived stressors. By better understanding the perfectionism-psychological outcome link we improve our understanding of the factors influencing positive and negative psychological outcomes, thereby advancing theory and knowledge.

REFERENCES

Adler, A. (1956). *The Individual Psychology of Alfred Adler.* H. Ansbacher & R. Ansbacher, Eds. New York: Basic Books.

Aldea, M. A., & Rice, K. G. (2006). The role of emotional dysregulation in perfectionism and psychological distress. *Journal of Counseling Psychology, 53*(4), 498-510. doi: http://dx.doi.org/10.1037/0022-0167.53.4.498

Alwin, D. F., & Hauser, R. M. (1975). The decomposition of effects in path analysis. *American Sociological Review, 40,* 37–47. doi:10.2307/ 2094445

Anderson, D. R., Burnham, K. P., & Thompson, W. L. (2000). Null hypothesis testing: Problems, prevalence, and an alternative. *Journal of Wildlife Management, 64*, 912-923.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411-423. doi:http://dx.doi.org/10.1037/0033-2909.103.3.411

Arbuckle, J. (1996). Full information estimation in the presence of incomplete data. In G. A. Marcoulides & R. E. Schumacker (Eds.), *Advanced structural equation modeling* (pp. 243-277). Mahwah, NJ: Erlbaum.

Arbuckle, J. (2012). *AMOS users' guide version 21*. Chicago: Small Waters Corporation.

Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., . . . De Raad, B. (2004). A six-factor structure of personality-descriptive adjectives: Solutions from psycholexical studies in seven languages. *Journal of Personality and Social Psychology, 86*(2), 356-366. doi:http://dx.doi.org/10.1037/0022-3514.86.2.356

Avero, P., Corace, K. M., Endler, N. S., & Calvo, M. G. (2003). Coping styles and threat processing. *Personality and Individual Differences, 35*(4), 843-861. doi:http://dx.doi.org/10.1016/S0191-8869(02)00287-8

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117-148.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182. doi:http://dx.doi.org/10.1037/0022-3514.51.6.1173

Benet-Martínez, V., & John, O. P. (1998). Los cinco grandes across cultures and ethnic groups: Multitrait-multimethod analyses of the big five in spanish and english. *Journal of Personality and Social Psychology, 75*(3), 729-750. doi: http://dx.doi.org/10.1037/0022-3514.75.3.729

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238-246. doi:http://dx.doi.org/10.1037/0033-2909.107.2.238

Bentler, P. M. (2005). *EQS 6 Structural equations program manual.* Encino, CA: Multivariate Software.

Blankstein, K. R., & Dunkley, D. M. (2002). Evaluative concerns, self-critical, and personal standards perfectionism: A structural equation modeling strategy. (pp. 285-315). Washington, DC, US: American Psychological Association, Washington, DC. doi:http://dx.doi.org/10.1037/10458-012

Blankstein, K. R., Dunkley, D. M., & Wilson, J. (2008). Evaluative concerns and personal standards perfectionism: Self-esteem as a mediator and moderator of

relations with personal and academic needs and estimated GPA. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues, 27*(1), 29-61. doi:http://dx.doi.org/10.1007/s12144-008-9022-1

Blatt, S. (1995). The destructiveness of perfectionism. *American Psychologist*, 50, 1003-1020. doi:10.1037/0003-066X.50.12.1003

Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology, 70*(2), 349-361. doi:http://dx.doi.org/10.1037/0022-3514.70.2.349

Blunch, N. J. (2008). *Introduction to structural equation modelling using SPSS and AMOS.* Sage Publications Ltd, Thousand Oaks, CA.

Bolger, N., & Zuckerman, A. (1995). A framework for studying personality in the stress process. *Journal of Personality and Social Psychology*, *69*, 890-902. doi:10.1037/0022-3514.69.5.890

Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods and Research, 17,* 303-316.

Bollen, K. A., & Stine, R. Direct and indirect effects: Classical and bootstrapped estimates of variability. *Sociological Methodology, 20*, 115-140.

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*(1), 20-28. doi:http://dx.doi.org/10.1037/0003-066X.59.1.20

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (136-162). Newbury Park, CA: Sage.

Burns, D. D. (1980, November). The perfectionist's script for self-defeat. *Psychology Today*, 34-52.

Byrne, A., & Eysenck, M. W. (1993). Individual differences in positive and negative interpretive biases. *Personality and Individual Differences*, 14, 849–851. doi:10.1016/0191-8869(93)90100-H

Byrne, B. M. (2012). *Structural equation modeling with mplus: Basic concepts, applications, and programming.* Routledge/Taylor & Francis Group, New York, NY.

Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming (2nd ed.).* New York, NY, US: Routledge/Taylor & Francis Group, New York, NY.

Carmines, E., & McIver, J. (1981). Analyzing models with unobserved variables: Analysis of covariance structures. In G. Bohrnstedt & E. Borgatta (Eds.), *Social Measurement; Current issues* (pp. 65-115). Beverley Hills, CA: Sage.

Campbell, J. D., & Paula, A. D. (2002). Perfectionistic self-beliefs: Their relation to personality and goal pursuit. (pp. 181-198). Washington, DC, US: American Psychological Association, Washington, DC. doi:http://dx.doi.org/10.1037/10458-007

Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy, 44*(4), 585-599. doi:http://dx.doi.org/10.1016/j.brat.2005.05.001

Cattell, R. B. (1946). *Description and measurement of personality* World Book

Company, Oxford.

Causey, D. L., & Dubow, E. F. (1992). Development of a self-report coping measure for elementary school children. *Journal of Clinical Child Psychology, 21*(1), 47-59.

Chang, E. C. (2000). Perfectionism as a predictor of positive and negative psychological outcomes: Examining a mediation model in younger and older adults. *Journal of Counseling Psychology, 47*(1), 18-26. doi: http://dx.doi.org/10.1037/0022-0167.47.1.18

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9*(2), 233-255. doi:http://dx.doi.org/10.1207/S15328007SEM0902_5

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York, NY: Academic Press.

Cohan, S. L., Jang, K. L., & Stein, M. B. (2006). Confirmatory factor analysis of a short form of the coping inventory for stressful situations. *Journal of Clinical Psychology, 62*(3), 273-283. doi:http://dx.doi.org/10.1002/jclp.20211

Costa, T., & McCrae, T. (1992). NEO PI-R professional manual. Odessa, FL: Psychological Assessment Resources, Inc.

Cowen, E. L., Work, W. C., Hightower, A. D., Wyman, P. A., Parker, G. R., & Lotyczewski, B. S. (1991). Toward the development of a measure of perceived self-efficacy in children. *Journal of Clinical Child Psychology, 20*(2), 169-178. doi: http://dx.doi.org/10.1207/s15374424jccp2002_8

Cox, B. J., Enns, M. W., & Clara, I. P. (2002). The multidimensional structure of

perfectionism in clinically distressed and college student samples. *Psychological Assessment, 14*(3), 365-373. doi:http://dx.doi.org/10.1037/1040-3590.14.3.365

Crawford, J. R., & Henry, J. D. (2004). The positive and negative affect schedule (PANAS): Construct validity, measurement properties and normative data in a large non-clinical sample. *British Journal of Clinical Psychology, 43*(3), 245-265. doi:http://dx.doi.org/10.1348/0144665031752934

Crawford, T. N., Livesley, W., Jang, K. L., Shaver, P. R., Cohen, P., & Ganiban, J. (2007). Insecure attachment and personality disorder: a twin study of adults. *European Journal Of Personality*, 21, 191-208. doi:10.1002/per.602

Curran, P. J., West, S. G., & Finch, J. F. (1997). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods, 1,* 16-29.

DeCarlo, L. T. (1997). On the meaning and use of kurtosis. *Psychological Methods, 2,* 292-307.

Denissen, J. A., & Penke, L. (2008). Motivational individual reaction norms underlying the Five-Factor model of personality: First steps towards a theory-based conceptual framework. *Journal Of Research In Personality*, 42, 1285-1302. doi:10.1016/j.jrp.2008.04.002

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.

Dunkley, D. M., Blankstein, K. R., & Berg, J. (2012). Perfectionism dimensions and the five□factor model of personality. *European Journal of Personality, 26*(3), 233-244. doi:http://dx.doi.org/10.1002/per.829

Dunkley, D. M., Blankstein, K. R., Halsall, J., Williams, M., & Winkworth, G. (2000). The relation between perfectionism and distress: Hassles, coping, and perceived social support as mediators and moderators. *Journal of Counseling Psychology, 47*(4), 437-453. doi: http://dx.doi.org/10.1037/0022-0167.47.4.437

Dunkley, D. M., Blankstein, K. R., Zuroff, D. C., Lecce, S., & Hui, D. (2006). Self-critical and personal standards factors of perfectionism located within the five-factor model of personality. *Personality And Individual Differences*, 40, 409-420. doi:10.1016/j.paid.2005.07.020

Dunkley, D. M., Zuroff, D. C., & Blankstein, K. R. (2003). Self-critical perfectionism and daily affect: Dispositional and situational influences on stress and coping. *Journal of Personality and Social Psychology, 84*(1), 234-252. doi: http://dx.doi.org/10.1037/0022-3514.84.1.234

Enders, C. K. (2010). *Applied missing data analysis.* Guilford Press, New York, NY.

Enders, C. K., & Bandalos, D. L. (2001). The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling, 8*(3), 430-457. doi:http://dx.doi.org/10.1207/S15328007SEM0803_5

Endler, N. S., & Parker, J. D. (1990). Multidimensional assessment of coping: A critical evaluation. *Journal of Personality and Social Psychology, 58*(5), 844-854. doi: http://dx.doi.org/10.1037/0022-3514.58.5.844

Endler, N. S., & Parker, J. D. A. (1994). Assessment of multidimensional coping: Task, emotion, and avoidance strategies.*Psychological Assessment, 6*(1), 50-60. doi:http://dx.doi.org/10.1037/1040-3590.6.1.50

Endler, N. S., & Parker, J. D. (1999). Coping Inventory for Stressful Situations: Manuel (2nd ed). Toronto: Multi-Health Systems.

Endler, N. S., Parker, J. D. A., & Butcher, J. N. (1993). A factor analytic study of coping styles and the MMPI-2 content scales. *Journal of Clinical Psychology, 49*(4), 523-527.

Enns, M. W., & Cox, B. J. (2002). The nature and assessment of perfectionism: A critical analysis. (pp. 33-62). Washington, DC, US: American Psychological Association, Washington, DC. doi:http://dx.doi.org/10.1037/10458-002

Enns, M. W., & Cox, B. J. (2005). Perfectionism, stressful life events, and the 1-year outcome of depression. *Cognitive Therapy and Research, 29*(5), 541-553. doi: http://dx.doi.org/10.1007/s10608-005-2414-8

Eysenck, H. J. (1947). Dimensions of personality. New York: Praeger.

Eysenck, H. J. (1967). *The biological basis of personality.* Springfield, IL: Thomas.

Eysenck, H.J., & Eysenck, M.W. (1985). *Personality and individual di•erences: A natural science approach.* New York: Plenum Press.

Flett, G. L., Hewitt, P. L., & De Rosa, T. (1996). Dimensions of perfectionism, psychosocial adjustment, and social skills. *Personality and Individual Differences, 20*(2), 143-150.

Flett, G. L., Hewitt, P. L., & Dyck, D. G. (1989). Self-oriented perfectionism, neuroticism and anxiety. *Personality and Individual Differences, 10*(7), 731-735.

Flett, G. L., Blankstein, K. R., Hewitt, P. L., & Koledin, S. (1992). Components of perfectionism and procrastination in college students. *Social Behavior and Personality, 20,* 85–94.

Flett, G. L., Blankstein, K. R., & Obertynski, M. (1996). Affect intensity, coping styles, mood regulation expectancies and depressive symptoms. *Personality and Individual Differences, 20*(2), 221-228.

Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research, 14*(5), 449-468. doi: http://dx.doi.org/10.1007/BF01172967

Garmezy, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developmental psychopathology. *Child Development, 55*(1), 97-111. doi: http://dx.doi.org/10.2307/1129837

Garner, D. M., Olmstead, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders, 2*(2), 15-34.

Geiser, C. (2013). *Data analysis with mplus* Guilford Press, New York, NY.

Graham, A. R., Sherry, S. B., Stewart, S. H., Sherry, D. L., McGrath, D. S., Fossum, K. M., & Allen, S. L. (2010). The existential model of perfectionism and depressive symptoms: A short-term, four-wave longitudinal study. *Journal of Counseling Psychology, 57*(4), 423-438. doi: http://dx.doi.org/10.1037/a0020667

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. Psychological Assessment, 4, 26-42. doi:10.1037/1040-3590.4.1.26

Hasse, A., Prapavessis, H., & Glynn, O. (2013). Domain-specificity in perfectionism: Variations across domains of life. *Personality and Individual Differences, 55*, 711-715.

