

PERFECTIONISM AND SELF-DEFEATING BEHAVIOURS:
STUDYING INDIVIDUALS AND DYADS OVER TIME

by

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Submitted in partial fulfilment of the requirements
for the degree of Doctor of Philosophy

at

Dalhousie University
Halifax, Nova Scotia
September 2012

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DALHOUSIE UNIVERSITY
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DALHOUSIE UNIVERSITY

DATE: September 7, 2012

AUTHOR: Aislin Rose Mushquash

TITLE: PERFECTIONISM AND SELF-DEFEATING BEHAVIOURS:
STUDYING INDIVIDUALS AND DYADS OVER TIME

DEPARTMENT OR SCHOOL: Department of Psychology

DEGREE: PhD CONVOCATION: October YEAR: 2013

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ABSTRACT

People high in socially prescribed perfectionism (i.e., those who perceive others demand perfection of them) often behave in ways that are incongruent with their efforts to be perfect for others. This research proposes and tests two models that explain why socially prescribed perfectionism is related to self-defeating behaviours (i.e., behaviours with negative effects on the self that are often detrimental to achieving one's goals). In Study 1, socially prescribed perfectionism was proposed to contribute to a cycle of self-defeat involving perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviours (i.e., binge eating, procrastination, interpersonal conflict). To test the model, data was collected from 317 undergraduates who completed structured online daily diaries. Results of multilevel structural equation modeling largely supported hypothesized relations such that participants high in socially prescribed perfectionism engaged in, or experienced, patterns of self-evaluation, self-presentation, and emotion that contributed to their imperfect, self-defeating behaviours. These behaviours undermined their efforts to be or look perfect for others—creating a sense of deficiency that sets the stage for another cycle of self-defeat. In Study 2, I tested the perfectionism model of binge eating in 218 mother-daughter dyads using a mixed longitudinal and daily diary design. Results largely supported hypotheses suggesting daughters' socially prescribed perfectionism and mothers' psychological control contribute indirectly to daughters' binge eating by generating situations or experiences that trigger binge eating (i.e., discrepancies, depressive affect, and dietary restraint). For young women who believe their mothers rigidly require them to be perfect and whose mothers are demanding and controlling, binge eating appears to provide a means of coping with or escaping from an unhealthy, unsatisfying mother-daughter relationship. Together, the results of Study 1 and Study 2 help to explain why people who strive to be perfect for others often engage in self-defeating behaviours. These findings have numerous implications for theory and research on personality, relationships, and self-defeating behaviours, and for prevention, assessment, and treatment of perfectionism and associated difficulties. These implications, along with the limitations and future directions of this research are discussed.

LIST OF ABBREVIATIONS AND SYMBOLS USED

α	Cronbach's Alpha
AIC	Akaike information criterion
APS-R	Almost Perfect Scale – Revised
β	Standardized regression coefficient (Beta)
B	Unstandardized regression coefficient
BMI	Body mass index
CFI	Comparative fit index
CI	Confidence interval
DAACL-G	Depression Adjective Checklist Form G
DEQ-R	Reconstructed Depressive Experiences Questionnaire
EDI	Eating Disorder Inventory
e.g.	Abbreviation for the Latin “ <i>exempli gratia</i> ,” meaning “for example”
et al.	Abbreviation for the Latin “ <i>et alii</i> ,” meaning “and others”
FMPS	Frost et al. Multidimensional Perfectionism Scale
HFMPMS	Hewitt and Flett Multidimensional Perfectionism Scale
ICC	Intraclass Correlation
i.e.	Abbreviation for the Latin “ <i>id est</i> ,” meaning “that is”
M	Mean
MDI	Multidimensional Discrepancies Inventory
MLR	Robust Maximum Likelihood Estimation in Mplus Software
N	Number of participants / Sample Size
p	p-value for determining statistical significance
PANAS-X	Positive and Negative Affect Schedule Expanded form
POMS-D	Profile of Mood States depression subscale
PSPS	Perfectionistic Self-Presentation Scale
r	Pearson Product-Moment Correlation Coefficient
RMSEA	Root-mean-square error of approximation
SD	Standard Deviation
SE	Standard error
SEM	Structural equation modeling
SRMR	Standardized root mean square residual
TLI	Tucker-Lewis index
χ^2	Chi-square statistic
χ^2/df	Chi-square divided by degrees of freedom

ACKNOWLEDGEMENTS

I would like to acknowledge the financial support of various agencies including the Social Sciences and Humanities Research Council, the Nova Scotia Health Research Foundation, and the Capital Health Research Fund. Without their assistance, this research would not have been possible.

I am grateful for the support and guidance of Dr. Simon Sherry, my dissertation supervisor. He has been an amazing supervisor and has helped me to achieve so much. Simon is an exceptional scientist and I admire his remarkable dedication to his work and to his students. I am thankful to have had the opportunity to learn from him. I would also like to thank all the students and volunteers from the Personality Research Team who have assisted me in completing this research.

I would also like to thank my dissertation committee members, Dr. Shannon Johnson and Dr. Sophie Jacque, for their feedback during the planning and writing stages of my dissertation. As a result of their contributions, the quality of my work has greatly improved. I am also grateful for my external examiner, Dr. Ronald Holden. His thoughtful and insightful questions during my oral defense have helped me to think broadly and profoundly about my work.

Finally, I would like to thank my family and friends for their ongoing support and encouragement. And to Chris, my husband, thank you for everything. You continue to inspire and motivate me everyday.

CHAPTER 1. INTRODUCTION

1.1 DEFINING PERFECTIONISM

The Oxford English Dictionary defines perfectionism as “a refusal to accept any standard short of perfection” (2004, p. 1064). While this corresponds with the commonly held lay definition of perfectionism, the definition of perfectionism in clinical and research contexts is less consistent and is the subject of controversy and scholarly discourse.

Since the mid 1900’s, clinicians, theorists, and researchers from various theoretical traditions (e.g., psychoanalytic, cognitive behavioural) have attempted to define perfectionism and what it means to be a perfectionist. From a psychoanalytic perspective, Karen Horney (1950) suggested perfectionism is a type of neurosis motivated by a need to become one’s idealized self. She asserted that perfectionists are plagued by a “tyranny of shoulds” (p. 65) – always feeling pressured and burdened to think, feel, and behave in a certain way. From a cognitive-behavioural perspective, Albert Ellis (1958) viewed perfectionism as a set of irrational, self-defeating beliefs. Specifically, he described perfectionism as “the idea that one should be thoroughly competent, adequate, intelligent, and achieving in all possible respects” (p. 41).

Perfectionists have been described as people who “demand of themselves an unusually unattainable level of performance, experience their efforts as unsatisfactory, and are unable to relax their standards” (Hamachek, 1978, p. 27). In addition, these individuals have been described as people “[whose] standards are high beyond reach or reason, who strain compulsively and unremittingly toward impossible goals” (Burns, 1980, p. 34). Slaney and Ashby (1996) suggested that many definitions of perfectionists

make reference to people with “excessively high personal standards” (p. 393). However, Frost, Marten, Lahart, and Rosenblate (1990) noted that “the setting of and striving for high standards is certainly not in and of itself pathological” and suggested that perfectionism actually involves “high standards of performance which are accompanied by tendencies for overly critical evaluations of one’s own behaviour” (p. 450). Although definitions vary across research groups, there is some consensus that perfectionism involves “striving for flawlessness” and that perfectionists are “people who want to be perfect in all aspects of their lives” (Flett & Hewitt, 2002, p. 5).

1.2 CONCEPTUALIZING AND MEASURING PERFECTIONISM

The conceptualization and measurement of perfectionism has changed considerably over time. Most early theories viewed perfectionism as unidimensional and focused mainly on cognitive factors. For example, as mentioned above, Albert Ellis (1958) viewed perfectionism as a set of irrational core beliefs. Aaron Beck (1976) viewed perfectionism as a form of cognitive dysfunction characterized by overgeneralization and dichotomous thinking. And consistent with Ellis and Beck, David Burns (1980) argued that certain cognitive patterns are common for perfectionists including: all-or-nothing thinking, overgeneralization, and “should” statements. Burns believed that these characteristic ways of thinking were self-defeating and contributed to perfectionists’ distress. Derived from the Dysfunctional Attitudes Scale (Weissman & Beck, 1978), Burns (1980) developed one of the first quantitative scales to measure perfectionism, which he called the Burns Perfectionism Scale. The Burns Perfectionism Scale includes 10 statements (e.g., “If I don’t set the highest standards for myself, I am likely to end up a second-rate person”) that are rated on a 5-point scale where respondents indicate their

level of agreement or disagreement with each statement (Enns & Cox, 2002). Early theories and methodological traditions (e.g., Beck, 1976; Burns, 1980; Ellis, 1962) conceptualized perfectionism as a unidimensional, maladaptive, undesirable, and unhealthy construct. However, contemporary researchers and theorists no longer conceptualize perfectionism in a unidimensional manner.

Hamachek (1978) was the first to conceptualize perfectionism as a multidimensional construct believing that perfectionism includes both “normal” and “neurotic” aspects. He defined normal perfectionism as striving for reasonable and realistic standards that leads to a sense of self-satisfaction and enhanced self-esteem. He defined neurotic perfectionism as a tendency to strive for excessively high standards motivated by fears of failure and concerns about disappointing others. Hamachek argued that individuals do not derive a sense of satisfaction and self-esteem from neurotic perfectionism. Although Hamachek put forward this assertion in the late 1970’s, it was not until the early 1990’s (e.g., Frost et al., 1990; Hewitt & Flett, 1991) that the notion of perfectionism as unidimensional fundamentally shifted towards viewing perfectionism as a multidimensional construct.

Two independent research groups developed multidimensional models and associated measures to assess various dimensions of perfectionism. Based on their review of the existing literature, Frost and colleagues (1990) developed a model that emphasized several aspects of perfectionism that they deemed to be important. These included excessive concern over one’s mistakes, doubts about one’s actions, high personal standards, preoccupation with order and organization, and perceptions of parents as critical and exerting excessive expectations.

Based on their model, Frost et al. (1990) derived their Multidimensional Perfectionism Scale which originally included six subscales: concern over mistakes (9 items; e.g., “If I fail partly, it is as bad as being a complete failure”), doubts about actions (4 items; e.g., “Even when I do something very carefully, I often feel that it is not quite right”), personal standards (7 items, e.g., “If I do not set the highest standards for myself, I am likely to end up a second-rate person”), organization (6 items; e.g., “I try to be an organized person”), parental criticism (4 items; e.g., “As a child, I was punished for doing things less than perfect”), and parental expectations (5 items; e.g., “Only outstanding performance is good enough in my family”). Items of each subscale are rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Items are then summed to create subscale totals, or an overall total score. In their investigation of the psychometric properties of their new Multidimensional Perfectionism Scale, Frost et al. (1990) found that the organization subscale had the weakest relationship with the other subscales and they concluded that it was not central to the construct of perfectionism. As a result, they did not include it in future calculations of the total scale score.

Overall, evidence suggests that the Frost et al. (1990) Multidimensional Perfectionism Scale has strong psychometric properties in both clinical and nonclinical populations (Enns & Cox, 2002; Frost & DiBartolo, 2002). However, criticisms surrounding the specificity of the multidimensional model, the factor structure of the subscales, and the inclusion of parental subscales have been discussed (Enns & Cox, 2002; Purdon, Antony, & Swinson, 1999; Rheume et al., 2000). Cox, Enns, and Clara (2002) conducted an exploratory principal components analysis and derived a five-factor solution that addressed some of these criticisms. Based on their analyses, Cox et al.