Halmi, K. A., Tozzi, F., Thornton, L. M., Crow, S., Fichter, M. M., Kaplan, A. S., Bulik,

C. M. (2005). The relation among perfectionism, obsessive-compulsive personality disorder and obsessive-compulsive disorder in individuals with eating disorders. *International Journal of Eating Disorders, 38*(4), 371-374. doi:http://dx.doi.org/10.1002/eat.20190

Henrich, J., Heine, J., & Norenzayan, A. (2009). The weirdest people in the world? *Behavioral and Brain Sciences*, 33, 83-135. doi:10.1017/S0140525X0999152X

Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology, 60*(3), 456-470. doi: http://dx.doi.org/10.1037/0022-3514.60.3.456

Hewitt, P. L., & Flett, G. L. (2002). Perfectionism and stress processes in psychopathology. (pp. 255-284). Washington, DC, US: American Psychological Association, Washington, DC. doi:http://dx.doi.org/10.1037/10458-011

Hewitt, P. L., Flett, G. L., Besser, A., Sherry, S. B., & McGee, B. (2003). Perfectionism is multidimensional: A reply to shafran, cooper and fairburn (2002). *Behaviour Research and Therapy, 41*(10), 1221-1236. doi: http://dx.doi.org/10.1016/S0005-7967(03)00021-4

Hewitt, P. L., Flett, G. L., & Ediger, E. (1996). Perfectionism and depression: Longitudinal assessment of a specific vulnerability hypothesis. *Journal of Abnormal Psychology, 105*(2), 276-280. doi: http://dx.doi.org/10.1037/0021-843X.105.2.276

Hewitt, P. L., Habke, A. M., Lee-Baggley, D., Sherry, S. B., & Flett, G. L. (2008). The

impact of perfectionistic self-presentation on the cognitive, affective, and physiological experience of a clinical interview. *Psychiatry: Interpersonal and Biological Processes,71*(2), 93-122. doi:http://dx.doi.org/10.1521/psyc.2008.71.2.93

Hewitt, P. L., Mittelstaedt, W., & Wollert, R. (1989). Validation of a measure of perfectionism. *Journal of Personality Assessment,53*(1), 133-144.

Hill, R. W., Huelsman, T. J., Furr, R. M., Kibler, J., Vicente, B. B., & Kennedy, C. (2004). A new measure of perfectionism: The perfectionism inventory. *Journal of Personality Assessment, 82*(1), 80-91. doi:http://dx.doi.org/10.1207/s15327752jpa8201_13

Hill, R. W., Huelsman, T. J., & Araujo, G. (2010). Perfectionistic concerns suppress associations between perfectionistic strivings and positive life outcomes. *Personality and Individual Differences, 48*(5), 584-589. doi: http://dx.doi.org/10.1016/j.paid.2009.12.011

Hobden, K., & Pliner, P. (1995). Self-handicapping and dimensions of perfectionism: Self-presentation vs self-protection. *Journal of Research in Personality, 29*(4), 461-474.

Horney, K. (1950). *Neurosis and Human Growth*. New York: Norton.

Hoyle, R. H., & Panter, A. T. (1995). Writing about structural equation models. (pp. 158-176). Thousand Oaks, CA, US: Sage Publications, Inc, Thousand Oaks, CA.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55.

John, O. P. (1990). *The "big five" factor taxonomy: Dimensions of personality in the natural language and in questionnaires*. New York, NY, US: Guilford Press, New York, NY.

Jöreskog, K. G., & Sörbom, D. (1982). Recent developments in structural equation modeling. *Journal of Marketing Research,19*(4), 404-416.

Kelley, K., & Lai, K. (2010). MBESS (Version 3.2.0) [Computer software and manual].

Khan, A. A., Jacobson, K. C., Gardner, C. O., Prescott, C. A., & Kendler, K. S. (2005). Personality and comorbidity of common psychiatric disorders. *British Journal of Psychiatry, 186,* 190–196. doi: 10.1192/bjp.186.3.190

Kitano, Margie K., and Rena B. Lewis. 2005. Resilience and coping: Implications for gifted children and youth at risk. *Roeper Review: A Journal on Gifted Education* 27, (4): 200-205.

Kline, R. B. (2005). *Principles and practice of structural equation modeling (2nd ed.).* New York, NY, US: Guilford Press, New York, NY.

Lahey, B. (2009). Public health significance of neuroticism. *American Psychologist,* 64, 241-256. doi:10.1037/a0015309

Lake, R., Eaves, L., Maes, H., Heath, A., & Martin, N. (2000). Further evidence against the environmental transmission of individual differences in neuroticism from a collaborative study of 45,850 twins and relatives on two continents. *Behaviour Genetics*, 30, 223-233. doi:10.1023/A:1001918408984

Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine, 55*(3), 234-247.

Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisals, and Coping.* New York:

Springer.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the depression anxiety stress scales (DASS) with the beck depression and anxiety inventories. *Behaviour Research and Therapy, 33*(3), 335-343. doi: http://dx.doi.org/10.1016/0005-7967(94)00075-U

MacKinnon, D. P. (2008). *Introduction to statistical mediation analysis*. Mahwah, NJ: Erlbaum.

MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39,* 99-128.

MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology, 58*, 593-614. doi: http://dx.doi.org/10.1146/annurev.psych.58.110405.085542

Mackinnon, S. P., & Sherry, S. B. (2012). Perfectionistic self-presentation mediates the relationship between perfectionistic concerns and subjective well-being: A three-wave longitudinal study. *Personality and Individual Differences, 53*(1), 22-28. doi: http://dx.doi.org/10.1016/j.paid.2012.02.010

Malouff, M., Thorsteinsson, B., & Schutte, S. (2005). The relationship between the five-factor model of personality and symptoms of clinical disorders: A meta-analysis. *Journal of Psychopathology and Behavioral Assessment, 27,* 101–114.doi: 10.1007/s10862-005-5384-y

Mardia, K. V. Measures of multivariate skewness and kurtosis with applications. *Biometrika*, 57, 519-530.

Martin, J. L., & Ashby, J. S. (2004). Appraising perfection: The relationship of multidimensional perfectionism and intellectual development in college students. *Journal of College Student Psychotherapy, 18*(4), 61-74. doi:http://dx.doi.org/10.1300/J035v18n04_06

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*(3), 227-238. doi: http://dx.doi.org/10.1037/0003-066X.56.3.227

Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology, 19*(3), 921-930. doi: http://dx.doi.org/10.1017/S0954579407000442

Masten, A. S., & Tellegen, A. (2012). Resilience in developmental psychopathology: Contributions of the project competence longitudinal study. *Development and Psychopathology, 24*(2), 345-361. doi: http://dx.doi.org/10.1017/S095457941200003X

Matthews, G., Deary, I. J., & Whiteman, M. C. (2003). Personality traits. Cambridge, England: Cambridge University Press.

McAdams, D. P., & Pals, J. L. (2006). A new big five: Fundamental principles for an integrative science of personality. *American Psychologist, 61*(3), 204-217. doi: http://dx.doi.org/10.1037/0003-066X.61.3.204

McCrae, R. R., & Costa, P. T. (1999). *A five-factor theory of personality*. New York, NY, US: Guilford Press, New York, NY. Retrieved from https://www.lib.uwo.ca/cgibin/ezpauthn.cgi/docview/619408253?accountid=1515

McGrath, D. S., Sherry, S. B., Stewart, S. H., Mushquash, A. R., Allen, S. L., Nealis, L.

J., & Sherry, D. L. (2012). Reciprocal relations between self-critical perfectionism and depressive symptoms: Evidence from a short-term, four-wave longitudinal study. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement, 44*(3), 169-181. doi: http://dx.doi.org/10.1037/a0027764

McWilliams, L. A., Cox, B. J., & Enns, M. W. (2003). Use of the coping inventory for stressful situations in a clinically depressed sample: Factor structure, personality correlates, and prediction of distress. *Journal of Clinical Psychology, 59*(4), 423-437. doi:http://dx.doi.org/10.1002/jclp.10080

Mills, J. S. & Blankstein, K. R. (2000). Perfectionism, intrinsic versus extrinsic motivation, and motivational strategies for learning: A multidimensional analysis of university students. *Personality and Individual Differences, 29,* 1191-1204.

Missildine, W. H. (1963). *Your inner child of the past*. New York: Simon & Schster.

Molnar, D. S., Reker, D. L., Culp, N. A., Sadava, S. W., & DeCourville, N. H. (2006). A mediated model of perfectionism, affect, and physical health. *Journal of Research in Personality, 40*(5), 482-500. doi:http://dx.doi.org/10.1016/j.jrp.2005.04.002

Moskowitz, D. (1990). Convergence of self-reports and independent observers: Dominance and friendliness. *Journal of Personality and Social Psychology, 58,* 1096-1106. doi:10.1037/0022-3514.58.6.1096

Mushquash, A. R., & Sherry, S. B. (2012). Understanding the socially prescribed perfectionist's cycle of self-defeat: A 7-day, 14-occasion daily diary study. *Journal of Research in Personality, 46*(6), 700-709. doi:http://dx.doi.org/10.1016/j.jrp.2012.08.006

Muthén, L. K., & Muthén, B. O. (2010). *MPlus user's guide: Statistical analysis with*

latent variables (6th ed.). Los Angeles, CA: Muthén & Muthén.

Newcomb, M. D. (1990). What structural equation modeling can tell us about social support. (pp. 26-63). Oxford, England: John Wiley & Sons, Oxford.

Ormel, J., Rosmalen, J., & Farmer, A. (2004). Neuroticism: A non-informative marker of vulnerability to psychopathology. *Social Psychiatry and Psychiatric Epidemiology, 39*(11), 906-912. doi:http://dx.doi.org/10.1007/s00127-004-0873-y

Osman, A., Wong, J. L., Bagge, C. L., Freedenthal, S., Gutierrez, P. M., & Lozano, G. (2012). The depression anxiety stress Scales—21 (DASS-21): Further examination of dimensions, scale reliability, and correlates. *Journal of Clinical Psychology, 68*(12), 1322-1338. doi:http://dx.doi.org/10.1002/jclp.21908

Pacht, A. R. (1984). Reflections on perfection. *American Psychologist, 39*(4), 386-390. doi:http://dx.doi.org/10.1037/0003-066X.39.4.386

Parker, J. D., & Endler, N. S. (1992). Coping with coping assessment: A critical review. *European Journal of Personality, 6*(5), 321-344.

Parker, J. D. A., & Endler, N. S. (1996). *Coping and defense: A historical overview*. Oxford, England: John Wiley & Sons, Oxford.

Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology, 3*(2), 137-152. doi:http://dx.doi.org/10.1080/17439760701756946

Peters, C. L. O., & Enders, C. (2002). A primer for the estimation of structural equation models in the presence of missing data. *Journal of Targeting, Measurement and Analysis for Marketing, 11*, 81-95.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for

assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879-891. doi:http://dx.doi.org/10.3758/BRM.40.3.879

Preacher, K. J., & Kelley, K. (2011). Effect size measures for mediation models: Quantitative strategies for communicating indirect effects. *Psychological Methods, 16*(2), 93-115. doi:http://dx.doi.org/10.1037/a0022658

Prince-Embury, S. (2007). Resiliency scales for children and adolescents: Profiles of personal strength. San Antonio, TX: Harcourt Assessment, Inc.

Prince-Embury, S. (2011). Assessing personal resiliency in the context of school settings: Using the resiliency scales for children and adolescents. *Psychology in the Schools, 48*(7), 672-685. doi: http://dx.doi.org/10.1002/pits.20581

R Development Core Team. (2010). *R: A language and environment for statistical computing.* Vienna, Austria: Author.

Ranieri, W. F., Steer, R. A., Lavrence, T. I., & Rissmiller, D. J. (1987). Relationships of depression, hopelessness, and dysfunctional attitudes to suicide ideation in psychiatric patients. *Psychological Reports, 61*(3), 967-975.