(2002) offered two recommendations. First, they suggested that all cross-loading items be removed from all subscales and that the parental criticism subscale and parental expectations subscale be combined into a parental perceptions subscale. Second, they proposed a reduced 22-item Multidimensional Perfectionism Scale consisting of five unique subscales: concern over mistakes (5 items), doubts about actions (3 items), personal standards (5 items), organization (4 items), and parental perceptions (5 items). Subsequent research has supported Cox et al. (2002) by providing further validation of the shortened scale (Graham et al., 2010; Mackinnon et al., 2011; Sherry, Hewitt, Sherry, Flett, & Graham, 2010).

Around the same time that Frost et al. (1990) published their Multidimensional Perfectionism Scale, Hewitt and Flett (1991) also proposed a multidimensional model of perfectionism. Their model delineated intrapersonal and interpersonal aspects of perfectionism and identified three dimensions, namely: self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism – the latter two dimensions reflecting interpersonal aspects of perfectionism. Self-oriented perfectionism involves imposing excessive standards on oneself and stringently evaluating and censuring one's own behaviour. Self-oriented perfectionism most closely resembles commonly held lay definitions of perfectionism. Other-oriented perfectionism involves imposing excessive standards on others and stringently evaluating and censuring others' behaviour. Lastly, socially prescribed perfectionism involves a belief or perception that other people impose excessive standards on oneself and that other people stringently evaluate and censure one's own behaviour (Hewitt & Flett, 1991). The primary distinction between each dimension is the source and direction of the perfectionistic expectations. In self-oriented

perfectionism, the perfectionistic expectations originate within and are directed toward the self; in other-oriented perfectionism, the perfectionistic expectations originate within and are directed towards others; and in socially prescribed perfectionism, the perfectionistic expectations are perceived to originate within others and are directed toward the self.

Based on their multidimensional model, Hewitt and Flett (1991) derived the Multidimensional Perfectionism Scale which included three subscales: self-oriented perfectionism (15 items; e.g., “One of my goals is to be perfect in everything that I do”), other-oriented perfectionism (15 items; e.g., “If I ask someone to do something, I expect it to be done flawlessly”), and socially prescribed perfectionism (15 items; e.g., “Anything that I do that is less than excellent will be seen as poor work by those around me”). Items of each subscale are rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Items are then summed to create subscale totals. Research suggests the Hewitt and Flett (1991) Multidimensional Perfectionism Scale is reliable and valid in both clinical and nonclinical samples (Cox et al., 2002). The three-factor solution is also supported with a brief version of the measure where each subscale is comprised of five items (Cox et al., 2002). Together, the Frost et al. (1990) model and the Hewitt and Flett (1991) model and their associated scales support the assertion that perfectionism is a complex and multidimensional construct. These two models emphasize different aspects of perfectionism with the Frost et al. (1990) model focusing primarily on intrapersonal factors, while the Hewitt and Flett (1991) model focuses on both intrapersonal and interpersonal factors.

Until recently, most perfectionism research, including research using the multidimensional models and scales mentioned above, viewed perfectionism as a stable personality trait or disposition (Hewitt & Flett, 1991). Such trait-based approaches provide valuable information about what a person is like in general (e.g., high in socially prescribed perfectionism), but provide little information about how a person behaves in their day-to-day life. For instance, what does a person who is high in socially prescribed perfectionism think, feel, and do when perceiving pressure from others to be perfect? What does a person high in self-oriented perfectionism think, feel, and do when experiencing pressure from within to be perfect? Existing trait-based approaches to research do not adequately address these questions.

To address this gap in the literature, researchers have recently become interested in dynamic, fluctuating elements of perfectionism, sometimes referred to as perfectionism processes (e.g., Flett, Hewitt, Blankstein, & Gray, 1998; Hewitt et al., 2003; Hewitt, Habke, Lee-Bagley, Sherry, & Flett, 2008; Slaney, Rice, & Ashby, 2002). Studying these perfectionism processes can provide insight into what people high in trait-based perfectionism think, feel, and do. For example, Flett et al. (1998) found that individuals who felt they were not living up to their own or others expectations experienced transient, self-flagellating thoughts with perfectionistic themes. Similarly, Hewitt et al. (2003) found evidence that people high in trait perfectionism present themselves to others in a perfectionistic way. For instance, people who believe other people expect them to be perfect attempt to hide their flaws and promote their assets to others. Slaney et al. (2002) also studied perfectionism processes. They found that perfectionists evaluate themselves in characteristic ways, often feeling as though they do not live up to their own or others'

standards. Overall, emerging research identifying perfectionism processes is important as it highlights how people high in perfectionism traits think, feel, and behave throughout their lives. However, when compared to research studying perfectionism as a stable trait, research focusing on perfectionism processes is in its infancy and requires further study.

In sum, early theories and research viewed perfectionism as a unidimensional and maladaptive personality trait. Over the past 30 years, perfectionism has increasingly been viewed and studied as a multidimensional personality trait. After the development of two multidimensional models of perfectionism and corresponding scales (Frost et al., 1990; Hewitt & Flett, 1991), research studying the relationship between perfectionism and various outcomes proliferated (see next section for a summary). Lastly, perfectionism researchers have recently been turning their attention towards perfectionism processes (e.g., ways of thinking, ways of presenting the self, and ways of evaluating the self).

1.3 PERFECTIONISM AND ASSOCIATED OUTCOMES

Perfectionism dimensions as measured with Frost et al.'s (1990) and Hewitt and Flett's (1991) scales show diverse relationships with positive and negative outcomes. Certain perfectionism dimensions are reliably tied to negative outcomes. For example, Hewitt and Flett's (1991) socially prescribed perfectionism is associated with anxiety, depression, and suicidal ideation (Enns & Cox, 2002; Flett, Madorsky, Hewitt, & Heisel, 2002; Hewitt & Flett, 1991). Socially prescribed perfectionism is also related to negative affect (Dunkley et al., 2003), academic problems and procrastination (Flett, Blankstein, Hewitt, & Koledin, 1992), and disordered eating (e.g., binge eating; Sherry & Hall, 2009; Pratt et al., 2001). Lastly, socially prescribed perfectionism is tied to dysfunction in the interpersonal domain including perceptions of low levels of social support, low social

self-esteem, and fear of negative evaluation (Flett, Hewitt, & De Rosa, 1996; Sherry & Hall, 2009; Sherry, Law, Hewitt, Flett, & Besser, 2008).

From Frost et al.'s (1990) Multidimensional Perfectionism Scale, the concern over mistakes subscale and the doubts about actions subscale are most often associated with negative outcomes. For example, these subscales are most consistently and most strongly associated with depression and depressive symptoms (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Graham et al., 2010; Minarik & Ahrens, 1996). Of all the Frost et al. (1990) Multidimensional Perfectionism Scale subscales, the concern over mistakes and the doubts about actions subscales are most strongly related to disordered eating (Halmi et al., 2000; Mackinnon et al., 2011; Srinivasagam et al., 1995). Last, the concern over mistakes and the doubts about actions subscales are also related to social anxiety and social phobia (Enns & Cox, 2002; Juster, Heimberg, Frost, & Holt, 1996).

In contrast, some of the perfectionism dimensions are linked to both positive and negative outcomes, or mainly associated with positive traits and outcomes. For instance, Hewitt and Flett's (1991) self-oriented perfectionism is associated with achievement striving, positive affect, self-esteem, self-efficacy, good academic performance, and positive interpersonal characteristics (Blankstein & Dunkley, 2002), despite also being linked to suicide ideation, disordered eating behaviours, and depression (Bardone-Cone, 2007; Castro et al., 2004; Hewitt & Flett, 1991; Hewitt, Flett, & Weber, 1994; Shafran, Cooper, & Fairburn, 2002). To explain these findings, Hewitt and Flett and colleagues have suggested that self-oriented perfectionism may appear adaptive or healthy under ideal circumstances (i.e., when everything is going well), but may increase vulnerability

for distress and psychopathology when failures or stressors occur (Flett, Hewitt, Blankstein, & Mosher, 1995; Hewitt & Flett, 1993; Hewitt, Flett, & Ediger, 1996).

Like the Hewitt and Flett (1991) Multidimensional Perfectionism Scale, some subscales from Frost et al.'s (1990) Multidimensional Perfectionism Scale are also related to positive traits or positive outcomes. For example, Frost et al.'s (1990) personal standards subscale is associated with academic achievement, lower levels of procrastination, conscientiousness, positive affect, perceived self-competence, and satisfaction with life (Cox et al., 2002; DiBartolo, Frost, Chang, LaSota, & Grills, 2004; Frost et al., 1990; Stoeber & Otto, 2006).

As a result of these findings, one of the most spirited debates in the perfectionism literature concerns the (mal)adaptiveness of perfectionism. This debate is longstanding, as Hamchek (1978) first suggested that perfectionism could be divided into “normal perfectionism” and “neurotic perfectionism”. Over the years, many researchers have shared the view that there are both adaptive and maladaptive aspects of perfectionism (e.g., Enns & Cox, 1999; Slaney et al., 2002). In fact, many terms have been used to differentiate between apparent positive and negative aspects of perfectionism including positive versus negative perfectionism (Terry-Short et al., 1995), adaptive versus maladaptive perfectionism (Rice, Ashby, & Slaney, 1998), personal standards versus maladaptive evaluation concerns perfectionism (Frost et al., 1993), and positive achievement striving versus maladaptive evaluative concerns perfectionism (Dunkley et al., 2003), to name a few. However, some researchers including Flett and Hewitt (2006) maintain that the term perfectionism should only be used to describe dysfunctional and maladaptive aspects of a person's personality. Specifically, they state:

What has been referred to as “normal” or “adaptive” perfectionism bears a striking resemblance to conscientiousness and achievement striving but not necessarily extreme perfectionism. We believe that the term perfectionist should be reserved for those individuals who hold rigidly to their standards, even in situations that do not call for perfectionism, and who continue to place an irrational importance on the attainment of impossibly high standards in not just one but in several life domains. (p. 476).

Consistent with Flett and Hewitt’s position, in my dissertation, I work to understand how perfectionism (viewed as a maladaptive personality trait) is related to various negative, self-defeating outcomes (i.e., binge eating, procrastination, interpersonal conflict).

1.4 PRESENT RESEARCH

In my dissertation, I focus on Hewitt and Flett’s (1991) model as it includes several unique features that make it well-suited to studying the theoretically driven models I propose and test in Study 1 and Study 2. For example, Hewitt and Flett’s model differentiates intrapersonal and interpersonal dimensions of perfectionism. As interpersonal features are important in the two models I test, my focus on the Hewitt and Flett’s model, and especially the dimension of socially prescribed perfectionism, is warranted. My research specifically focuses on the relationship between socially prescribed perfectionism and three negative outcomes, namely, binge eating, procrastination, and interpersonal conflict. These three negative outcomes represent self-defeating behaviours (i.e., behaviours with negative effects on the self that are often

detrimental to achieving one's original goal; Baumeister & Scher, 1988) that are common among people high in socially prescribed perfectionism (Flett, Hewitt, Davis, & Sherry, 2004; Habke & Flynn, 2002; Sherry & Hall, 2009).