Rhéaume, J., Freeston, M. H., Ladouceur, R., Bouchard, C., Gallant, L., Talbot, F., & Vallières, A. (2000). Functional and dysfunctional perfectionists: Are they different on compulsive-like behaviors? *Behaviour Research and Therapy, 38*(2), 119-128. doi:http://dx.doi.org/10.1016/S0005-7967(98)00203-4

Resnick, Michael D., and Laura Hutton. 1987. Resiliency among physically disabled adolescents. *Psychiatric Annals* 17, (12): 796-800,

Rice, K. G., & Aldea, M. A. (2006). State dependence and trait stability of perfectionism:

A short-term longitudinal study. *Journal of Counseling Psychology, 53*(2), 205-213. doi:http://dx.doi.org/10.1037/0022-0167.53.2.205

Rice, K. G., Ashby, J. S., & Slaney, R. B. (1998). Self-esteem as a mediator between perfectionism and depression: A structural equations analysis. *Journal of Counseling Psychology, 45*(3), 304-314. doi: http://dx.doi.org/10.1037/0022-0167.45.3.304

Rosen, A. M., Murkofsky, C. A., Steckler, N. M., & Skolnick, N. J. (1989). A comparison of psychological and depressive symptoms among restricting anorexic, bulimic anorexic, and normal-weight bulimic patients. *International Journal of Eating Disorders,8*(6), 657-663.

Saklofske, D. H., Nordstokke, D. W., Prince-Embury, S., Crumpler, T., Nugent, S., Vesely, A., & Hindes, Y. (2013). Assessing personal resiliency in young adults: The resiliency scale for children and adolescents. (pp. 189-198). New York, NY. doi:http://dx.doi.org/10.1007/978-1-4614-4939-3_14

Sandler, I. N., Wolchik, S. A., MacKinnon, D., Ayers, T. S., & Roosa, M. W. (1997). *Developing linkages between theory and intervention in stress and coping processes*. New York, NY, US: Plenum Press, New York, NY.

Saulsman, L., Page A., & Andrew, C. (2004). The five-factor model and personality disorder empirical literature: A meta-analytic review. *Clinical Psychology Review, 23,* 1055-1085. doi:10.1016/j.cpr.2002.09.001

Shafran, R., & Mansell, W. (2001). Perfectionism and psychopathology: A review of research and treatment. *Clinical Psychology Review, 21*(6), 879-906. doi:http://dx.doi.org/10.1016/S0272-7358(00)00072-6

Shaver, P. R., & Mikulincer, M. (2002). Attachment-related psychodynamics. *Attachment & Human Development, 4*(2), 133-161. doi:http://dx.doi.org/10.1080/14616730210154171

Sherry, S. B., Flett, G. L., & Hewitt, P. L. (2001). Perfectionism and self-handicapping [Abstract]. *Journal of Abnormal Psychology, 98*, 78.

Sherry, S. B., Hewitt, P. L., Sherry, D. L., Flett, G. L., & Graham, A. R. (2010). Perfectionism dimensions and research productivity in psychology professors: Implications for understanding the (mal)adaptiveness of perfectionism. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement, 42*(4), 273-283. doi:http://dx.doi.org/10.1037/a0020466

Sherry, S. B., Mackinnon, A. L., Fossum, K., Antony, M. M., Stewart, S. H., Sherry, D. L., Nealis, L. J., & Mushquash, A. R. (2013a). Perfectionism, discrepancies, and depression: Testing the perfectionism social disconnection model in a short-term, four-wave longitudinal study. *Personality and Individual Differences*, *54*, 692-697.

Sherry, S. B., Mackinnon, S. P., Macneil, M. A., & Fitzpatrick, S. (2013b). Discrepancies confer vulnerability to depressive symptoms: A three-wave longitudinal study. *Journal of Counseling Psychology, 60*(1), 112-126.

Sherry, S. B., & Hall, P. A. (2009). The perfectionism model of binge eating: Tests of an integrative model. *Journal of Personality and Social Psychology, 96*(3), 690-709. doi:http://dx.doi.org/10.1037/a0014528

Sherry, S. B., Law, A., Hewitt, P. L., Flett, G. L., & Besser, A. (2008). Social support as

a mediator of the relationship between perfectionism and depression: A preliminary test of the social disconnection model. *Personality and Individual Differences, 45*(5), 339-344. doi: http://dx.doi.org/10.1016/j.paid.2008.05.001

Short, M. M., & Mazmanian, D. (2013). Perfectionism and negative repetitive thoughts: Examining a multiple mediator model in relation to mindfulness. *Personality and Individual Differences,* doi:http://dx.doi.org/10.1016/j.paid.2013.05.026

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7*(4), 422-445. doi:http://dx.doi.org/10.1037/1082-989X.7.4.422

Slaney, R. B., Rice, K. G., & Ashby, J. S. (2002). A programmatic approach to measuring perfectionism: The almost perfect scales. (pp. 63-88). Washington, DC, US: *American Psychological Association*, Washington, DC. doi: http://dx.doi.org/10.1037/10458-003

Smith, M. M., & Saklofske, D. H. (2013). [Psychometric data]. Unpublished data.

Somerfield, M. R., & McCrae, R. R. (2000). Stress and coping research: Methodological challenges, theoretical advances, and clinical applications. *American Psychologist, 55*(6), 620-625. doi:http://dx.doi.org/10.1037/0003-066X.55.6.620

Stoeber, J. (2012a). Perfectionism and performance. In S. M. Murphy (Ed.), Oxford handbook of sport and performance psychology (pp. 294-306). New York: Oxford University Press.

Stoeber, J. (2012b). The 2×2 model of perfectionism: A critical comment and some suggestions. *Personality and Individual Differences, 53*(5), 541-545. doi:http://dx.doi.org/10.1016/j.paid.2012.04.029

Stoeber, J., Hutchfield, J., & Wood, K. V. (2008). Perfectionism, self-efficacy, and

aspiration level: Differential effects of perfectionistic striving and self-criticism after success and failure. *Personality and Individual Differences, 45*(4), 323-327. doi:http://dx.doi.org/10.1016/j.paid.2008.04.021

Stoeber, J., & Kersting, M. (2007). Perfectionism and aptitude test performance: Testees who strive for perfection achieve better test results. *Personality and Individual Differences, 42*(6), 1093-1103. doi:http://dx.doi.org/10.1016/j.paid.2006.09.012

Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review, 10*(4), 295-319. doi:http://dx.doi.org/10.1207/s15327957pspr1004_2

Stoeber, J., & Stoeber, F. S. (2009). Domains of perfectionism: Prevalence and relationships with perfectionism, gender, age, and satisfaction with life. *Personality and Individual Differences, 46,* 530- 535.

Sutin, A. R. (2008). Autobiographical memory as a dynamic process: Autobiographical memory mediates basic tendencies and characteristic adaptations. *Journal Of Research In Personality*, 42, 1060-1066. doi:10.1016/j.jrp.2007.10.002

Terry, D. J. (1994). Determinants of coping: The role of stable and situational factors. *Journal of Personality and Social Psychology,66*(5), 895-910. doi:http://dx.doi.org/10.1037/0022-3514.66.5.895

Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior, 36*, 53-79.

Thomas, J., & Michael, P. (2010). Statistica. In N. Salkind (Ed.), *Encyclopedia of research design.* (pp. 1443-1445). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412961288.n441

Thompson, D. A., Berg, K. M., & Shatford, L. A. (1987). The heterogeneity of bulimic

symptomatology: Cognitive and behavioral dimensions. *International Journal of Eating Disorders, 6*(2), 215-234.

Thompson, R. A., Flood, M. F., & Goodvin, R. (2006). Social support and developmental psychopathology. (pp. 1-37). Hoboken, NJ, US: John Wiley & Sons Inc, Hoboken, NJ.

Watson, D., Clark, L., & Harkness, A. (1994). Structures of personality and their relevance to abnormal psycopathology. *Journal of Abnormal Psychology*, 103, 18-31. doi:10.1037/0021-843X.103.1.18

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070. doi: http://dx.doi.org/10.1037/0022-3514.54.6.1063

Werner, E. E. (1989). Vulnerability and resiliency: A longitudinal perspective. (pp. 158-172). Oxford, England: Walter De Gruyter, Oxford. Retrieved from https://www.lib.uwo.ca/cgibin/ezpauthn.cgi/docview/617853600?accountid=1515

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*(5), 297-333. doi: http://dx.doi.org/10.1037/h0040934

Wills, T. A., & Hirky, A. E. (1996). *Coping and substance abuse: A theoretical model and review of the evidence*. Oxford, England: John Wiley & Sons.

Zeidner, M., & Saklofske, D. H. (1996). Adaptive and maladaptive coping. In M. Zeidner & D. Saklofske (Eds.), Handbook of coping: Theory, research, and applications (pp. 505-531). Oxford, England: John Wiley & Sons.

Table 1

Descriptive Statistics and Bivariate Correlations

Variable	*M*	*SD*	α	*SU*	*KU*	1	2	4	5	6	7	8	9	10	11
1. Perfectionistic strivings	.02	2.60	.91	.02	-.46	1									
2. Perfectionistic concerns	.00	2.45	.89	.23	-.58	.62**	1								
3. Personal resiliency	.00	1.63	.88	-.53	.00	-.19**	-.56**	1							
4. Negative emotionality	.00	.93	.93	.89	.69	.28**	.51**	-.63**	1						
5. Negative affect	34.66	7.49	.90	.60	-.12	.20**	.48**	-.63**	.64	1					
6. Positive affect	22.61	7.95	.90	-.54	-.08	.05	-.29**	.59**	-.33**	.31**	1				
7. Satisfaction with life	24.18	6.58	.88	-.61	-.25	-.12*	-.34**	.65**	-.46**	-.48**	.50**	1			
8. Task-oriented coping	25.02	4.68	.85	-.22	-.16	.09	-.15**	.50**	-.24**	-.29**	.42**	.39**	1		
9. Emotion-oriented coping	21.75	5.72	.86	.09	-.36	.25**	.60**	-.66**	.50**	.61**	-.39**	-.42**	-.29**	1	
10. Avoidance-oriented coping	21.56	5.33	.76	-.06	-.57	.01	.04	.08	.05	.03	.21	.21**	.13**	.06	1

Note. M., Mean; *SD*., Standard deviation; *SU*, Univariate skewness; *KU*., Univariate kurtosis; Personal resiliency., Vulnerability index; Negative emotionality., DASS total; *p < .01; **p < .001.

Table 2

Variance-Covariance Matrix for the Perfectionism-Personal Resiliency Model

Variable	1	2	3	4	5	6	7
1. Perfectionistic strivings	6.734						
2. Perfectionistic concerns	3.980	5.873					
3. Personal resiliency	-.857	-2.244	2.665				
4. Negative emotionality	.695	1.177	-.969	.870			
5. Negative affect	4.139	9.248	-8.205	4.784	62.910		
6. Positive affect	.988	-5.008	7.083	-2.299	-18.699	55.032	
7. Satisfaction with Life	-2.046	-5.538	6.981	-2.046	-25.161	24.359	43.614

Note. Personal resiliency., vulnerability index; Negative emotionality., DASS total.

Table 3

Variance-Covariance Matrix for Competing Model A

Variable	1	2	3	4	5	6	7
1. Perfectionistic strivings	6.734						
2. Perfectionistic concerns	3.980	5.974					
3. Emotion-oriented coping	-2.049	8.371	32.653				
4. Negative emotionality	.704	1.183	2.704	.871			
5. Negative affect	4.149	9.267	27.672	2.568	63.028		
6. Positive affect	.986	-5.021	-16.275	-1.450	-14.841	55.139	
7. Satisfaction with Life	-2.049	-5.506	-16.103	-1.508	-14.597	9.129	43.332

Note. Negative emotionality., DASS total.

Table 4

Variance-Covariance Matrix for Competing Model B

Variable	1	2	3	4	5	6	7
1. Perfectionistic strivings	6.734						
2. Perfectionistic concerns	3.980	5.974					
3. Task-oriented coping	1.193	-1.634	21.882				
4. Negative emotionality	.707	1.184	-.996	.871			
5. Negative affect	4.138	9.258	-10.591	2.091	63.014		
6. Positive affect	.988	-5.020	14.641	-1.919	-13.660	55.130	
7. Satisfaction with Life	-1.999	-5.448	11.719	-1.402	-12.455	11.322	43.207

Note. Negative emotionality., DASS total.

Table 5

Variance-covariance matrix for competing model C

Variable	1	2	3	4	5	6	7
1. Perfectionistic strivings	6.734						
2. Perfectionistic concerns	3.980	5.973					
3. Avoidance-oriented coping	.277	.580	28.395				
4. Negative emotionality	.708	1.184	.282	.871			
5. Negative affect	4.132	9.254	1.673	1.878	63.011		
6. Positive affect	.992	-5.016	7.781	-1.031	-9.716	55.137	
7. Satisfaction with Life	-2.022	-5.451	7.377	-1.066	-9.044	8.639	43.188

Note. Negative emotionality., DASS total.