Binge eating is defined as eating a large amount of food in a short period of time, usually less than two hours (American Psychiatric Association [APA], 2000). Eating until uncomfortably full, eating alone, and eating in the absence of hunger also characterize binge eating episodes. In addition, people who binge eat often feel out of control and experience distress, regret, and guilt following a binge (Stice, Telch, & Rizvi, 2000). Binge eating, as defined categorically, occurs in roughly 2% to 4% of women and 0.5% to 1.5% of men in the general population (Bruce & Agras, 1992; Kinzl, Traweger, Trefalt, Mangweth, & Biebl, 1999; Spitzer et al., 1992). However, research supports a dimensional view of binge eating in which it occurs along a continuum from mild to severe (Fitzgibbon, Sanchez-Johnsen, & Martinovich, 2003). From this dimensional perspective, subclinical (or mild to moderate) levels of binge eating occur in 32% to 48% of university-attending women (Keel, Baxter, Heatherton, & Joiner, 2007; Striegel-Moore, Silberstein, Grunberg, & Rodin, 1990). Binge eating is associated with various negative outcomes including weight gain and associated weight-related illnesses (e.g., diabetes), functional impairment, and comorbid psychopathology (Fitzgibbon et al., 2003). Moreover, among university students, binge eating is associated with other health-damaging behaviours including cigarette smoking and binge drinking (Rush, Becker, & Curry, 2009). Theory and research implicate perfectionism, especially socially prescribed perfectionism, in the generation of binge eating (Heatherton & Polivy, 1991; Pratt, Telch, Labouvie, Wilson, & Agras, 2001). For instance, the fear of others' scrutiny and the

excessive need for others' approval that characterizes people high in socially prescribed perfectionism is thought to set the stage for binge eating (Sherry & Hall, 2009).

Procrastination involves an intentional delay in beginning or in completing one's tasks or activities that is detrimental to success (Ferrari, Johnson, & McCown, 1995; Solomon & Rothblum, 1984). Among the general adult population, 25% report chronic procrastination that result in inefficiencies in their daily life (Ferrari, Diaz-Morales, O'Callaghan, Diaz, & Argumedo, 2007; Ferarri & Tice, 2000). Procrastination among students is even more common with estimates indicating 80% to 95% of students engage in frequent procrastination with 50% identifying procrastination as recurrent and problematic (Steel, 2007). Procrastination is associated with a host of negative outcomes including poor academic performance, decreased well-being, poor health, decreased long-term learning, and lower self-esteem (Milgram, Gehrman, & Keinan, 1992; Steel, 2007; Tice & Baumeister, 1997). Procrastination is especially common and impairing for perfectionists (Flett et al., 1992; Frost et al., 1990). Neumeister (2004) interviewed university students high in socially prescribed perfectionism who procrastinated. When asked why, students explained that their procrastination provided them a reason for not doing well. Thus, procrastination may function as a self-handicapping strategy for socially prescribed perfectionists and allow them to attribute their failures to a lack of effort rather than a lack of ability (Ferrari & Tice, 2000).

Interpersonal conflict involves hostile, critical, rejecting, and inconsiderate interactions with others (Oishi & Sullivan, 2006). Interpersonal conflict is common and distressing for people high in socially prescribed perfectionism (Habke & Flynn, 2002). For example, concerns about meeting others expectations and letting others down are

common among people high in socially prescribed perfectionism (Blatt, 1995; Hewitt & Flett, 1991). This preponderance towards viewing others as critical and rejecting is often associated with negative interpersonal interactions (Habke & Flynn, 2002). People high in socially prescribed perfectionism have a strong desire to impress and garner approval from others, yet they feel rejected by and judged by others which contributes to dysfunction in their interpersonal relationships and increased interpersonal turmoil (Hill, Zrull, & Turlington, 1997). Consequently, interpersonal conflict makes it difficult to gain approval and acceptance (Hammen, 1991). Interpersonal conflict also contributes to decreased relationship satisfaction, negative health outcomes, and dysfunction in diverse areas of life (Karney & Bradbury, 1995; Wright & Loving, 2011). As such, this self-defeating behaviour is detrimental and warrants further study in relation to perfectionism.

1.5 SUMMARY

Throughout its history as a psychological construct, perfectionism has been viewed in a variety of ways, including as a unidimensional, multidimensional, adaptive, and maladaptive construct. Moreover, perfectionism has been examined as a stable personality trait and as a fluctuating personality process. In my dissertation research, I conceptualized perfectionism as a maladaptive personality trait and focused on one dimension, socially prescribed perfectionism. My dissertation addresses many gaps in the existing perfectionism literature by testing two integrative models aimed at explaining why socially prescribed perfectionism is related to self-defeating behaviours.

In Study 1, I tested a model that integrates trait perfectionism (socially prescribed perfectionism), perfectionism processes (discrepancies and perfectionism self-presentation), affect (depressive affect), and behaviour (binge eating, procrastination,

interpersonal conflict) into one comprehensive and cyclical model. In testing this model, I attempt to explain why people high in socially prescribed perfectionism get stuck in self-defeating cycles. In Study 2, I examined socially prescribed perfectionism and its relation to binge eating in more detail. Specifically, I tested the perfectionism model of binge eating (Sherry & Hall, 2009; Mackinnon et al., 2011) in the context of one key interpersonal relationship, the mother-daughter relationship. Like Study 1, in Study 2, I integrated trait perfectionism (socially prescribed perfectionism), perfectionism processes (discrepancies), affect (depressive affect), and behaviour (dietary restraint and binge eating) into one model. However, Study 2 expanded on Study 1 by focusing on daughters in relation to their mothers and testing the influence that daughters' perfectionism and mothers' parenting style have in predicting perfectionism processes, affect, and self-defeating behaviour.

To test my hypotheses, I used advanced methods (e.g., daily diary designs, longitudinal designs) and corresponding statistical analyses (e.g., multilevel structural equation modeling, path analysis). I present two stand-alone publication-style manuscripts (Chapter 2 and Chapter 4) that illustrate the results of my two empirical dissertation studies. First, a general introduction (Chapter 1) offers some background information on perfectionism and justification for my research. In Chapter 3, I provide information on the links between Study 1 and Study 2. In Chapter 5, I discuss the wider implications of my research, in addition to the clinical implications, limitations, and future directions.

CHAPTER 2. UNDERSTANDING THE SOCIALLY PRESCRIBED
PERFECTIONIST'S CYCLE OF SELF-DEFEAT: A 7-DAY, 14-OCCASION DAILY
DIARY STUDY¹

2.1 INTRODUCTION

Personality structure is an enduring part of a person's personality (Fleeson, 2007). Various terms describe personality structure including dispositions (Fournier, Moskowitz, & Zuroff, 2008), dispositional traits (McAdams & Pals, 2006), and the "having" side of personality (Cantor, 1990). Personality structure is usually studied using between-person analyses providing insight into how people differ from one another. Though research on personality structure provides key information, it cannot explain how personality expresses itself in daily life.

Personality processes are the fluctuating parts of personality that explain how personality works (Fleeson, 2007). Various terms describe personality processes including signatures (Fournier et al., 2008), characteristic adaptations (McAdams & Pals, 2006), and the "doing" side of personality (Cantor, 1990). Personality processes tell us about how personality expresses itself in daily life and are best studied using within-person analyses.

Research on personality structure and processes has mostly occurred separately; however, researchers see value in combining these approaches. Mischel (1999) argues

¹ Adapted from Mushquash, A. R., & Sherry, S. B. (in press). *Journal of Research in Personality*. doi: 10.1016/j.jrp.2012.08.006. As first author, I contributed to the design of the study, organized and managed data collection, conducted data analyses, wrote the manuscript, and revised the manuscript in accordance with suggestions from my co-author, peer-reviewers, and the journal editor.

personality structure and processes are “complementary facets of...the same unitary personality system” (p. 55-56). Applying this thinking to perfectionism research, I assert that an integrated approach is needed—an approach in which perfectionism structure and processes are studied together to identify individual differences in behaviour and the mechanisms underlying these differences (Fleeson, 2007).

2.1.1 Needed Advances for Integrating Structure and Processes in Perfectionism Research

Perfectionism is usually conceptualized as a personality structure. For example, socially prescribed perfectionism (i.e., perceiving others are demanding perfection of oneself) and self-oriented perfectionism (i.e., demanding perfection of oneself) from Hewitt and Flett’s (1991) perfectionism model are two key dimensions of the perfectionism personality structure. Evidence suggests these perfectionism dimensions are stable and predict various outcomes (Sherry & Hall, 2009). However, perfectionism structure provides a static picture and offers little information on dynamic underlying processes. Indeed, when focusing strictly on perfectionism structure, it is hard to explain the paradoxical nature of perfectionism. Why do perfectionists repeatedly behave in an imperfect manner? To understand why perfectionistic goals, motives, and expectations result in painful self-defeat, it is vital to consider perfectionism structure and processes.

Researchers are increasingly interested in perfectionism processes such as perfectionistic forms of self-evaluation and self-presentation (Hewitt et al., 2003). However, this research is often limited to testing if perfectionism processes predict incremental variance in an outcome (e.g., binge eating) beyond perfectionism structure. As a result, existing studies tell us little about how perfectionism structure and processes work together to influence maladjustment. Of the few studies that combine perfectionism

structure and processes into one model, most propose a linear sequence with a beginning (perfectionism structure), a middle (mediating perfectionism processes), and an end (e.g., symptom outcome; Sherry & Hall, 2009). However, it is unlikely that perfectionists' lives unfold in a linear fashion and many patterns of behaviour (e.g., binge eating) are cyclical and need corresponding explanatory models (Mackinnon et al., 2011). The present study addresses this need by proposing and testing a cyclical model that conceptualizes perfectionists as caught in a self-defeating cycle. This model uses one key dimension of perfectionism structure (i.e., socially prescribed perfectionism) and various perfectionism processes to explain why socially prescribed perfectionists engage in behaviours that are seemingly antithetical to their perfectionistic goals, motives, and expectations.

Methodological improvements are also needed if a model unifying socially prescribed perfectionism and related processes is to emerge. Cross-sectional and longitudinal studies are ill suited to studying perfectionism processes. Cross-sectional designs capture only one point in time, thereby providing a static view of perfectionism, and longitudinal designs cannot address questions regarding short-term, dynamic perfectionism processes. Daily diary studies, involving multiple reports from participants in their natural environment over short periods of time, offer an improvement. In addition to greater ecological validity, such designs increase reliability through repeated reports and diminish recall bias by asking people to report events closer to their actual occurrence (Sherry & Hall, 2009). The present study involves twice-a-day reporting via online surveys that provide objective information on the timing of reports.

Past daily diary research on perfectionism is limited by reliance on suboptimal statistics. Some studies aggregate daily reports to create a mean score for participants

(Sherry & Hall, 2009). Aggregation results in a loss of variation and does not allow tests of within-person patterns. Other daily diary studies use multilevel regression analyses that make use of the nested data structure (Dunkley, Zuroff, & Blankstein, 2003); however, this approach is not suitable for studying latent constructs or complex models involving multiple outcome variables. In the present study, I use multilevel structural equation modeling (SEM) to answer questions about links among variables at the between-person level and the within-person level.

In sum, improvements are needed in research focusing on socially prescribed perfectionism, associated processes, and self-defeating behaviours. In the present study, I propose and test a model that conceptualizes perfectionists as caught in self-defeating cycles (see Figure 2.1). This model uses one key dimension of perfectionism structure (i.e., socially prescribed perfectionism) and related processes to explain why socially prescribed perfectionists engage in behaviours that are seemingly antithetical to their perfectionistic goals, motives, and expectations. I test this model in 317 undergraduates using a 7-day, 14-occasion daily diary design analyzed with multilevel SEM.