Table 6

Goodness-of-fit Statistics for Different Hierarchical Perfectionism-Personal Resiliency Models

Model description	Comparative model	X^2	df	ΔX^2	Δdf	Statistical significance	CFI	SRMR
1. PRPM with all direct effects and residual errors correlated	-	.000	0	-	-	-	1.00	.000
2. PRPM with direct effect from PS to SWL fixed to 0 and residual error correlated.	2 versus 1	.021	1	.021	1	.885	1.00	.001
3. PRPM with direct effect from PS to PA constrained to 0 and residual error correlated	3 versus 1	18.858	1	18.858	1	.000	.984	.023
4. PRPM with direct effect from PS to NA constrained to 0 and residual error correlated	4 versus 1	.391	1	.391	1	.537	1.00	.003
5. PRPM with direct effects from PS to DASS constrained to 0 and residual error correlated	5 versus 1	1.965	1	1.965	1	.161	.999	.007
6. PRPM with direct effect from PC to SWL constrained to 0 and residual error correlated	6 versus 1	.378	1	.378	1	.539	1.00	.003
7. PRPM with direct effect from PC to PA constrained to 0 and residual error correlated	7 versus 1	2.352	1	2.352	1	.125	.999	.007
8. PRPM with direct effect from PC to NA constrained to 0 and residual error correlated	8 versus 1	11.528	1	11.528	1	.001	.991	.015
9. PRPM with direct effect from PC to DASS constrained to 0 and residual error correlated	9 versus 1	9.661	1	9.661	1	.002	.992	.014
10. PPRM with direct effects from PS to SWL, PS to DASS, PS to NA, PC to SWL, and PC to PA, constrained to 0, and residual error correlated (selected).	10 versus 1	6.938	5	6.938	5	.225	.998	.011

Note: Significant chi-square difference tests indicates a significantly worse fit to the data for the model. PPRM., Perfectionism-Personal Resiliency Model; ΔX^2., difference in X^2 values between models; Δdf., differences in number of degrees of freedom between models; ΔCFI., differences in CFI values between models; PC., perfectionistic concerns; PS., perfectionistic strivings; SWL., satisfaction with life; DASS., negative emotionality; PA., positive affect; NA., negative affect.

Table 7

Correlation residuals for the final perfectionism-personal resiliency model

Variable	1	2	3	4	5	6	7
1. Perfectionistic strivings	.000						
2. Perfectionistic concerns	-.011	.000					
3. Personal resiliency	.001	.004	.000				
4. Negative emotionality	.029	-.009	.006	.000			
5. Negative affect	-.028	-.008	.003	-.008	.000		
6. Positive affect	-.006	-.052	.004	-.001	-.003	.000	
7. Satisfaction with life	.012	.022	-.001	-.013	.009	.006	.000

Note. Personal resiliency., vulnerability index; Negative emotionality., DASS total.

Table 8

Decompositions for Effects of Exogenous Variables on Endogenous Variables for the perfectionism-personal resiliency model

	Exogenous variables					
	Perfectionistic strivings			Perfectionistic Concerns		
Endogenous variables	Unst.	St.	Bootstrap 95% CI (St)	Unst.	St.	Bootstrap 95% CI (St)
Personal resiliency						
Direct effect	.156	.248	.145 to .342	-.480	-.718	-.802 to -.614
Indirect effect	-	-	-	-	-	-
Total effect	.156	.248	.145 to .342	-.480	-.718	-.802 to -.614
Negative emotionality						
Direct effect	.025	.071	-.023 to .164	.069	.182	.085 to .279
Indirect effect	-.046	-.129	-.182 to -.076	.142	.373	.295 to .451
Total effect	-.021	-.058	-.169 to .052	.212	.555	.457 to .653
Negative affect						
Direct effect	-.095	-.031	-.133 to .071	.648	.200	.085 to .315
Indirect effect	-.400	-.131	-.186 to -.076	1.230	.379	.292 to .466
Total effect	-.496	-.162	-.274 to -.050	1.878	.579	.480 to .678
Positive affect						
Direct effect	.649	.227	.130 to .323	-.283	-.093	-.207 to .020
Indirect effect	.441	.144	.069 to .201	-1.261	-.415	-.495 to -.335
Total effect	1.059	.371	.257 to .484	-1.544	-.509	-.616 to -.402
Satisfaction with life						
Direct effect	-.023	-.009	-.135 to .087	.092	.034	-.117 to .149
Indirect effect	.420	.165	.099 to .232	-1.289	-.477	-.567 to -.388
Total effect	.397	.156	.045 to .268	-1.197	-.444	-.558 to -.329

Note. Unst., unstandardized; St., standardized; Bootstrap 95% CI., 95% bias-corrected standardized bootstrapped confidence interval with 20,000 resamples; personal resiliency., vulnerability index; negative emotionality., DASS total.

Table 9

Goodness-of-fit Statistics for Different Hierarchical Competing A Models

Model description	Comparative model	X^2	df	ΔX^2	Δdf	Statistical significance	CFI	SRMR
1. Model A with all direct effects and residual errors correlated.	-	.000	0	-	-	-	1.00	.000
2. Model A with direct effect from PS to SWL fixed to 0 and residual error correlated.	2 versus 1	2.456	1	2.456	1	.117	.998	.012
3. Model A with direct effect from PS to PA constrained to 0 and residual error correlated	3 versus 1	28.571	1	28.571	1	.000	.971	.034
4. Model A with direct effect from PS to NA constrained to 0 and residual error correlated	4 versus 1	1.497	1	1.497	1	.221	.999	.008
5. Model A with direct effects from PS to DASS constrained to 0 and residual error correlated	5 versus 1	.001	1	.001	1	.973	1.00	.000
6. Model A with direct effect from PC to SWL constrained to 0 and residual error correlated	6 versus 1	7.639	1	7.639	1	.006	.993	.017
7. Model A with direct effect from PC to PA constrained to 0 and residual error correlated	7 versus 1	19.064	1	19.064	1	.000	.981	.024
8. Model A with direct effect from PC to NA constrained to 0 and residual error correlated	8 versus 1	13.041	1	13.041	1	.000	.987	.018
9. Model A with direct effect from PC to DASS constrained to 0 and residual error correlated	9 versus 1	25.135	1	23.135	1	.000	.975	.027
10. Model A with direct effects from PS to SWL, PS to NA, PS to DASS, constrained to 0, and residual error correlated (selected).	10 versus 1	4.008	3	4.008	3	.261	.999	.012

Note: Significant chi-square difference tests indicates a significantly worse fit to the data for the model; ΔX^2., difference in X^2 values between models; Δdf., differences in number of degrees of freedom between models; ΔCFI., differences in CFI values between models; PS., perfectionistic strivings; PC., perfectionistic concerns; SWL., satisfaction with life; DASS., Negative emotionality; PA., Positive affect; NA., Negative affect.

Table 10

Decompositions for Effects of Exogenous Variables on Endogenous Variables for Competing Model A

	Exogenous variables					
	Perfectionistic strivings			Perfectionistic Concerns		
Endogenous variables	Unst.	St.	Bootstrap 95% CI (St)	Unst.	St.	Bootstrap 95% CI (St)
Emotion-oriented coping						
Direct effect	-.488	-.203	-.288 to -.099	1.700	.727	.636 to .796
Indirect effect	-	-	-	-	-	-
Total effect	-488	-.203	-.288 to -.099	1.700	.727	,636 to .796
Negative emotionality						
Direct effect	.001	.002	-.105 to .109	.125	.326	.209 to .444
Indirect effect	-.023	-.064	-.100 to -.027	.087	.227	.151 to .303
Total effect	-.022	-.062	-.105 to .109	.211	.554	.455 to .652
Negative affect						
Direct effect	-.189	-.062	-.201 to .044	.717	.221	.061 to .342
Indirect effect	-.307	-.100	-.151 to -.049	1.165	.359	.283 to .434
Total effect	-.496	-.162	-274 to -.050	1.882	.579	.480 to .678
Positive affect						
Direct effect	.898	.314	.198 to .430	-.930	-.306	-.444 to -.168
Indirect effect	.163	.057	.023 to .091	-.617	-.203	-.282 to -.125
Total effect	1.061	.371	.257 to .430	-1.547	-.509	-.616 to -.402
Satisfaction with life						
Direct effect	.232	.091	-.002 to .202	-.524	-.194	-.342 to -.046
Indirect effect	.175	.069	.030 to .107	-.666	-.246	-.331 to -.162
Total effect	.407	.160	.048 to .272	-1.190	-.440	-.555 to -.325

Note. Unst., unstandardized; St., standardized; Bootstrap 95% CI., 95% bias-corrected standardized bootstrapped confidence interval with 20,000 resamples; personal resiliency., vulnerability index; negative emotionality., DASS total.

Table 11

Goodness-of-fit Statistics for Different Hierarchical Competing B Models

Model description	Comparative model	X^2	df	ΔX^2	Δdf	Statistical significance	CFI	SRMR
1. Model B with all direct effects and residual errors correlated.	-	.000	0	-	-	-	1.00	.000
2. Model B with direct effect from PS to SWL fixed to 0 and residual error correlated.	2 versus 1	1.058	1	1.058	1	.304	1.00	.007
3. Model B with direct effect from PS to PA constrained to 0 and residual error correlated	3 versus 1	21.807	1	21.807	1	.000	.973	.028
4. Model B with direct effect from PS to NA constrained to 0 and residual error correlated	4 versus 1	3.215	1	3.125	1	.073	.997	.012
5. Model B with direct effects from PS to DASS constrained to 0 and residual error correlated	5 versus 1	.053	1	.053	1	.819	1.00	.002
6. Model B with direct effect from PC to SWL constrained to 0 and residual error correlated	6 versus 1	31.316	1	31.316	1	.000	.960	.046
7. Model B with direct effect from PC to PA constrained to 0 and residual error correlated	7 versus 1	46.770	1	46.770	1	.000	.940	.049
8. Model B with direct effect from PC to NA constrained to 0 and residual error correlated	8 versus 1	77.005	1	77.005	1	.000	.900	.063
9. Model B with direct effect from PC to DASS constrained to 0 and residual error correlated	9 versus 1	74.529	1	74.529	1	.000	.903	.065
10. Model B with direct effects from PS to SWL, PS to NA, PS to DASS, constrained to 0, and residual error correlated (selected).	10 versus 1	4.260	3	4.260	3	.235	.998	.012

Note: Significant chi-square difference tests indicates a significantly worse fit to the data for the model; ΔX^2., difference in X^2 values between models; Δdf., differences in number of degrees of freedom between models; ΔCFI., differences in CFI values between models; PS., perfectionistic strivings; PC., perfectionistic concerns; SWL., satisfaction with life; DASS., Negative emotionality; PA., Positive affect; NA., Negative affect.

Table 12

Decompositions for Effects of Exogenous Variables on Endogenous Variables for Competing Model B

	Exogenous variables					
	Perfectionistic strivings			Perfectionistic Concerns		
Endogenous variables	Unst.	St.	Bootstrap 95% CI (St)	Unst.	St.	Bootstrap 95% CI (St)
Task-oriented coping						
Direct effect	.559	.310	.170 to .419	-.646	-.337	-.452 to -.215
Indirect effect	-	-	-	-	-	-
Total effect	.559	.310	.170 to .419	-.646	-.337	-.452 to -.215
Negative emotionality						
Direct effect	-.003	-.008	-.119 to .104	.192	.502	.403 to .601
Indirect effect	-.017	-.048	-.083 to -.013	.020	.053	.017 to .088
Total effect	-.020	-.056	-.167 to .055	.192	.554	.456 to .652
Negative affect						
Direct effect	-.305	-.100	-.218 to .018	1.659	.511	.407 to .615
Indirect effect	-.192	-.063	-.103 to -.023	.222	.068	.029 to .107
Total effect	-.497	-.163	-.275 to -.050	1.881	.579	.480 to .678
Positive affect						
Direct effect	.761	.266	.153 to .378	-1.200	-.395	-.540 to -.285
Indirect effect	.301	.105	.054 to .156	-.347	-.114	-.165 to -.064
Total effect	1.061	.371	.257 to .485	-1.547	-.509	-.616 to -.402
Satisfaction with life						
Direct effect	.141	.056	-.060 to .171	-.880	-.327	-.446 to -.208
Indirect effect	.258	.102	.048 to .156	-.298	-.111	-.161 to -.061
Total effect	.399	.158	.046 to .270	-1.178	-.438	-.553 to -.208

Note. Unst., unstandardized; St., standardized; Bootstrap 95% CI., 95% bias-corrected standardized bootstrapped confidence interval with 20,000 resamples; personal resiliency., vulnerability index; negative emotionality., DASS total.