2.1.2 Integrating Perfectionism Structure and Processes

Socially prescribed perfectionism. People interpret the world in unique ways, such that the same event may lead to different subjective experiences for different people. Such subjective experiences (i.e., feeling others demand perfection) shape personality processes for people high in socially prescribed perfectionism. They feel pushed to reach lofty standards that they believe demanding others have imposed on them; and I assert this personality structure leads to cyclical, maladaptive patterns of self-evaluation (perfectionistic discrepancies), self-presentation (perfectionistic self-presentation), affect

(depressive affect), and behaviour (self-defeating behaviours; see Figure 2.1). These patterns, discussed below, illustrate the processes by which people high in socially prescribed perfectionism remain stuck in self-defeating cycles.

Given the *interpersonal* nature of the model (see Figure 2.1), I focus on socially prescribed perfectionism and not self-oriented perfectionism, as self-oriented perfectionism is highly *intrapersonal* in nature (Hewitt & Flett, 1991). Whereas socially prescribed perfectionism is tied to social problems and self-defeating behaviours (Hewitt, Flett, Sherry, & Caelian, 2006; Sherry & Hall, 2009), self-oriented perfectionism is often unrelated to negative outcomes and sometimes tied to positive outcomes (e.g., achievement or positive affect; Stoeber & Otto, 2006).

Perfectionistic discrepancies. Socially prescribed perfectionism is often accompanied by a sense of disharmony with others (Hewitt et al., 2006). In particular, perfectionistic discrepancies (i.e., viewing oneself as falling short of others' expectations) are common among people high in socially prescribed perfectionism (Mackinnon et al., 2011). According to the model tested in the present study, struggling with a belief that others are demanding perfection (i.e., socially prescribed perfectionism) predisposes perceptions of letting other people down (i.e., perfectionistic discrepancies; see Figure 2.1). Such perceptions are motivating for people high in socially prescribed perfectionism. These people would greatly prefer to be unassailably perfect—free from others' disapproval (Hewitt & Flett, 1991). As Figure 2.1 shows, perfectionistic discrepancies are proposed to initiate a cycle of compensatory strategies (i.e., perfectionistic self-presentation) set in motion to regain a perfect image in the eyes of others and to remedy the (perceived) failure of having let other people down.

Perfectionistic self-presentation. Hewitt et al. (2003) differentiated the structure of perfectionism from the public expression of perfectionism, which they called perfectionistic self-presentation. Perfectionistic self-presentation involves perfectionistic self-promotion (i.e., promoting a perfect image to others), nondisclosure of imperfection (i.e., avoiding verbal disclosures of imperfection to others), and nondisplay of imperfection (i.e., avoiding behavioural displays of imperfection to others). My model maintains that once people high in socially prescribed perfectionism believe they have fallen short of others expectations, or feel they were judged as imperfect by others, they engage in a “corrective” process of trying to *seem* perfect to others (see Figure 2.1). By presenting a picture of perfection to others and by hiding their imperfections, people high in socially prescribed perfectionism conceal important, and potentially endearing, aspects of their true self. Carrying on this façade and relating to others in a “perfect,” but inauthentic way, leaves people high in socially prescribed perfectionism prone to distress (e.g., depressive affect; Graham et al., 2010).

Depressive affect. Perfectionism is tied to various negative emotions, including depressive affect, anxiety, and anger (e.g., Dunkley & Blankstein, 2000; Hewitt et al., 2006; Nepon, Flett, Hewitt, & Molar, 2011). In the present study, I focused on depressive affect as it is a key emotion experienced by socially prescribed perfectionists. Moreover, depressive affect is related to the perfectionism processes and the self-defeating behaviours in the model I test (Hewitt et al., 2003; Sherry & Hall, 2009). In this model, depressive affect is viewed both as a part of the daily experience of people high in socially prescribed perfectionism and as a consequence of how these people think about and behave around others (see Figure 2.1). Interacting with others while trying to appear

perfect is depressing for people high in socially prescribed perfectionism (Mackinnon & Sherry, 2012). In response to depressive affect brought on by this interpersonal style, people high in socially prescribed perfectionism engage in self-defeating behaviours counter to their original goal of proving to others that they are indeed perfect. These self-defeating behaviours are therefore driven by emotion and contrary to a key goal for socially prescribed perfectionists: Being perfect to others.

Self-defeating behaviours. Self-defeating behaviours negatively impact the self and are detrimental to achieving one's original goal (Baumeister & Scher, 1988). Binge eating, procrastination, and interpersonal conflict represent common self-defeating behaviours for socially prescribed perfectionists (Flett, Hewitt, Davis, & Sherry, 2004; Sherry & Hall, 2009). I, like others, view binge eating (i.e., rapidly and uncontrollably eating a large amount of food in a short period of time) as lying along a continuum from mild to severe (Sherry & Hall, 2009). Evidence suggests people high in socially prescribed perfectionism are vulnerable to binge eating due to their interpersonal problems and their emotional distress (Sherry & Hall, 2009). Feeling rejected and depressed, people high in socially prescribed perfectionism turn to binge eating in an effort to cope (Mackinnon et al., 2011). However, binge eating is incongruent with a key goal for people high in socially prescribed perfectionism: Attaining a slender, desirable body reflecting socially valued ideals for thinness (Sherry & Hall, 2009). Thus, binge eating is a painful failure that disrupts the pursuit of valued interpersonal goals and leads socially prescribed perfectionists to think they disappointed others (see Figure 2.1).

Procrastination involves a delay in beginning or in completing one's tasks or activities that is detrimental to success (Ferrari, 1994). Procrastination may be explained,

in part, by perceived performance pressures and heightened emotionality (e.g., depressive affect) experienced by people high in socially prescribed perfectionism (Flett, Blankstein, Hewitt, & Koledin, 1992). People who suffer from depressive affect are less likely to initiate or to complete daily tasks, making procrastination a common problem for such individuals. Indeed, a meta-analysis showed depressive affect is consistently tied to procrastination (van Eerde, 2003). People high in socially prescribed perfectionism believe others hold them to unrealistic standards (Hewitt & Flett, 1991). Perceiving great pressure, they tend to disengage from tasks, which may allow them to alleviate their evaluative fears for a short time (Flett et al., 2004). However, this task avoidance is unlikely to alleviate such concerns in the long-term. When people high in socially prescribed perfectionism procrastinate, they jeopardize the perfect performance they believe is needed to gain approval and acceptance from others, leaving them feeling as if they have once again let others down (Hewitt & Flett, 1991).

Interpersonal conflict involves hostile, critical, rejecting, and inconsiderate interactions with others (Oishi & Sullivan, 2006). Believing others always need them to be perfect, people high in socially prescribed perfectionism are overconcerned about—yet in frequent conflict with—other people (e.g., Mackinnon et al., 2012). According to the model tested in the present study, depressive affect also brings about self-defeating interpersonal behaviours among people high in socially prescribed perfectionism (see Figure 2.1), with depressive affect leading to interpersonal conflict (see Hammen, 2006). Socially prescribed perfectionists appear stuck in a paradoxical, self-defeating mode of interpersonal functioning. Faced with feelings of depression arising from their inability to

be perfect, people high in socially prescribed perfectionism lash out creating new opportunities to view themselves as falling short of other people's expectations.

In sum, the model in the present study (see Figure 2.1) asserts that socially prescribed perfectionists see others as dissatisfied with them and disappointed in them. In response to such perceptions, they try to appear perfect to others. Thus, efforts to appear perfect are interpersonally motivated, representing attempts to gain acceptance and to avoid criticism from others. However, showing a false façade of perfection backfires, often with depressing consequences. This manner of self-presentation is defensive, inauthentic, self-limiting, not well received by others and, ultimately, depressogenic (Hewitt et al., 2003). Driven by depressing emotions, people high in socially prescribed perfectionism cope in an ineffective, self-defeating manner. They binge eat, avoid tasks, and come into conflict with others. These behaviours are painfully and paradoxically opposed to the ultra-thin, task-focused, well-liked perfect person that socially prescribed perfectionists want to be (Hewitt et al., 2003). Such self-defeating behaviours confirm the sense of disappointment people high in socially prescribed perfectionism see in the eyes of others. These behaviours thus represent a painful failure for people high in socially prescribed perfectionism that reinvigorates their cycle of self-defeat by generating more perfectionistic discrepancies (see Figure 2.1).

2.1.3 Hypotheses

Primary hypotheses. I expected the model would fit the data well and constructs in the model would represent distinct entities (see Figure 2.1). Based upon past work (e.g., Sherry & Hall, 2009), I also expected that (a) at the between-person level, socially prescribed perfectionism would be positively related to perfectionistic discrepancies,

perfectionistic self-presentation, depressive affect, and self-defeating behaviours and (b) at the between- and within-person levels, positive relations would be found between perfectionistic discrepancies and perfectionistic self-presentation, perfectionistic self-presentation and depressive affect, and depressive affect and self-defeating behaviours.

Testing the model at the between-person level (see top of Figure 2.1) assesses relations among variables, in general, across the group of participants. This nomothetic analysis tests if participants' average level of socially prescribed perfectionism is related to participants' average level of each perfectionism process and to participants' average level of self-defeating behaviours. A well-fitting model at the between-person level suggests patterns among perfectionism structure, perfectionism processes, and self-defeating behaviours are stable individual differences across the group of participants. Testing the model at the within-person level (see bottom of Figure 2.1) assesses relations among variables over time within each individual participant. This idiographic analysis tests whether daily variables (e.g., daily perfectionistic discrepancies and daily perfectionistic self-presentation) covary. A well-fitting model at the within-person level suggests perfectionism processes and self-defeating behaviours covary within a person in the expected manner.

Incremental validity hypothesis. Self-oriented perfectionism is moderately correlated with socially prescribed perfectionism and perfectionistic self-presentation (Hewitt et al., 2003). This makes self-oriented perfectionism a relevant control variable when testing if socially prescribed perfectionism contributes uniquely to the model. Some authors also assert researchers should focus on a perfectionism model where intrapersonal, self-imposed perfectionistic standards are paramount (Shafran, Cooper, &

Fairburn, 2002). This suggests a need to test if socially prescribed perfectionism (a strongly interpersonal variable) contributes incrementally to the variables of the model beyond self-oriented perfectionism (a strongly intrapersonal variable). Consistent with past work (Sherry & Hall, 2009), paths in the model were expected to remain significant and largely unchanged when controlling for self-oriented perfectionism.

Secondary hypotheses. Self-defeating behaviours have lasting negative consequences (Barker, Williams, & Galambos, 2006). For people high in socially prescribed perfectionism, I believe these lasting negative consequences occur in the form of perfectionistic discrepancies. Socially prescribed perfectionists perceive others as harsh, critical, and demanding (Mackinnon et al., 2011). Binge eating, procrastinating, or coming into conflict with others represent distressing failures in living up to these perceived expectations, resulting in real or an imagined loss of approval and acceptance. In the multilevel structural model (see Figure 2.1), I was unable to directly test the link between self-defeating behaviours and perfectionistic discrepancies due to the singularity (overlap) of the perfectionistic discrepancies variable and the next-day perfectionistic discrepancies variable at the between-person level. Analyses at the between-person aggregate level and, separately, at the within-person daily level, provide another way to test this path. Consistent with evidence that people feel worse after engaging in self-defeating behaviours (Haedt-Matt & Keel, 2011), I expected: (a) at the between-person aggregate level, self-defeating behaviours would be positively related to perfectionistic discrepancies; and (b) at the within-person daily level, self-defeating behaviours on one day would be positively related to perfectionistic discrepancies the next day.

2.2 METHOD

2.2.1 Participants

I recruited 317 undergraduates (247 women; 70 men) at Dalhousie University. On average, participants were 20.32 years old ($SD = 4.34$) and had 1.72 years ($SD = 0.91$) of university education. Most participants were in their first (50.3%) or second (35.7%) year of university, with 7.4% in their third year, 5.7% in their fourth year, and 0.9% in their fifth year or above; 82.3% of participants reported their ethnicity as Caucasian, 5.4% as Asian, 3.8% as Black, 3.6% as more than one ethnicity, and 4.9% as other ethnicities (e.g., Aboriginal). Most participants reported being single (51.4%) or in a dating relationship (42.6%). Average body mass index (BMI) was 23.37 ($SD = 4.68$) for women and 24.16 ($SD = 3.66$) for men. This sample resembles other samples recruited at Dalhousie University (Graham et al., 2010).

2.2.2 Measures

Higher scores signify higher levels of all constructs. A long-term timeframe (i.e., during the past several years) was used for perfectionism structure measures (i.e., socially prescribed perfectionism and self-oriented perfectionism), as evidence suggests these variables are highly stable (e.g., Graham et al., 2010). Congruent with my conceptual model and reporting schedule, a short-term timeframe (i.e., since your last entry) was used for measures of perfectionism processes and self-defeating behaviours. My use of a short-term timeframe is also consistent with research indicating these constructs change meaningfully over short periods of time (e.g., Sherry & Hall, 2009).

Some items for measures of perfectionism processes and self-defeating behaviours were slightly modified to reflect the past tense. For example, in the Perfectionistic Self-Presentation Scale, “I strive to look perfect to others” was changed to

“I strived to look perfect to others.” To reduce participant burden and to increase response rates, daily measures were shortened. Based on factor analytic evidence, I selected three to five items with the highest factor loadings to represent each scale. For example, the 35-item Procrastination Scale (Tuckman, 1991) was too long for inclusion in the daily portion of my study. Instead, the five items with the highest factor loadings from Tuckman’s factor analysis were used. This approach is consistent with Mackinnon et al. (2012) and other daily diary studies (e.g., Sherry & Hall, 2009).²

Socially prescribed perfectionism. I adopted Sherry and Hall’s (2009) measurement model for socially prescribed perfectionism, including the socially prescribed perfectionism subscale of Hewitt and Flett’s (1991) Multidimensional Perfectionism Scale (HFMPs; see Appendix A), a modified version of the parental perceptions subscale of Frost et al.’s (1990) Multidimensional Perfectionism Scale (FMPS; see Cox, Enns, & Clara, 2002; see Appendix B), and a modified version of the socially prescribed perfectionism subscale of Garner, Olmstead, and Polivy’s (1983) Eating Disorder Inventory (EDI; see Joiner & Schmidt, 1995; see Appendix C). The 15-

² I conducted a cross-sectional, supplementary study that assessed the psychometric properties of these modified measures. A total of 78 undergraduates (70 women, 6 men, and 2 undisclosed) completed the modified daily measures and their original, unmodified counterparts. Consistent with the sample for the main study, participants had a mean age of 20.15 years ($SD = 2.57$), were predominantly Caucasian (86.4%), and had an average of 2.27 ($SD = 1.25$) years of university education. Results of this psychometrics study are reported with each measure described below. This supplementary study is referenced as Mushquash (2012).

item HFMPs socially prescribed perfectionism subscale (e.g., “Others expect perfection from me”) is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Studies support the reliability and validity of this measure (Brannan & Petrie, 2008; Chang, Sanna, Chang, & Bodem, 2008).

One FMPS parental perceptions item (i.e., “Only outstanding performance is good enough in my family”) was dropped, as it is redundant with one EDI socially prescribed perfectionism item. Items on the FMPS parental perceptions subscale and EDI socially prescribed perfectionism were previously modified to reflect broader interpersonal content (Sherry & Hall, 2009). For instance, “I never felt I could meet my parents’ expectations” of the FMPS parental perceptions subscale was modified to “I never feel I can meet others’ expectations.” Hence, the parental perceptions subscale was renamed the interpersonal perceptions subscale. The 4-item FMPS interpersonal perceptions subscale is rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Research supports both the reliability and validity of the FMPS interpersonal perceptions subscale (Sherry, 2006; Sherry & Hall, 2009).

The original EDI socially prescribed perfectionism subscale had three items and weak psychometrics (Sherry & Hall, 2009). As in McGrath et al. (2012), I added one item to the EDI socially prescribed perfectionism scale (i.e., “It feels as if people make excessive demands of me”) from Mitzman, Slade, and Dewey (1994). This item has content similar to Hewitt and Flett’s (1991) notion of socially prescribed perfectionism. This 4-item EDI socially prescribed perfectionism subscale has improved psychometrics and is correlated with the original 3-item measure ($r = .85, p < .05$; McGrath et al., 2012).

The EDI socially prescribed perfectionism subscale is rated on a 6-point scale from 1 (*never*) to 6 (*always*). Studies support its reliability and validity (McGrath et al., 2012).

Self-oriented perfectionism. I adopted McGrath et al.'s (2012) measurement model for self-oriented perfectionism, including the self-oriented perfectionism subscale of the HFMPs (see Appendix A), the personal standards subscale of the FMPS (see Appendix B), and a modified version of the self-oriented perfectionism subscale of the EDI (see Appendix C). The 15-item HFMPs self-oriented perfectionism subscale (e.g., “I strive to be as perfect as I can be”) is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Studies support the reliability and validity of this subscale (Chang et al., 2008; Sherry, Hewitt, Flett, Lee-Baggley, & Hall, 2007).

The 7-item FMPS personal standards subscale (e.g., “I expect higher performance in my tasks than most people”) is rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Studies support the reliability and validity of this subscale (Dunkley et al., 2003; Flett, Sawatzky, & Hewitt, 1995).

Psychometrics for the 3-item EDI self-oriented perfectionism subscale are lacking (e.g., Sherry & Hall, 2009). As in McGrath et al. (2012), I added one item (i.e., “I set impossibly high standards for myself”) from Mitzman et al. (1994) to the EDI self-oriented perfectionism subscale. This item has content similar to Hewitt and Flett's (1991) notion of self-oriented perfectionism. The psychometrics for the 4-item version are improved and there is a correlation between the 3-item version and the 4-item version ($r = .87$; McGrath et al., 2012). The EDI self-oriented perfectionism subscale is rated on a 6-point scale from 1 (*never*) to 6 (*always*). Studies indicate the EDI self-oriented perfectionism subscale is reliable and valid (McGrath et al., 2012; Sherry, 2006).

Perfectionistic discrepancies. Perfectionistic discrepancies were assessed with short-forms of Flett and Hewitt's (2012) Multidimensional Discrepancies Inventory (MDI; see Sherry & Hall, 2009; see Appendix D), Bagby, Parker, Joffe, and Buis' (1994) Reconstructed Depressive Experiences Questionnaire (DEQ-R; see Mackinnon et al., 2011; see Appendix F), and Slaney, Rice, Mobley, Trippi, and Ashby's (2001) Almost Perfect Scale-Revised (APS-R; see Sherry & Hall, 2009; see Appendix E). Each scale had three items. The MDI perfectionistic discrepancies subscale (e.g., "Did you fall short of others' expectations?") is rated on a 4-point scale from 1 (*not at all*) to 4 (*very much*). The DEQ-R perfectionistic discrepancies subscale (e.g., "My performance did not measure up to others' standards") and the APS-R perfectionistic discrepancies subscale (e.g., "I found that I didn't live up to others' standards for me") are rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). I previously found a correlation between the perfectionistic discrepancies scales of the original and revised MDI ($r = .61$, $p < .05$), the original and revised DEQ-R ($r = .57$, $p < .05$), and the original and revised APS-R ($r = .56$, $p < .05$), which supports the convergent validity of my shortened measures (Mushquash, 2012).

Perfectionistic self-presentation. Perfectionistic self-presentation was measured with short-forms of the perfectionistic self-promotion (e.g., "I strived to look perfect to others"), nondisclosure of imperfection (e.g., "I tried to keep my faults to myself"), and nondisplay of imperfection (e.g., "I thought failing at something is awful if others know about it") subscales of the Perfectionistic Self-Presentation Scale (Hewitt et al., 2003; see Appendix G). Each scale had three items. Items are rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The original and revised perfectionistic self-

promotion subscales ($r = .65, p < .05$), nondisclosure of imperfections subscales ($r = .66, p < .05$), and nondisplay of imperfections subscales ($r = .78, p < .05$) are correlated, supporting the convergent validity of my shortened measures (Mushquash, 2012).

Depressive affect. Depressive affect was assessed with short-forms of the Profile of Mood States depression subscale (POMS-D; McNair, Lorr, & Droppleman, 1992; see Appendix H), Depression Adjective Checklist Form G (DACL-G; Lubin, 1965; see Appendix I), and sadness subscale of the Positive and Negative Affect Schedule Expanded form (PANAS-X; Watson & Clark, 1994; see Appendix J). On the POMS-D (e.g., “sad”), DACL-G (e.g., “miserable”), and PANAS-X (e.g., “downhearted”), participants indicated how well each word described their feelings on a 5-point scale from 0 (*not at all*) to 4 (*extremely*). I found correlations between the original and short-form POMS-D ($r = .83, p < .05$), DACL-G ($r = .77, p < .05$), and PANAS-X ($r = .79, p < .05$), supporting their convergent validity (Mushquash, 2012).

Self-defeating behaviours. Self-defeating behaviours were measured as a latent variable involving one binge eating, procrastination, and interpersonal conflict manifest indicator. Binge eating, emotionality, and compensatory behaviours (e.g., purging) are often confounded in binge eating scales (Sherry & Hall, 2009). I focused on binge eating behaviour per se (as defined in my introduction). As in Sherry and Hall (2009), I used four items of the EDI binge eating subscale (e.g., “I stuffed myself with food”; Garner et al., 1983; see Appendix K) to assess binge eating distinct from emotionality and compensatory behaviour. Participants responded to items on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Procrastination was measured with five items from Tuckman’s (1991) Procrastination Scale (see Appendix L). Items (e.g., “I promised

myself I'd do something and then dragged my feet") are rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). To measure interpersonal conflict, I used five items representing conflictual behaviours towards others (e.g., "controlling") from the Interpersonal Qualities Scale (Murray, Holmes, & Griffin, 1996) used in Oishi and Sullivan (2006; see Appendix M). The original measure referred to behaviour towards a romantic partner. I slightly modified the original instructions to allow participants to report how well each behaviour described them when they were "with other people" rather than "with your partner." Participants rated each statement on a 9-point scale from 1 (*not at all characteristic*) to 9 (*completely characteristic*). The original and shortened binge eating measure ($r = .67, p < .05$) and procrastination measure ($r = .71, p < .05$) were correlated, supporting their convergent validity (Mushquash, 2012).

2.2.3 Procedure

Dalhousie University's Ethics Board approved the study. Participants were recruited via the Department of Psychology participant pool and responded to an ad inviting their participation in a study on personality. Participants received \$10 and 3.0% towards a psychology course mark.

The study involved two phases. In the first phase, participants completed an informed consent form. Then participants completed demographics and personality structure measures and received instruction about the rest of the study. In total, the first phase of the study took each participant approximately 1 hour to complete. The second phase began the day after phase one and involved completing two online structured daily diaries each day for 7 consecutive days. Each daily diary took approximately 10 minutes to complete. Participants completed measures of perfectionism processes and self-

defeating behaviours roughly 8-hours after waking (i.e., their midday diary) and just before going to sleep (i.e., their bedtime diary) each day. I selected this reporting schedule to capture the first and second half of participants' days since most young adults are awake about 16 hours each day (Statistics Canada, 2008). I emailed participants two reminders to participate each day.