Table 13

Goodness-of-fit Statistics for Different Hierarchical Competing C Models

Model description	Comparative model	X^2	df	ΔX^2	Δdf	Statistical significance	CFI	SRMR
1. Model C with all direct effects and residual errors correlated.	-	.000	0	-	-	-	1.00	.000
2. Model C with direct effect from PS to AO fixed to 0 and residual error correlated.	2 versus 1	.044	1	.044	1	.833	1.00	.002
3. Model C with direct effect from PC to AO fixed to 0 and residual error correlated.	3 versus 1	.701	1	.701	1	.402	1.00	.009
4. Model C with direct effect from PS to SWL fixed to 0 and residual error correlated.	4 versus 1	7.944	1	7.944	1	.005	.990	.023
5. Model C with direct effect from PS to PA constrained to 0 and residual error correlated	5 versus 1	41.334	1	41.334	1	.000	.942	.043
6. Model C with direct effect from PS to NA constrained to 0 and residual error correlated	6 versus 1	8.551	1	8.551	1	.004	.989	.022
7. Model C with direct effects from PS to DASS constrained to 0 and residual error correlated	7 versus 1	1.279	1	1.279	1	.258	1.00	.009
8. Model C with direct effect from PC to SWL constrained to 0 and residual error correlated	8 versus 1	57.404	1	57.404	1	.000	.919	.075
9. Model C with direct effect from PC to PA constrained to 0 and residual error correlated	9 versus 1	77.450	1	77.450	1	.000	.890	.075
10. Model C with direct effect from PC to NA constrained to 0 and residual error correlated	10 versus 1	97.958	1	97.959	1	.000	.860	.086
11. Model C with direct effect from PC to DASS constrained to 0 and residual error correlated	11 versus 1	92.213	1	92.213	1	.000	.868	.088
12. Model C with direct effects from PS to AO, PC to AO , and PS to DASS constrained to 0, and residual error correlated (selected).	12 versus 1	2.142	3	2.142	3	.544	1.00	.014

Note: Significant chi-square difference tests indicates a significantly worse fit to the data for the model; ΔX^2., difference in X^2 values between models; Δdf., differences in number of degrees of freedom between models; ΔCFI., differences in CFI values between models; AO., avoidance oriented coping; PS., perfectionistic strivings; PC., perfectionistic concerns; SWL., satisfaction with life; DASS., Negative emotionality; PA., Positive affect; NA., Negative affect.

Table 14

Decompositions for Effects of Exogenous Variables on Endogenous Variables for Competing Model C

	Exogenous variables					
	Perfectionistic strivings			Perfectionistic Concerns		
Endogenous variables	Unst.	St.	Bootstrap 95% CI (St)	Unst.	St.	Bootstrap 95% CI (St)
Avoidance-oriented coping						
Direct effect	-.027	-.013	-.145 to .108	.115	.053	-.076 to .174
Indirect effect	-	-	-	-	-	-
Total effect	-.027	-.013	-.145 to .108	.115	.053	-.076 to .174
Negative emotionality						
Direct effect	-.020	-.055	.-.166 to .056	.211	.552	.423 to .650
Indirect effect	.000	.000	-.008 to .007	.001	.002	-.007 to .010
Total effect	-.020	-.055	-.166 to .056	.211	.554	.456 to .652
Negative affect						
Direct effect	-.497	-.163	-.275 to -.050	1.878	.578	.470 to .677
Indirect effect	-.001	.000	-.006 to .006	.003	.001	-.007 to .008
Total effect	-.498	-.163	-.275 to -.051	1.881	.579	.480 to .678
Positive affect						
Direct effect	1.070	.374	.265 to .483	-1.581	-.520	-.625 to -.402
Indirect effect	-.008	-.003	-.030 to .025	.034	.011	-.017 to .039
Total effect	1.062	.371	.257 to .483	-1.547	-.520	-.616 to -.402
Satisfaction with life						
Direct effect	.402	.159	.050 to .268	-1.207	-.449	-.560 to -.338
Indirect effect	-.008	-.003	-.033 to .027	.032	.012	-.018 to .042
Total effect	.394	.156	.044 to .268	-1.175	-.437	-.553 to -.321

Note. Unst., unstandardized; St., standardized; Bootstrap 95% CI ., 95% bias-corrected standardized bootstrapped confidence interval with 20,000 resamples; personal resiliency., vulnerability index; negative emotionality., DASS total.

Table 15

Values of Fit Statistics for Four Nonhierarchical Path Models of the Perfectionism-Psychological Outcome Link

	Model			
Index	Final PPRM (Figure 1)	Final Model A (Figure 2)	Final Model B (Figure 3)	Final Model C (Figure 4)
X^2	6.938	4.008	4.260	2.142
df	5	3	3	3
p	.225	.261	.235	.544
CFI	.998	.999	.998	1.00
RMESA	.030	.028	.032	.000
SRMR	.011	.012	.012	.014
AIC	13749	14930	14959	15127

*Note: PPRM, perfectionism personal-resiliency model.

Figure 1. Final perfectionism-personal resiliency model. Values are standardized. Single-headed arrows between variables represent significant paths ($p < .05$). Double-headed arrows represent covariance. Rectangles represent observed variables; circles represent error variance. Italicized numbers to the right of endogenous variables represents the proportion of variance explained.

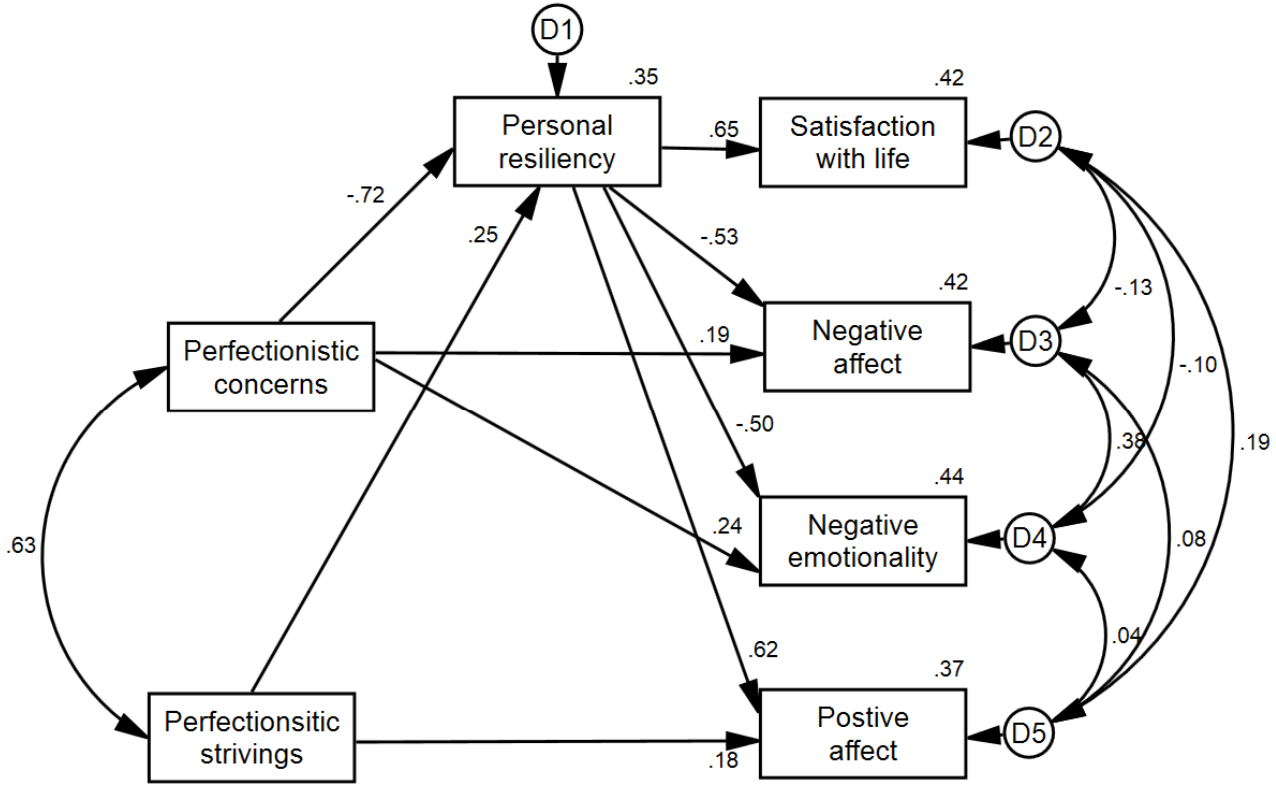


Figure 2. Final model for competing model A. Values are standardized. All paths are significant at $p < .05$. Single-headed arrows between variables represent significant paths ($p < .05$). Double-headed arrows represent covariance. Rectangles represent observed variables; circles represent error variance. Italicized numbers to the right of endogenous variables represents the proportion of variance explained.

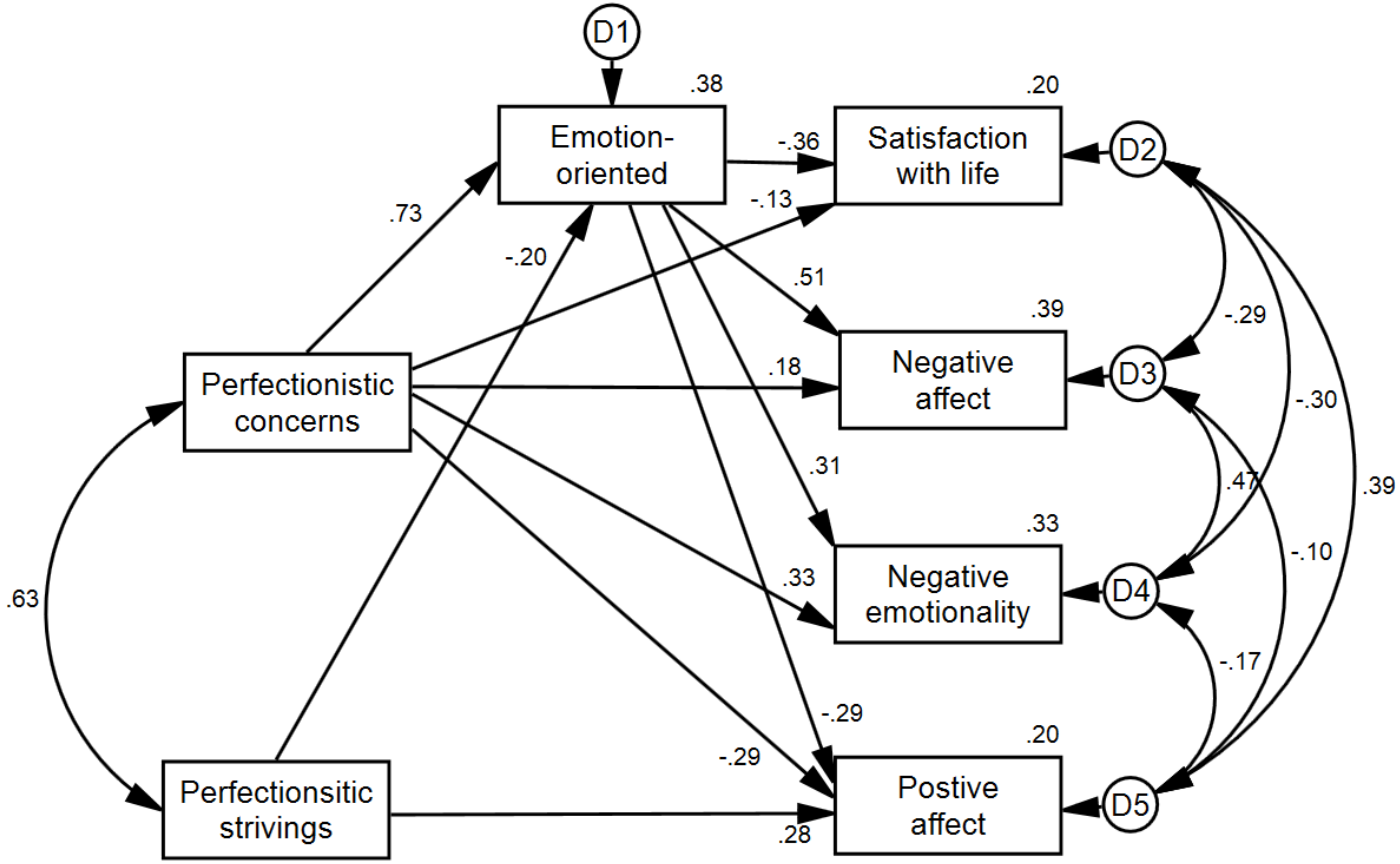


Figure 3. Values are standardized. Final model for competing model B. All paths are significant at $p < .05$. Single-headed arrows between variables represent significant paths. Double-headed arrows represent covariance. Rectangles represent observed variables; circles represent error variance. Italicized numbers to the right of endogenous variables represents the proportion of variance explained.