2.2.4 Data Analytic Strategy

Multilevel SEM in Mplus was used to test relations between variables at different levels. Prior to testing the multilevel model, I conducted exploratory analyses (see Muthen, 1994). I also tested the multilevel measurement model with confirmatory factor analysis and conducted discriminant validity analyses to test if highly correlated variables were distinct constructs. Then, I tested the multilevel structural model. Incremental validity analyses tested if paths in the model were significant after controlling for self-oriented perfectionism. I conducted secondary analyses to test the path between self-defeating behaviours and perfectionistic discrepancies.

2.3 RESULTS

2.3.1 Compliance and Missing Data

All 317 participants completed the first phase of my study, and no data were missing. All 317 participants who completed the first phase also completed at least one daily diary; 3790 daily diaries were provided. Same-day diaries (i.e., the midday and bedtime diary for a given day) were submitted roughly 7 hours apart ($M = 6.74$ and $SD = 2.21$). To ensure temporal separation, same-day diaries were only retained if they were provided between 2 and 14 hours apart. This resulted in the exclusion of 92 daily diaries (66 were less than 2 hours apart and 26 were greater than 14 hours apart); 97.6% (3698 of

3790) of daily diaries were included in final analyses. The number of daily diaries provided by each participant ranged from 1 to 14, with only 0.6% (2 of the 317) of participants providing only one daily diary. On average, participants completed 11.67 (of a possible 14) daily diaries ($SD = 2.59$). Response rates ranged from a high of 89.0% (282 of 317 participants) for the first daily diary to a low of 75.4% (239 of 317 participants) for the last daily diary. I used the maximum likelihood robust estimator in Mplus to handle missing diary data, as this method is less biased than other methods (Schlomer, Bauman, & Card, 2010).

Prior to multilevel SEM, same-day diaries were linked (e.g., the midday diary for day 1 was linked to the bedtime diary of day 1); this resulted in 1836 full day entries (i.e., 1836 entries where the midday report and the bedtime report were linked). In multilevel SEM, I used midday diaries of perfectionistic discrepancies, perfectionistic self-presentation, and depressive affect and used bedtime diaries of self-defeating behaviours. This is consistent with the temporal sequence in my model (e.g., depressive affect \rightarrow self-defeating behaviours) and studies suggesting self-defeating behaviours (e.g., binge eating) tend to occur later in the day (Smyth et al., 2009).

2.3.2 Descriptive Statistics

Means, standard deviations, and ranges for manifest indicators are presented in Table 2.1. Values for perfectionism processes and self-defeating behaviours are based on aggregated daily diary data. Means for perfectionism structure are consistent with research involving similar samples (e.g., Sherry & Hall, 2009). Means for perfectionism processes and self-defeating behaviours are also consistent with values from comparable samples (e.g., Mushquash, 2012). At the between-person level, socially prescribed

perfectionism indicators were positively and significantly related to self-oriented perfectionism indicators (with one exception; see Table 2.2). Socially prescribed perfectionism indicators were positively and significantly related to indicators of perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviours. All self-oriented perfectionism indicators were positively and significantly related to indicators of perfectionistic self-presentation. Two of three self-oriented perfectionism indicators (i.e., HFMPs and EDI) were positively and significantly tied to most indicators of perfectionistic discrepancies, depressive affect, and self-defeating behaviours. However, the FMPS personal standards subscale was not consistently tied to perfectionistic discrepancies, depressive affect, or self-defeating behaviours. At both the between-person and within-person level, perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviours were positively related.

2.3.3 Multilevel Structural Equation Modeling

Small's Omnibus Test suggested significant multivariate non-normality in my data, $\chi^2(19) = 342.26, p < .001$. I used maximum likelihood robust estimation since it is robust against normality violations. Multilevel SEM uses strengths of both SEM (e.g., estimation of complex models) and multilevel modeling (e.g., accounting for nested data; West, Ryu, Kwok, & Cham, 2011). In my study, clustered data are present with daily reports provided by and nested within each participant. In multilevel SEM, variability at the between-person (individual) level and the within-person (daily) level are modeled simultaneously by decomposing variance into between- and within-person matrices. Modeling at the between-person level, using the between-person covariance matrix,

provides information about how participants score on a measure versus other participants (Roesch et al., 2010). For example, the between-person covariance matrix tells us if participants with high levels of perfectionistic discrepancies (versus other participants) also report high levels of perfectionistic self-presentation (versus other participants). Modeling at the within-person level, using the within-person covariance matrix, provides information about the relationship among variables for each participant relative to their own prior levels (Roesch et al., 2010). For example, the within-person covariance matrix tells us if a midday report of depressive affect predicts a bedtime report (on the same day) of self-defeating behaviours. Multilevel SEM also compares models at the between- and within-person level.

Model fit was assessed with the comparative fit index (CFI), Tucker-Lewis index (TLI), root-mean-square error of approximation (RMSEA), and standardized root-mean-square residual (SRMR). When available, RMSEA values are reported with 90% confidence intervals (90% CI). Mplus does not provide RMSEA CIs for multilevel structural models; thus, RMSEA CIs are not reported in step 5 or incremental validity analyses (see below). A CFI and TLI in the range of .95, a RMSEA in the range of .06, and SRMR in the range of .08 suggest excellent model fit (Hu & Bentler, 1999).

Moderate model fit is suggested by a CFI and TLI in the range of .90, RMSEA in the range of .08, and SRMR in the range of .10. CFI and TLI values < .90, RMSEA values > .08, and SRMR values > .10 indicate poor model fit (Byrne, 2001).

Step 1: Conventional structural equation modeling. In step 1, I deliberately ignored the multilevel structure of my data (see Cheung & Au, 2005). All observations were treated as independent and a conventional structural model was tested with the total

sample covariance matrix (Muthen, 1994). This step provided an initial estimate of model parameters and model fit. The proposed model showed moderate fit: CFI = .93, TFI = .92, RMSEA = .09 (90% CI: .08, .09), and SRMR = .09. Muthen (1994) cautioned against interpretation at this step as poor to moderate fit may arise from an ill-fitting model, ignoring the nested data structure, or both.

Step 2: Estimation of between-person variation. In step 2, variability at the between-person level, or the degree of dependence (clustering) in the data, was estimated by calculating intraclass correlations (ICCs). ICCs provide an estimate of the proportion of the total variance accounted for by between-person variance. ICCs describe the extent to which measurements taken from the same participant (e.g., daily diaries) are more similar than measurements taken from different participants. West et al. (2011) noted ICCs would be high in daily diary studies since the level 1 unit is repeated observations and the level 2 unit is individuals. ICCs for my study were high (i.e., .41 to .70; see Table 2.1) suggesting 41.0% to 70.0% of the variance in daily perfectionism processes and self-defeating behaviours is attributable to between-person differences. With large ICCs, non-independence is evident and progression to step 3 is justified.

Step 3: Estimation of pooled within-person structure. In step 3, the within-person estimates were separated from overall model estimates. Using the pooled within-person covariance matrix, the structural model was estimated at only the within-person level. This model had poor to moderate fit: CFI = .93, TFI = .90, RMSEA = .11 (90% CI: .10, .11), and SRMR = .13. Analyzing data at only the within-person level can result in a better fitting model compared to the model in step 1 (Muthen, 1994). However, models with improved fit in step 3 often involve different contexts (e.g., employees nested in

departments) where level 2 variables (e.g., departments) exert less influence relative to level 1 variables (e.g., employees; Harman & Amico, 2009). In contrast, my data involved repeated daily reports nested within individuals. Thus, the level 2 (between-person) influence may be stronger than the level 1 (within-person) influence. Consistent with this, my large ICC values suggested level 2 variables exert a strong influence. As a result, I failed to see improved fit when testing the model at the within-person level³.

Step 4: Estimation of between-person structure. In step 4, the between-person estimates were separated from the overall model estimates. Using the between-person covariance matrix, the proposed structural model was estimated at the between-person level only. Results suggested my model had poor to moderate fit when analyzed only at the between-person level: CFI = .90, TFI = .87, RMSEA = .14 (90% CI: .14, .15), and SRMR = .06. These results, along with results of step 3, suggested my proposed model

³ In our multilevel structural model (see Figure 1 and Step 5), I was unable to control for prior day levels of each outcome variable due to the singularity (overlap) of the prior day variables and the current day variables. However, using the pooled within-person covariance matrix (see Step 3), I tested a modified version of the within-person model that included prior day controls for each outcome variable (i.e., perfectionistic self-presentation, depressive affect, and self-defeating behaviours). Consistent with results of Step 3, the fit of the modified model was poor: CFI = .85, TLI = .82, RMSEA = .11 (90% CI: .11, .11). Nonetheless, paths from perfectionistic discrepancies → perfectionistic self-presentation, perfectionistic self-presentation → depressive affect, and depressive affect → self-defeating behaviours were significant ($p < .001$) while controlling for prior day levels.

does not fit well as a solely between- or a solely within-person model. Thus, I tested the proposed model using the within- and between-person covariance matrix simultaneously in the context of a multilevel structural model.

Step 5: Fitting the multilevel structural equation model. Prior to analyzing the multilevel structural model, I used confirmatory factor analysis to test the multilevel measurement model. At each level, latent variables covaried freely and manifest indicators were loaded onto their associated latent variables. This measurement model had excellent fit: CFI = .97, TFI = .96, RMSEA = .03, SRMR_{within} = .02, and SRMR_{between} = .06. Unstandardized factor loadings were significant ($p < .05$), indicating manifest indicators load significantly on their respective latent variables. Overall, the multilevel measurement model was well fitting and suitable for testing in structural form.

Discriminant validity analyses. Some manifest indicators of different latent variables were highly correlated (see Table 2.2). For example, the manifest indicators of the between-person perfectionistic discrepancies latent variable were highly correlated with the manifest indicators of the between-person depressive affect latent variable (r s from .54 to .71). Discriminant validity analyses tested if the latent variables for highly correlated manifest indicators were best seen as distinct. The multilevel measurement model (Model 1) was compared with two modified versions of this measurement model. Modified versions were identical to Model 1, except certain latent variables were treated as identical by fixing the latent correlation to 1.0 (Kline, 2005).

In Model 2, the correlation between the between-person perfectionistic discrepancies latent variable and the between-person depressive affect latent variable was fixed to 1.0. In Model 3, the correlation between latent within-person perfectionistic

discrepancies and latent within-person perfectionistic self-presentation was fixed to 1.0. Smaller AIC values indicate better model fit and parsimony. AIC differences greater than four provide clear evidence of model superiority, differences between two to four provide weak evidence, and differences less than two are inconclusive (Burnham & Anderson, 2002). By comparing AIC values, I tested if certain pairs of variables in my multilevel measurement model are best represented as distinct constructs. AIC values indicated Model 1 (AIC = 100908.21) was superior to Model 2 (AIC = 101021.96) and Model 3 (AIC = 100938.17). Results suggest highly correlated variables in my multilevel measurement model (Model 1) are meaningfully distinct.

Fitting the multilevel structural model. The multilevel structural model (see Figure 2.1) was estimated using the between- and within-person covariance matrices simultaneously. As hypothesized, the multilevel structural model had good fit: CFI = .95, TFI = .93, RMSEA = .04, SRMR_{within} = .05, and SRMR_{between} = .11. These results, and results of steps 1 to 4, suggested the proposed model fits the data best as a multilevel model. As in other multilevel structural equation models (Walsh, Matthews, Tuller, Parks, & McDonald, 2010), SRMR_{within} was smaller than SRMR_{between}. This suggests the within-person model has slightly better fit than the between-person model.