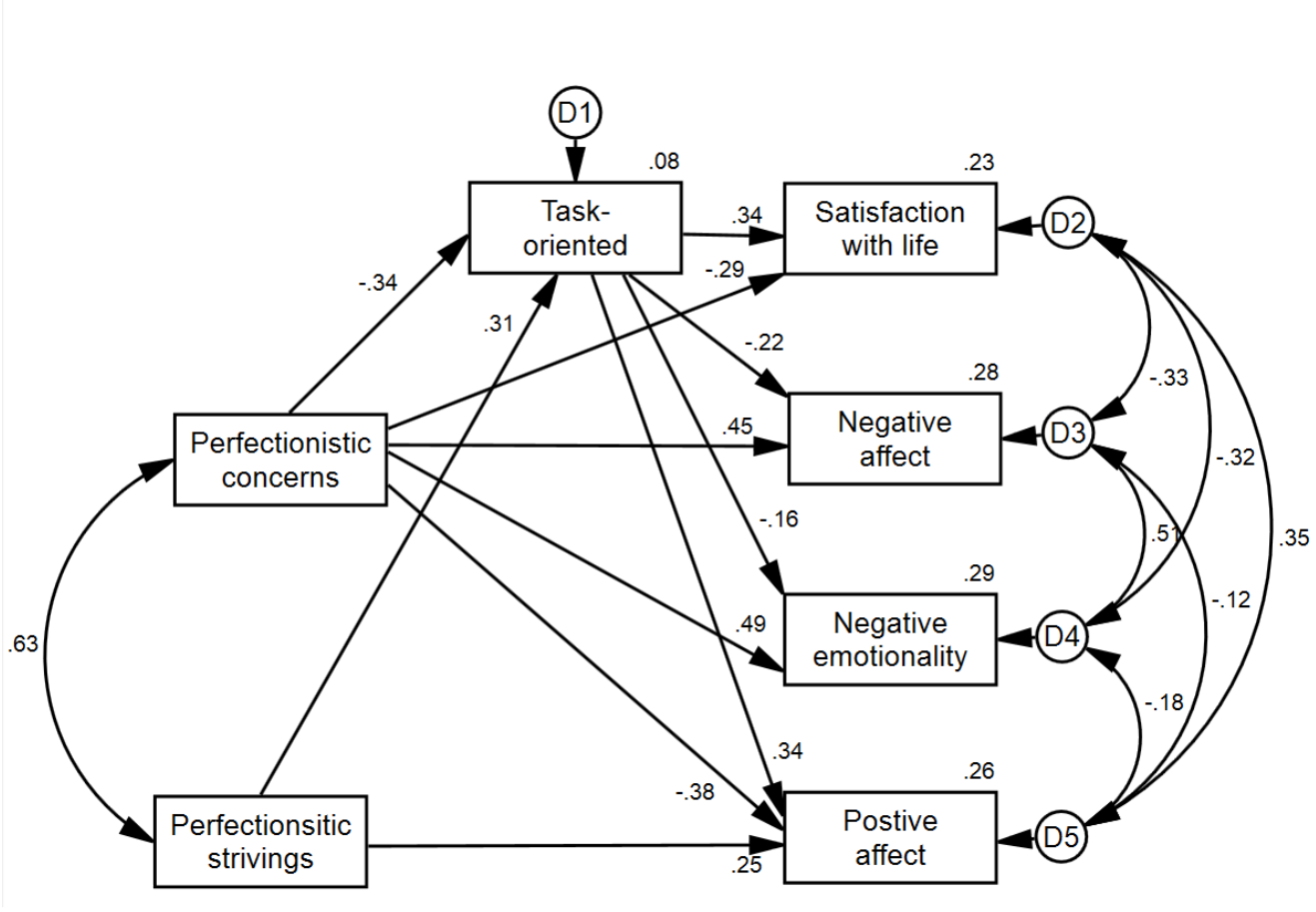
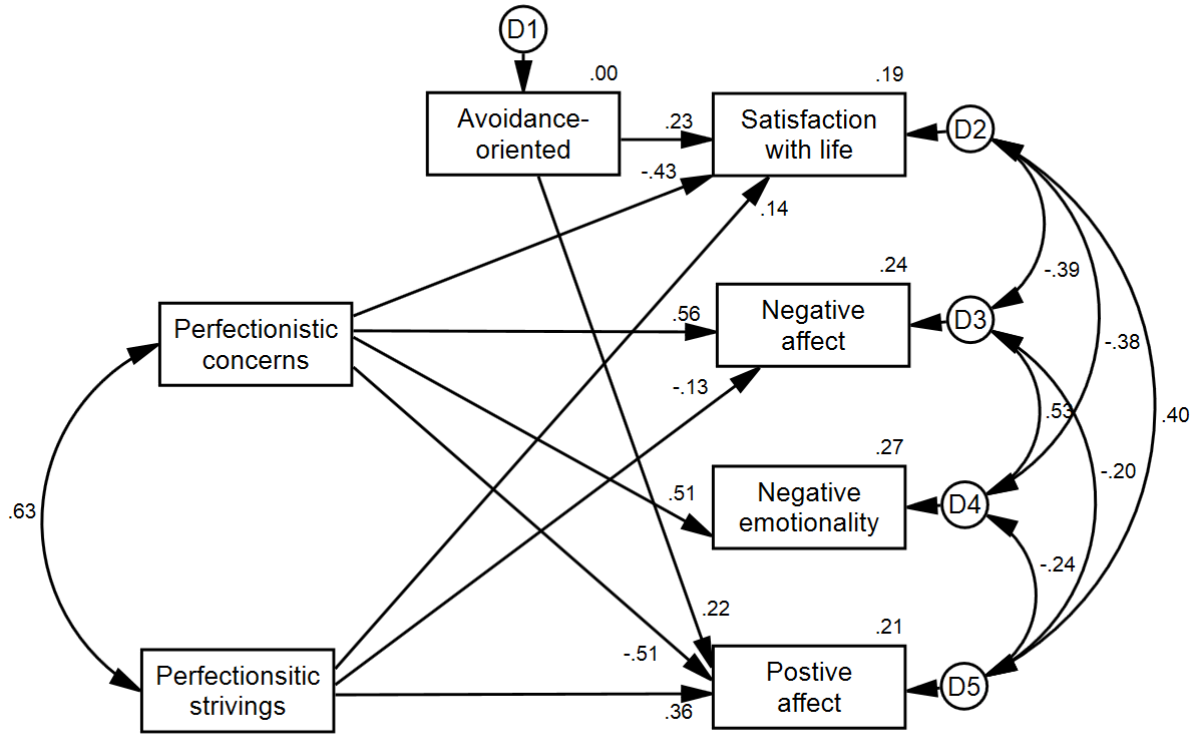


Figure 4. Values are standardized. Final model for competing model C. All paths are significant at $p < .05$. Single-headed arrows between variables represent significant paths. Double-headed arrows represent covariance. Rectangles represent observed variables; circles represent error variance. Italicized numbers to the right of endogenous variables represents the proportion of variance explained.



APPENDIX A: DEVELOPMENT OF THE RSYA

1. Introduction

Personal resiliency refers to an individual's ability to withstand, adapt, and recover from adverse events and circumstances (Bonanno, 2004; Prince-Embury, 2011). Past measures of personal resiliency conflict with our current understanding of personal resiliency as a characteristic of normal development stemming from an interaction of personal strengths, vulnerabilities, and physiological make-up (Masten, 2001). To address this Prince-Embury (2007) developed the Resiliency Scale for Children and Adolescents (RSCA). Research supports the reliability and validity of the RSCA (Prince-Embury, 2001; Prince-Embury, 2007; Prince-Embury, 2011; Saklofske et al., 2013). However, the RSCA was designed for use with children and adolescents and as such does not include items reflecting the developmental complexity of young adults. To address this a modified young adult version of the RSCA (i.e., RSYA) was constructed.

2. Method

2.1. Participants

297 participants (144 Male; 153 Female) were recruited from the Department of Psychology's subject pool. Phase 1 participants averaged 18.75 (SD = 1.76) years of age. The majority of phase 1 (89.2%) and phase 2 (87.2%) participants were in their first year of study. 3.82% of data were missing. Missing data was handled with listwise deletion.

2.2. Measures

2.2.1. RSYA

The resiliency scale for young adults (RSYA) is a 92-item modified version of the RSCA-R. The RSYA contains three global scales: the 33-item sense of mastery scale

(e.g., “If I try hard it makes a difference”), the 31-item sense of relatedness scale (e.g., “I have a good friend”), and the 28-item emotional reactivity scale (e.g., “It is easy for me to get upset”). Sense of mastery consists of three subscales: the 12-item optimism subscale (e.g., “My life will be happy”), the 12-item self-efficacy subscale (e.g., “I do things well”), and the 9-item adaptability subscale (e.g., “I view obstacles as challenges to overcome”). Sense of relatedness is composed of four subscales: the 8-item comfort with others subscale (e.g., “I feel calm with people”), the 11-item basic trust subscale (e.g., “I can trust others”), the 3-item tolerance to differences subscale (e.g., “I can make up with friends after a fight”), and the 9-item perceived social support subscale (e.g., “If something bad happens, I can ask my friends for help”). Finally, emotional reactivity is comprised of three subscales: the 9-item sensitivity subscale (e.g., “I can get so upset that I can’t stand how I feel”), the 11-item impairment subscale (e.g., “When I am upset, I get mixed up”), and the 8-item recovery subscale (e.g., “When I am upset I stay upset for several hours”).

Participants responded to RSYA items using a 5-point scale ranging from 0 (*never*) to 4 (*almost always*). Scores on sense of mastery range from 0-132. Scores on the sense of relatedness range from 0-124. Scores on emotional reactivity range from 0-112. The resource index was calculated as the standardized average of scores on sense of mastery and sense of relatedness. Higher scores on the resource index denote higher levels of perceived personal resources. The vulnerability index was calculated as the standardized difference between emotional reactivity and the resource index. The vulnerability index measures the discrepancy between perceived personal resources and internal fragility.

2.2.2. Satisfaction With Life

Subjective well-being was assessed using the 5-item *Satisfaction With Life Scale* (SWLS; e.g., "I am satisfied with my life"; Diener et al., 1985). Participants used a 7-pont scale, ranging from 1 (*strongly disagree)* to 7 (*strongly agree)*, to indicate their level of agreement with items. Scores range from 5 to 35. Research supports the reliability and validity of the SWLS (Diener et al., 1985; Pavot & Diener, 2004). Adequate alpha reliabilities have been found for the SWLS (α = .79-.89; Pavot & Diener, 2004).

2.2.3. Self-Esteem

Self-esteem was measured using the *Single Item Self-Esteem Scale* (Robins et al., 2001; e.g., "I have high self-esteem"). Participants responded to the Single Item Self-Esteem Scale using a 5-point scale ranging from 1 (*not very true of me*) to 5 (*very true of me*). Scores range from 1-5. Research supports the reliability and validity of the Single Item Self-Esteem scale (Robins et al., 2001).

2.3. Procedure

Participants were directed to the online study and completed the 92-item modified young adult version of the RSCA (RSYA), the 5-item Satisfaction With Life Scale (SWL; Diener et al., 1985), and the Single Item Self-Esteem Scale (Robins et al., 2001).

2.4. Data analytic strategy

The factorial structure of the RSYA was investigated via a confirmatory factor analysis framework analyzed by AMOS 21 (Arbuckle, 2012). For all models the method of estimation used was maximum likelihood (ML). The indices used to assess the fit of the models were the chi-square test (X^2; Kline, 2005), the root-mean-square error of approximation (RMSEA; Browne & Cudeck, 1993), the goodness of fit index (GFI;

Jöreskog & Sörbom 1982), the comparative fit index (CFI; Bentler, 1990), the standardized root mean square residual (SRMR; Kline, 2005), and Hoeltler's (1983) Critical N (CN). Assumptions of multivariate normality and linearity were evaluated via SPSS 20. Following Cheung and Rensvold (2002), comparative fit index difference tests (ΔCFI) were used for model comparisons; these authors found a ΔCFI ≤ .01 provided strong support that one model does not significantly differ from another model (Byrne, 2010).

3. Results

Descriptive statistics, alpha reliabilities, and bivariate correlations for the RSYA indexes and global scales are presented in Appendix A Table 1. Alpha reliabilities were excellent (α = .88 to .95; see Appendix A Table 1). Large effect sizes were found for all relevant correlations (Cohen, 1988). Correlations between the RSYA global scales (see Appendix A Table 1) and subscales (see Appendix A Table 2) were in the expected direction and were consistent with the associations found between the original RSCA global scales and subscales (Prince-Embury, 2007). In addition, the criterion validity of the RSYA was supported via the vulnerability index positively and significantly correlating with satisfaction with life (r = .55) and self-esteem (r = .46).

Values of selected fit statistics for the three-factor RSYA indicate adequate model fit: $X^2(32) = 67.85$, $p < .001$, RMSEA = .062 (90% CI = .041; .082), PCLOSE = .150, GFI = .955, CFI = .978, SRMR = .036, CN = 228. Specifically, the model chi-square was significant at the .05 level ($p < .001$) and thus the exact-fit hypothesis was rejected. However, the value of RMSEA was .062 and based on the lower bound of its 90% confidence interval (.041) the close-fit hypothesis was retained (p = .150). In addition,

based on the upper bound of the 90% RMSEA confidence interval (.082) the poor fit hypothesis was rejected (Kline, 2005). Furthermore, the results indicate that 95.5% of the total variability in the sample covariance matrix was accounted for by the model-implied covariance matrix. The results also indicate that the relative fit of the three-factor RSYA was a 97.8% improvement over that of the baseline model. Moreover, the mean absolute correlation residual (.036) was less than .08 and thus the model meets criteria for acceptable fit (Hu & Bentler, 1999). Finally, the CN value for the hypothesized model (228) indicates that the sample size (N =291) was adequate based on Hoetler's benchmark that CN should exceed 200 (Byrne, 2010; Hu & Bentler, 1995).

The unstandardized and standardized factor loadings and measurement errors for the RSYA are presented in Appendix A Table 3. All subscales had high factor loadings (>.69). Correlation residuals for the three-factor model are presented in Appendix A Table 4. The correlation residual for adaptability and recovery (.115) exceeds .10 in absolute value, and indicates that the model underestimates the association between adaptability and recovery. In addition, the correlation residual for social support and sensitivity (.098) is close to .10 in absolute value and suggests the model also underestimates the correlation between social support and sensitivity. Despite this, the corresponding standardized residual for adaptability and recovery ($Z = 1.858$; $p = .06$) and social support and sensitivity ($Z = 1.597$; $p = .11$) are not significant (see Appendix A: Table 5). Thus, the model appears to explain the corresponding sample covariances adequately.

The one, two, and three factor solutions tested were similar to those found in the RSCA manual (Prince-Embury, 2007). All models tested are presented in Appendix A

Table 6. The results support the three-factor model (see Appendix A Figure 1) as the best fitting model for the data. Specifically, both the one-factor model ($X^2(35) = 489.89$) and the two factor model ($X^2(34) = 257.77$) were found to fit the data poorly. In addition, a substantial decrement from the overall fit of the three-factor model was found for both the one factor model ($\Delta X^2(3) = 381.04$) and two factor model ($\Delta X^2(2) = 184.92$).

4. Discussion

The existing factor structure of the RSYA and its theoretical constructs was supported by confirmatory factor analysis. In addition, reliability for the RSYA indexes, scales, and subscales were excellent and consistent with those reported in the RSCA manual (Prince-Embury, 2001). Finally, the RSYA shows preliminary evidence of convergent validity via the finding that all indicators specified to measure a common factor had high factor loadings (i.e., $\geq .69$) and discriminative validity via the finding that the correlation between factors was not excessively high (i.e., $< .90$). Thus, while further validation and normative studies are required the RSYA appears applicable for use with young adults.

APPENDIX A: REFERENCES

Arbuckle, J. (2012). *AMOS users' guide version 21*. Chicago: Small Waters Corporation.

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*(1), 20-28. doi:http://dx.doi.org/10.1037/0003-066X.59.1.20

Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming (2nd ed.)*. New York, NY, US: Routledge/Taylor & Francis Group, New York, NY.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences.* New Jersey: Lawrence Erlbaum Associates.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.

Hu, L., & Bentler, P. M. (1995). Evaluating model fit. (pp. 76-99) Sage Publications, Inc, Thousand Oaks, CA.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55.

Kline, R. B. (2005). *Principles and practice of structural equation modeling (2nd ed.).* New York, NY, US: Guilford Press, New York, NY.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*(3), 227-238. doi: http://dx.doi.org/10.1037/0003-066X.56.3.227

Muthen, L. K., & Muthen, B. O. (2010). Mplus User's Guide (6th ed.). Los Angeles, CA: Muthen & Muthen.

Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology, 3*(2), 137-152. doi:http://dx.doi.org/10.1080/17439760701756946

Prince-Embyry, S. (2001). Assessing personal resiliency in the context of school settings: Using the resiliency scale for children and adolescents. *Psychology in the Schools*, 48(7), 672-685.

Prince-Embury, S. (2007). Resiliency scales for children and adolescents: Profiles of personal strength. San Antonio, TX: Harcout Assessment, Inc.

Prince-Embury, S. (2011). Assessing personal resiliency in the context of school settings: Using the resiliency scales for children and adolescents. *Psychology in the Schools, 48*(7), 672-685. doi: http://dx.doi.org/10.1002/pits.20581

Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single item measure and the Rosenberg Self-esteem Scale. *Personality and Social Psychology Bulletin,* 27, 151-161.

Saklofske, D. H., Nordstokke, D. W., Prince-Embury, S., Crumpler, T., Nugent, S., Vesely, A., & Hindes, Y. (2013). Assessing personal resiliency in young adults: The resiliency scale for children and adolescents. (pp. 189-198). New York, NY. doi:http://dx.doi.org/10.1007/978-1-4614-4939-3_14

Thomas, J., & Michael, P. (2010). Statistica. In N. Salkind (Ed.), *Encyclopedia of research design.* (pp. 1443-1445). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412961288.n441

Appendix A Table 1

Descriptive statistics and correlations for the three-factor RSYA indexes and global scales

Variable	*M*	*SD*	α	SI	KI	1	2	3	4	5	6	7
1. Resource Index	.00	.90	.96	-2.58	-.40	1						
2. Vulnerability Index	.01	1.63	.90	-2.15	-.96	.84*	1					
3. Sense of Mastery	93.74	14.53	.93	-.89	.51	.90*	.76*	1				
4. Sense of Relatedness	90.57	17.51	.95	3.80	-.24	.90*	.76*	.62*	1			
5. Emotional Reactivity	41.48	16.28	.93	4.62	2.77	-.48*	-.88*	-.43*	-.43*	1		
6. Satisfaction With Life	25.39	6.19	.88	-3.63	-1.56	.63*	.55*	.55*	.59*	-.32*	1	
7. Self-Esteem	3.57	1.24	-	-3.94	-2.33	.48*	.46*	.47*	.39*	-.31*	.50*	1

Note. *p < .01. RSYA., Resiliency Scale for Young Adults; *SI*., Skew Index; *KI*., Kurtosis Index; Resource Index = (zMastery + zRelatedness) / 2; Vulnerability Index = Resource Index – zEmotional Reactivity.

Appendix A Table 2

Sample correlation matrix for the RSYA subscales

Variable	*M*	*SD*	Potential range	Actual range	1	2	3	4	5	6	7	8	9	10
1. Optimism	34.52	5.95	0-48	16-48	1									
2. Self-Efficacy	34.39	5.56	0-48	18-48	.74*	1								
3. Adaptability	24.70	4.88	0-36	11-36	.62*	.66*	1							
4. Comfort	24.10	4.83	0-32	5-32	.58*	.53*	.39*	1						
5. Trust	28.70	7.02	0-44	10-44	.57*	.50*	.37*	.69*	1					
6. Social Support	28.36	6.08	0-36	4-36	.60*	.50*	.34*	.67*	.76*	1				
7. Tolerance	9.39	2.03	0-12	2-12	.45*	.41*	.38*	.58*	.57*	.60*	1			
8. Sensitivity	15.30	6.122	0-36	2-36	-.41*	-.39*	-.30*	-.25*	-.32*	-.23*	-.25*	1		
9. Impairment	15.68	7.77	0-44	0-44	-.41*	-.41*	-.27*	-.34*	-.38*	-.38*	-.29*	.64*	1	
10. Recovery	9.34	6.22	0-32	0-32	-.43*	-.37*	-.21*	-.33*	-.42*	-.33*	-.30*	.64*	.68*	1

Note. N = 291; *p < .01. RSYA., Resiliency Scale for Young Adults. Resource Index = (zMastery + zRelatedness) / 2; Vulnerability Index = Resource Index – zEmotional Reactivity

Appendix A Table 3

Maximum likelihood estimates of factor loadings and residuals for RSYA measurement model

	Factor loadings			Measurement errors		
Indicator	Unst.	SE	St.	Unst.	SE	St.
Sense of Mastery						
Optimism	1.000[a]	-	.875	8.241	1.222	.234
Self-Efficacy	.916	.053	.858	8.104	1.091	.263
Adaptability	.670	.049	.715	11.592	1.110	.489
Sense of Relatedness						
Comfort	1.000[a]	-	.806	8.145	.853	.350
Trust	1.559	.094	.866	12.286	1.539	.250
Social Support	1.331	.082	.853	10.027	1.193	.272
Tolerance	.361	.029	.692	2.141	.198	.521
Emotional Reactivity						
Impairment	1.000[a]	-	.825	19.219	2.568	.319
Sensitivity	.737	.055	.772	15.095	1.687	.404
Recovery	.798	.056	.822	12.48	1.649	.324

Note. N = 291. Unst., unstandardized; St., standardized. Standardized estimates for measurement errors are proportions of unexplained variance.

[a]Not tested for statistical significance. For all other unstandardized estimates $p < .05$

Appendix A Table 4

Correlation residuals for the three factor RSYA model.

Variable	1	2	3	4	5	6	7	8	9	10
1. Optimism	.000									
2. Self-Efficacy	-.014	.000								
3. Adaptability	-.011	.049	.000							
4. Comfort with Others	.073	.031	-.021	.000						
5. Trust	.028	-.033	-.077	-.006	.000					
6. Social Support	.023	-.030	-.094	-.018	.018	.000				
7. Tolerance	.019	-.018	.029	.024	-.027	.009	.000			
8. Sensitivity	-.038	-.024	.010	.057	.015	.098	.016	.000		
9. Impairment	-.010	-.016	.062	-.009	-.028	-.025	.000	-.002	.000	
10. Recovery	-.028	.027	.115	.005	-.063	.016	-.019	.004	-.001	.000

Note. N = 291; $^{*}p < .001$. RSYA., Resiliency Scale for Young Adults.

Appendix A Table 5

Standardized residuals for the three factor RSYA model

Variable	1	2	3	4	5	6	7	8	9	10
1. Optimism	.000									
2. Self-Efficacy	-.191	.000								
3. Adaptability	-.168	.714	.000							
4. Comfort with Others	1.109	.485	-.321	.000						
5. Trust	.419	-.497	-1.201	-.085	.000					
6. Social Support	.345	-.458	-1.467	-.254	.131	.000				
7. Tolerance	.308	-.292	.458	.356	-.390	.131	.000			
8. Sensitivity	-.605	-.372	.156	.929	.247	1.597	.254	.000		
9. Impairment	-.163	-.263	1.010	-.145	-.451	-.400	-.003	-.028	.000	
10. Recovery	-.437	.440	1.858	.242	-1.005	.259	-.306	.058	-.022	.000