Paths were largely congruent with hypotheses. At the between-person level (top of Figure 2.1), socially prescribed perfectionism was positively and significantly related to perfectionistic discrepancies, depressive affect, and self-defeating behaviours, but not to perfectionistic self-presentation. Perfectionistic discrepancies were positively and significantly related to perfectionistic self-presentation; perfectionistic self-presentation was positively and significantly related to depressive affect; and depressive affect was

positively and significantly related to self-defeating behaviours. On average, people high in socially prescribed perfectionism believe they have disappointed others, experience depressive affect, and engage in self-defeating behaviours. It also seems people who believe they have let others down try to redeem themselves by coming across as perfect to others, but end up feeling sad and engaging in self-defeating behaviours to cope. Results also suggest relations among variables in the model represent stable, between-person individual differences across study participants.

As hypothesized, at the within-person level (bottom of Figure 2.1), I found perfectionistic discrepancies were positively and significantly related to perfectionistic self-presentation and perfectionistic self-presentation was positively and significantly related to depressive affect. However, contrary to hypotheses and results at the between-person level, depressive affect was not significantly related to self-defeating behaviours.

2.3.4 Incremental Validity Analyses

In testing incremental validity, we specified a multilevel structural model identical to Figure 1, with one key change: We replaced SPP with self-oriented perfectionism. In terms of absolute fit, this new model was moderate to excellent: CFI = .94, TFI = .92, RMSEA = .04, SRMR_{within} = .04, and SRMR_{between} = .11. However, we compared the AIC (i.e., 101082.36) for our original model focusing on SPP (see Figure 1) to the AIC (i.e., 101535.79) for this new model focusing on self-oriented perfectionism and found that our original model was superior. Once SPP was added back in to this multilevel structural model, the model showed moderate fit: CFI = .95, TFI = .93, RMSEA = .04, SRMR_{within} = .05, and SRMR_{between} = .12. In addition, AIC values indicated this model involving both SPP and self-oriented perfectionism (AIC =

106994.81) was also inferior to our model focusing solely on SPP (AIC = 101082.36). After controlling for self-oriented perfectionism, all paths between SPP, perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviors were essentially unchanged (compared to paths in Figure 1). Thus, as hypothesized, SPP was an important predictor of model variables above and beyond self-oriented perfectionism.

One last model comparison was also run where SPP, self-oriented perfectionism, and an interaction term involving SPP and self-oriented perfectionism were included. The model in Figure 1 (AIC = 101082.36) fit the data better than a model involving SPP, self-oriented perfectionism, and an interaction term involving SPP and self-oriented perfectionism (AIC = 116706.13). Moreover, the interaction term involving SPP and self-oriented perfectionism was not significantly associated with perfectionistic discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviors.⁴

2.3.5 Secondary Analyses

I tested the link between self-defeating behaviours and perfectionistic discrepancies separately at the between- and within-person level. Using the between-person covariance matrix, I tested the top of Figure 2.1 with one path added between self-defeating behaviours and perfectionistic discrepancies (see dashed arrow in top of Figure

⁴ My incremental validity results are important. However, partitioning out variance in socially prescribed perfectionism that is associated with self-oriented perfectionism may result in a form of socially prescribed perfectionism that is not typical of people high in socially prescribed perfectionism and that is of questionable meaning. Thus, Figure 2.1 does not show results controlling for self-oriented perfectionism.

2.1). This model had excellent fit: CFI = .98, TFI = .98, and RMSEA = .06 and the path between self-defeating behaviours and perfectionistic discrepancies was as hypothesized ($B = .54, p < .001$). On average, people who engaged in more self-defeating behaviours also experienced more perfectionistic discrepancies.

Using the within-person covariance matrix, I tested the bottom of Figure 2.1 with one path added between self-defeating behaviours and next-day perfectionistic discrepancies (see dashed arrow in bottom of Figure 2.1). This model had moderate fit: CFI = .93, TFI = .92, and RMSEA = .09 and the path between self-defeating behaviours and next-day discrepancies was as hypothesized ($B = .18, p < .001$). Engaging in self-defeating behaviours on one day led people to feel they had fallen short of others' expectations on the next day.

2.4 DISCUSSION

Allport wrote: "Personality is something and personality does something" (1937, p. 48). In the model tested in the present study, socially prescribed perfectionism represents one important aspect of what perfectionism *is* and perfectionistic processes and self-defeating behaviours represent what perfectionism *does*. Using multilevel SEM, I found unfolding, dynamic relationships among perfectionism structure, perfectionism processes, and self-defeating behaviours. The measurement and structural model for my model fit the data well and involved related, but distinct, constructs. My results were also generally consistent with my hypotheses, including evidence that socially prescribed perfectionism adds to the understanding of the variables in the model beyond self-oriented perfectionism. My study considers not just where socially prescribed perfectionists start out (perfectionism structure) or where perfectionists end up (self-

defeating behaviours), but how they get to a place of painful self-defeat and why they remain stuck there (perfectionism processes; see also Cantor, 1990).

2.4.1 Perfectionism Structure

Consistent with my hypotheses and past work (Sherry & Hall, 2009), it appears people high in socially prescribed perfectionism think, feel, and behave in ways that undermine their well-being. My study joins a wider effort to describe the social world of the socially prescribed perfectionist and suggests a subjective sense of falling short of others' expectations is prominent. Not surprisingly, given numerous studies reporting generally similar findings (e.g., Brannan & Petrie, 2008), I also found that socially prescribed perfectionism was related to depressive affect and self-defeating behaviours.

One unexpected finding was observed. Though socially prescribed perfectionism and perfectionistic self-presentation were moderately to strongly correlated, in the context of the multilevel structural model, socially prescribed perfectionism did not significantly predict perfectionistic self-presentation. This contrasts with research showing a link between socially prescribed perfectionism and perfectionistic self-presentation (Hewitt et al., 2003). However, past work did not test if this link remained after controlling for perfectionistic discrepancies. Perfectionistic discrepancies may be a private, cognitive expression of socially prescribed perfectionism that increases the salience of others' expectations and motivates the public, interpersonal expression of socially prescribed perfectionism (i.e., perfectionistic self-presentation). People high in socially prescribed perfectionism may see perfectionistic self-presentation as the "solution" to the problem of being imperfect in the eyes of others. Future studies might

test this conjecture and see if socially prescribed perfectionism indirectly affects perfectionistic self-presentation via perfectionistic discrepancies.

2.4.2 Perfectionism Processes

As hypothesized, results at the within-person level suggested on days when people felt they had fallen short of others' expectations, they tried to present themselves as perfect to others. Congruent with the model, results also indicated that on days when people tried to present themselves as perfect, they ended up feeling depressed. Counter to hypotheses, and results at the between-person level, on days when people felt sad, they did not engage in more self-defeating behaviours. Participants' general weekly level of depressive affect predicted their general weekly level of self-defeating behaviours. However, daily instances of depressive affect did not predict daily instances of self-defeating behaviour. These results underline the importance of testing if links between variables are observable at the between- and within-person level. Given my results, I assert that people high in depressive affect (versus people low in depressive affect) are most likely to engage in self-defeating behaviours.

2.4.3 The Socially Prescribed Perfectionist's Cycle of Self-Defeat

Consistent with the model tested in the present study, results indicated that socially prescribed perfectionism drives cyclical, maladaptive patterns of self-evaluation, self-presentation, affect, and behaviour. People high in socially prescribed perfectionism often see others as dissatisfied with them and disappointed in them (see Figure 2.1). Such perceptions are upsetting since they believe others require them to be perfect (Sherry & Hall, 2009). Once socially prescribed perfectionists believe they have fallen short of others' expectations, my results suggest they try to make up for their perceived

transgressions by appearing perfect to others. Based on past work, I conceptualize this self-presentational style as interpersonally motivated, aimed at gaining acceptance or avoiding disapproval by coming across as perfect to others (Hewitt et al., 2003).

However, showing an unrealistic façade of perfection to others backfires, often with depressing consequences. Openness and authenticity when interacting with others appears to facilitate satisfying, meaningful connections to others, whereas perfectionistic self-presentation appears to undermine positive relationships and to generate depressive affect (Mackinnon & Sherry, 2012).

Feeling disconnected from others and driven by depressive emotions, my results indicated that people high in socially prescribed perfectionism engage in self-defeating behaviours that impede their ability to achieve valued goals and that undercut their efforts to showcase their “perfection” to others. They binge eat, avoid tasks, and come into conflict with others—behaviours painfully opposed to the ultra-thin, task-focused, well-liked perfect person they aspire to be (Hewitt et al., 2003).

My results also suggested the self-defeating behaviours I studied loaded onto the same latent factor. I believe these three behaviours have similar functions—escape and avoidance—for people high in socially prescribed perfectionism. Binge eating offers an escape from aversive self-awareness and depressive affect (Haedt-Matt & Keel, 2011); procrastination creates an opportunity to postpone evaluation or to avoid tasks where one might not succeed or be criticized (Flett et al., 1992); and interpersonal conflict can create distance from others, protecting oneself from future criticism or evaluation (Hammen, 2006). These self-defeating behaviours may offer a brief escape from negative psychosocial conditions generated by socially prescribed perfectionism, but eventually

backfire as these three behaviours jeopardize perfect performance and elicit real or imagined disapproval from others.

When divorced from their psychosocial context and viewed as isolated acts, it is hard to explain why people high in socially prescribed perfectionism engage in behaviours counter to their perfectionistic goals, motives, and expectations. However, when these behaviours are seen through the lens of my model, and situated in their interpersonal and characterological context, we can understand why people who are preoccupied with being perfect in the eyes of others generate situations incongruent with their quest for perfection. As results from my secondary analyses suggested, self-defeating behaviours represent a painful failure for people who are high in socially prescribed perfectionism. My results suggested these behaviours leave people high in socially prescribed perfectionism feeling they have yet again let others down and the socially prescribed perfectionists' cycle of self-defeat begins anew.

2.4.4 Discriminant and Incremental Validity

Results suggested that between-person perfectionistic discrepancies and depressive affect, and within-person perfectionistic discrepancies and perfectionistic self-presentation are meaningfully distinct. Knowing these variables are discriminable supports their validity. My results also supported the hypothesized incremental validity of the model, with socially prescribed predicting the other variables in the model after controlling for self-oriented perfectionism. Contrary to Shafran et al. (2002), my results suggest including self-oriented perfectionism does not diminish the contribution of socially prescribed perfectionism.

2.4.5 Limitations and Future Directions

My study relied on self-report questionnaires. Information obtained via self-report may be biased due to participants' efforts to present their behaviour in a socially desirable manner. In addition, people high in socially prescribed perfectionism may fail to appreciate or report their contribution to interpersonal problems. Research involving informant reports is needed. Future studies might also supplement self-report measures with assessments of observable behaviours (e.g., interpersonal conflict).

The model tested in the present study proposes a vicious cycle. However, because of the nature of my multilevel data, I was unable to test the relation between self-defeating behaviours and perfectionistic discrepancies in the context of the multilevel structural model. This is a limitation. This link was, however, tested and supported at the between-person and within-person level, thus providing support for the hypothesized link between self-defeating behaviours and perfectionistic discrepancies. In my study, I proposed and tested a specific sequence (see Figure 2.1). This sequence is informed by theory and research. However, other sequences are possible and warrant attention.