Note. N = 291; $^{*}p < .05$. RSYA., Resiliency Scale for Young Adult

Appendix A Table 6

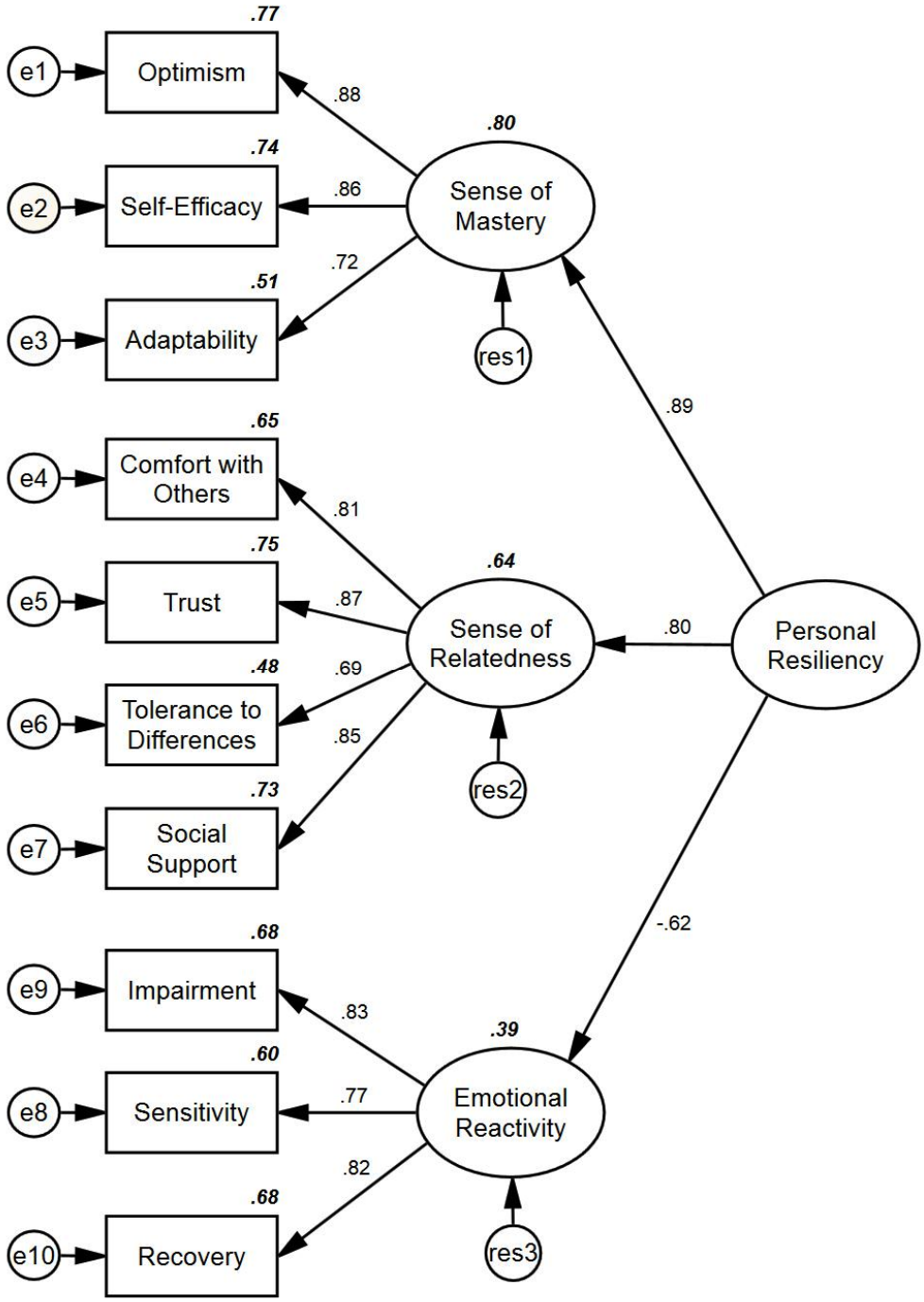
Goodness-of-fit statistics for confirmatory factor analysis of different RSYA measurement models

Model	X^2	*df*	*p*	RMSEA (90% CI)	GFI	CFI	SRMR
1. One Factor	495.89	35	<0.001	0.21 (.197-.230)	.49	0.72	0.33
2. Two Factor	252.77	34	<0.001	0.15 (.132-.166)	.60	0.57	0.31
3. Three Factor	67.85	32	<0.01	0.06 (.041-.082)	.96	0.98	0.04

Note. N = 291; *RMSEA*., root means square error of approximation; GFI., goodness of fit index; CFI., comparative fit index; *SRMR.,* standardized root mean square residual.

Appendix A Figure 1

Hierarchical confirmatory factor analysis of the three-factor structure of the RSYA. Rectangles represent measured variables. Ellipses represent latent constructs. Circles represent residual variance. Single headed black arrows represent significant paths ($p < .001$). Italicized, bold numbers to the right of observed variables represents the proportion of variance explained.



CURRICULUM VITAE

EDUCATIONAL HISTORY

2012-2014	**Masters of Science**, Personality and Measurement, Supervised by Donald H. Saklofske, The University of Western Ontario, London, Ontario
2007-2012	**Bachelor of Arts (Honours)**, Major in Psychology, Supervised by Simon B. Sherry, Dalhousie University, Halifax, Nova Scotia

PAID RESEARCH ASSISSTANT

2012-present	Commissioned to created, monitor, analyze, and provide weekly updates for the following projects: Canadian Psychological Associations Psychologist in Education Online Survey; Canadian Association of School Psychologists Online Survey.
2011-2012	Hired as a full time paid research assistant from July 1, 2011 to August 31, 2011 and from June 1, 2012 to August 1, 2012. Salary was paid for, in part, by the following grant: Human resources and skills development Canada: Canada Summer Grants. Collected participant data by administrating questionnaire packages and conducting participant interviews. Transcribed oral interviews and entered data. Preformed data analysis. Participated in weekly research meetings to discuss and identified problems and issues related to participants. Coordinated the scheduling of participants.

ACADEMIC HONOURS

2014-2015	Ontario Graduate Scholarship (15,000$) [Offered]
2013-2014	Ontario Graduate Scholarship (15,000$) [Accepted]
2012-2013	Social Sciences and Humanities Research Council: Canadian Graduate Scholarship (17,500$) [Accepted]
2012	Human resources and skills development: Canada Summer Jobs (2000$)
2012	The Canadian Psychological Associations Kenneth Dion Award for best undergraduate poster (200$).
2011	Human resources and skills development: Canada Summer Jobs (2000$)
2008-2012	Dean's Honour Roll: Dalhousie University

PUBLICATIONS

Peer-Reviewed Journal Articles

1. **Smith, M. M.,** Saklofske, D. H., & Nodstokke, D. W. (in press). The link between neuroticism and perfectionistic concerns: The mediating effect of trait emotional intelligence. *Personality and Individual Differences.*
2. Mackinnon, S. P., Sherry, S. B., Pratt, M. W., & **Smith, M. M.** (in press). Perfectionism, friendship intimacy and depressive affect in transitioning university students: A longitudinal study using mixed methods. *Canadian Journal of Behavioral Sciences.*
3. Sherry, S. B., Sherry, D. L., Macneil, M. A., **Smith, M. M.,** MacKinnon, S. P., Stewart, S. H., & Antony, M, M. (in press). Does socially prescribed perfectionism predict daily conflict*?* A 14-day daily dairy study. *Personality and Individual Differences*.
4. Sherry, S. B., Nealis, L. J., Macneil M, A., Stewart, S. H., Sherry, D. L., & **Smith, M. M.** (2013). Informant reports add incrementally to the understanding of the perfectionism-depression connection: Evidence from a prospective longitudinal study. *Personality and Individual Differences, 54,* 957-960.
5. Austin, E. J., Saklofske, D. H., **Smith, M. M.,** & Tohver, G. (in press). Associations of the Managing the Emotions of Others (MEOS) scale with personality, the Dark Triad, and trait EI. *Personality and Individual Differences*.

Peer-Reviewed Journal Articles Under Review

6. **Smith, M. M.,** Saklofske, D. H., & Keefer, K. V. (2013). Coping strategies and psychological outcomes: The moderating effect of personal resiliency. Manuscript submitted for publication in *Anxiety, Stress, & Coping*.

PRESENTATIONS

Conference Presentations

Smith, M. M., Saklofske, D. H., Yan, G. (July, 2014). The effect of culture on the perfectionism-psychological outcome link. Paper (to be) presented at the 28th International Congress of Applied Psychology, Paris, France.

Smith, M. M., & Saklofske, D. H. (June, 2014). Perfectionistic strivings moderates the effect of perfectionistic concerns on depression, anxiety, and stress. Paper (to be) presented at the Canadian Psychological Association's 75th Annual Convention, Vancouver, BC.

Smith, M. M., Saklofske, D. H., & Nordstokke, D. W. (June, 2014). Neuroticism and perfectionistic concerns: The mediating effect of personal resiliency. Paper (to be) presented at the Canadian Psychological Association's 75th Annual Convention, Vancouver, BC.

Smith, M. M., Saklofske, D. H., & Keefer, K. V. (June, 2014). Personal resiliency moderates the effect of coping strategies on psychological outcomes. Paper (to be) presented at the Canadian Psychological Association's 75th Annual Convention, Vancouver, BC.

Smith, M. M., Saklofske, D. H., Prince-Embury, S., Nordstokke, D. W. & Vesely, A. (2013, July). *Measuring personal resiliency in young adulthood: The resiliency scale for young adults*. Paper presented at the International Study for the Study of Individual Differences, Annual Convention, Barcelona, Spain.

Smith, M. M., Sherry, S. B., Mackinnon, S. P., Stewarrt, S. H., Sherry, D. L., & Antony M. M. (2013, July). *The relationship between neuroticism and perfectionistic discrepancies: A longitudinal actor-partner interdependence model.* Paper presented at the International Study for the Study of Individual Differences, Annual Convention, Barcelona, Spain.

Smith, M. M., Saklofske, D. H., Nordstokke, D. W., Prince-Embury, S., Nugent, S. & Vesely, A. (June, 2013). *Assessing personal resiliency in emerging adulthood: The resiliency scale for children and adolescents.* Paper presented at the Canadian Psychological Association's 74th Annual Convention, Quebec City, Quebec.

Smith, M. M., Sherry, S. B., Macneil, M. A., Mackinnon, S. P., Stewarrt, S. H., Antony, M. M., Sherry, D. L., & Stewarrt, S. H. (June, 2013). *Does socially prescribed perfectionism predict daily conflict? A 14-day diary study of romantic couples using self and partner reports.* Paper presented at the Canadian Psychological Association's 74th Annual Convention, Quebec City, Quebec.

Smith, M. M., Sherry, S. B., Mackinnon, S. P., Stewart, S. H., Sherry, D. L., Antony, M. M., & Hartling, N., (June, 2012). *Is neuroticism a source trait for perfectionism? A longitudinal actor-partner interdependence model*. Paper presented at the Canadian Psychological Association's 73rd Annual Convention, Halifax, NS.

Smith, M. M., Sherry, S. B., Mackinnon, S. P., Stewart, S. H., Sherry, D.L., Antony, M. M., & Hartling, N. (May, 2012). *Is neuroticism a risk factor for perfectionism? A longitudinal actor-partner interdependence model.* Talk given at the 36th Annual Science Atlantic Undergraduate Psychology Conference, Acadia University, Wolfvile, Nova Scotia, Canada.

Goutreau, C. M., Mackinnon, S. P., Sherry, S. B., **Smith, M. M**., & Pratt, M. W. (2012,

October). Pre-university friendships moderates the relationship between socially prescribed perfectionism and depressive affect. Poster session presented at the Psychiatry Research Day 2012, Dalhousie University, Halifax, Nova Scotia, Canada.

Fitzpatrick, S., Mackinnon, S. P., Fulmore, J., Gautreau, C., Gyenes, N. Hicks, M., MacKinnon, A., McNeil, M., **Smith, M. M**, & Sherry, S. B., (2011, May). *Perfectionistic concerns, interpersonal discrepancies, and psychological well-being: A longitudinal mixed-method approach.* Paper presented at the 35th Annual Atlantic Provinces Council on the Sciences Undergraduate Psychology Conference, Dalhousie University, and Halifax, Nova Scotia, Canada.

Macneil, M. A., Mackinnon, S. P., Fitzpatrick, S., Fulmore, J., Gautreau, C., Hicks, M., MacKinnon, A. L., **Smith, M, M**., & Sherry, S. B. (2011, October). *Intrapersonal discrepancies confer vulnerability o depressive symptoms: A three-wave cross-lagged panel analysis.* Poster session presented at the Psychiatry Research Day 2011, Dalhousie University, Halifax, Nova Scotia, Canada.

Nealis, L. J., MacNeil, M., **Smith, M. M**., MacLean, S., Ramasubbu, C., & Sherry, D. L., Stewart, S. H., & Sherry, S. B. (2012, April). *Narcissistic perfectionism: A framework for understanding grandiose, entitled, demanding, and critical people.* Paper presented at the 38th Annual Graham Goddard In-House Conference, Dalhousie University, Halifax, Nova Scotia, Canada.

MacLean, S., Macneil, M. A., Sherry, S. B., Nealis, L. J., Stewart, S. H., Sherry, D. L., & **Smith, M. M**. (2012, November). In*formant reports add incrementally to understanding of the perfectionism-depression connection: Evidence from a longitudinal study*. Paper presented at the 22nd Annual Psychiatry Research Day, Lord Nelson, Halifax, Nova Scotia, Canada.

TEACHING ASSISTANT

Graduate Courses		
Year (Term)	**Course Title (Code)**	**Course Size (Level)**
2013-2014 (fall)	Test Construction and Survey Design	10 (second year)
Undergraduate Courses		
Year (Term)	**Course Title (Code)**	**Course Size (Level)**
2013-2014 (winter)	Social Psychology (2070B)	450 (second year)
2012-2013 (fall-winter)	Introduction to Psychology (1000A/B)	110 (first year)
2010-2011 (fall-winter)	Introduction to Psychology (1011/1012)	155 (first year)