Several scales used in the present study were shortened to reduce participant burden. My psychometric study supported the reliability and validity of the shortened scales. Ultimately, less is known about the psychometrics of these modified scales. Using modified scales may also limit the generalizability of my results to other studies.

My study used a large sample of young, mainly female, undergraduate students. It is unclear if the results will generalize to other samples (e.g., men). It will also be important to test the model in samples with more extreme perfectionism. In addition, the intensive self-monitoring in daily diary designs may induce reactance (i.e., behavioural change due to being monitored or assessed; Sherry & Hall, 2009). The extent to which

reactance may have impacted my results is unknown. Although my twice-a-day reporting schedule (with midday and bedtime reporting) represents an improvement on past studies (Dunkley et al., 2003; Sherry & Hall, 2009), my daily diary study was relatively short-term (7 days). Using an alternative, more intensive and longer duration, reporting schedule is an important next step in testing my model.

In my model, socially prescribed perfectionism is seen as a temporally stable personality structure that comes before and leads to perfectionism processes and self-defeating behaviours. This viewpoint is backed by evidence indicating socially prescribed perfectionism is temporally stable and not unduly influenced by depressive affect or by other factors (Graham et al., 2010). However, my study cannot rule out whether reciprocal relations occurred between socially prescribed perfectionism and (a) perfectionism processes or (b) self-defeating behaviours. In addition, my study focused on one common emotional experience for people high in socially prescribed perfectionism (i.e., depressive affect). Future research should test whether different emotions (e.g., anxiety or anger) contribute to our understanding of socially prescribed perfectionists' self-defeating behaviours.

Table 2.1

Means, Standards Deviations, Ranges, Alpha Reliabilities, and Intraclass Correlations for Manifest Indicators

Variable	<i>M</i>	<i>SD</i>	α	Potential range	Actual range	ICC
Socially prescribed perfectionism						
HFMPs socially prescribed perfectionism	47.68	14.68	.87	15-105	21-92	
FMPS interpersonal perceptions	7.97	3.62	.78	4-20	4-20	
EDI socially prescribed perfectionism	12.66	4.19	.72	4-24	4-24	
Self-oriented perfectionism						
HFMPs self-oriented perfectionism	66.80	16.20	.89	15-105	23-105	
FMPS personal standards	21.93	5.87	.83	7-35	7-35	
EDI self-oriented perfectionism	13.31	4.36	.76	4-24	4-24	
Perfectionistic discrepancies						
MDI perfectionistic discrepancies	4.36	1.51	.98	3-12	3-12	.47
DEQ-R perfectionistic discrepancies	6.28	3.37	.98	3-12	3-12	.68
APS-R perfectionistic discrepancies	6.40	3.33	.98	3-12	3-12	.70
Perfectionistic self-presentation						
PSPS perfectionistic self-promotion	8.28	4.79	.99	3-12	3-12	.55
PSPS nondisclosure of imperfection	7.12	4.09	.95	3-12	3-12	.48
PSPS nondisplay of imperfection	7.78	4.56	.97	3-12	3-12	.58
Depressive affect						
POMS-D depressive affect	1.57	2.01	.94	0-12	0-12	.52
DACL-G depressive affect	1.24	1.92	.95	0-12	0-12	.58
PANAS-X sadness	1.87	2.23	.91	0-12	0-12	.55
Self-defeating behaviours						
EDI binge eating	6.40	3.37	.90	4-28	4-28	.41
Tuckman procrastination	15.80	7.34	.98	5-35	5-35	.61
Interpersonal conflict	12.34	6.60	.88	5-45	5-45	.47

Note. Values represent between-person means and standard deviations based on aggregated data ($N = 317$).

Table 2.2

Bivariate Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. HFMPs socially prescribed perfectionism	–	.71	.75	.45	.36	.53	.43	.49	.48	.42	.49	.52	.36	.33	.38	.32	.26	.33
2. FMPS interpersonal perceptions		–	.71	.19	.11	.31	.41	.45	.46	.32	.41	.42	.31	.34	.30	.33	.29	.27
3. EDI socially prescribed perfectionism			–	.40	.35	.50	.32	.37	.37	.41	.43	.44	.22	.18	.22	.26	.22	.24
4. HFMPs self-oriented perfectionism				–	.77	.71	.09	.14	.14	.45	.33	.36	.15	.13	.17	.14	.06	.16
5. FMPS personal standards					–	.69	.03	.08	.08	.35	.25	.27	.06	.06	.09	.09	.01	.15
6. EDI self-oriented perfectionism						–	.24	.30	.29	.46	.40	.40	.28	.25	.25	.23	.25	.26
7. MDI perfectionistic discrepancies							–	.89	.90	.47	.59	.57	.68	.59	.54	.47	.52	.62
8. DEQ-R perfectionistic discrepancies								–	.97	.51	.63	.63	.71	.64	.59	.53	.58	.64
9. APS-R perfectionistic discrepancies									–	.53	.64	.64	.68	.61	.55	.51	.59	.63
10. PSPS perfectionistic self-promotion										–	.76	.76	.47	.41	.42	.40	.38	.45
11. PSPS nondisclosure of imperfection											–	.91	.54	.49	.45	.48	.42	.52
12. PSPS nondisplay of imperfection												–	.52	.48	.45	.46	.45	.48
13. POMS-D depressive affect													–	.92	.84	.50	.41	.61
14. DACL-G depressive affect														–	.80	.45	.34	.56
15. PANAS-X sadness															–	.41	.34	.54
16. EDI binge eating																–	.35	.49
17. Tuckman procrastination																	–	.45
18. Interpersonal conflict																		–

Note. Bivariate correlations at the between-person level are above the diagonal ($N = 317$). Values presented at the between-person level are based on between-person aggregated

data. Bivariate correlations at the within-person level are below the diagonal ($N = 1836$). Values presented at the within-person level are based on the total sample, disregarding the nested structure of the data. Bivariate correlations among between-person variables and within-person variable are not available due to the multilevel data structure. In Table 2.2, at the between-person level, bivariate correlations with values greater than or equal to .13 are significant at $p < .05$; bivariate correlations greater than or equal to .15 are significant at $p < .01$; and bivariate correlations greater than or equal to .22 are significant at $p < .001$. In Table 2.2, at the within-person level, all correlations are significant at $p < .001$.

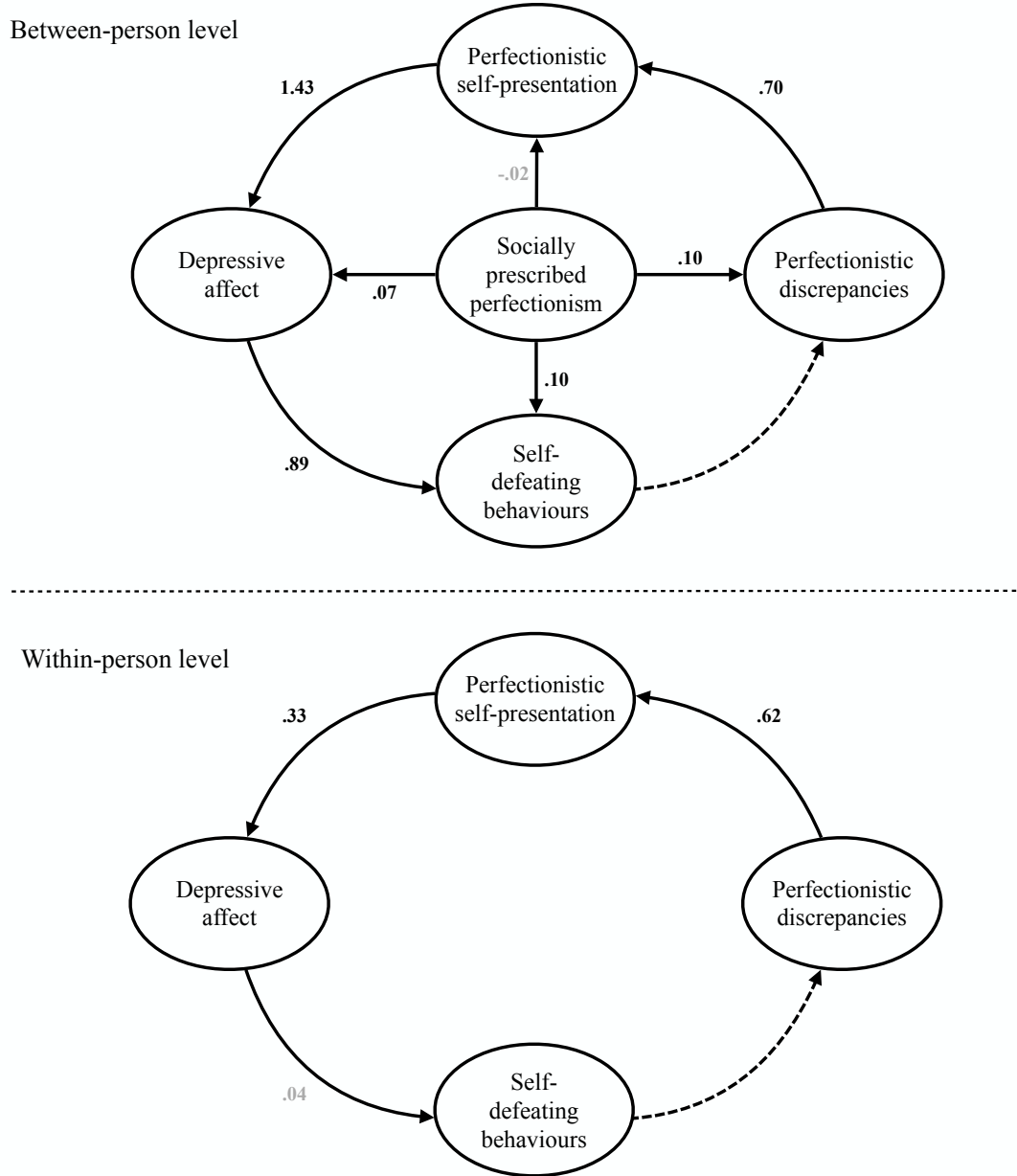


Figure 2.1. Multilevel structural model. Ovals represent latent variables. Solid arrows represent direct effects. The dashed arrow was tested in secondary analyses, but not in the context of the full multilevel structural model. All paths shown represent hypotheses derived from my model. Significant unstandardized path coefficients are black. Non-significant unstandardized path coefficients are grey. In the interest of clarity, manifest indicators and error terms are not shown.

CHAPTER 3. LINKING STUDY 1 AND STUDY 2

Study 1 provides valuable information on the daily life of socially prescribed perfectionists – describing how these individuals become stuck in self-defeating cycles as they navigate a life dominated by perceptions of needing to be perfect for others. However, Study 1 and the majority of perfectionism research focuses only on an individual's perspective, where researchers attempt to understand perfectionism in terms of individually held beliefs, attitudes, perceptions, and behaviours. Researchers studying socially prescribed perfectionism elicit information from participants about their social world (i.e., their perceptions that others demand perfection of them) and link these perceptions to distress and maladjustment. For instance, in Study 1 (see Chapter 2) participants reported certain beliefs including “People expect nothing less than perfection from me,” and “The better I do, the better I am expected to do,” and these beliefs were associated with distress (i.e., depressive affect) and maladjustment (i.e., binge eating, procrastination, interpersonal conflict). This research clearly shows that a person's perceptions and beliefs about his or her social environment are important; however, important questions remain. For instance, do perceptions of the social environment correspond to characteristics of the social environment (as reported by others)? Are perceptions of the social environment more important than characteristics of the social environment in predicting distress and maladjustment? Or are characteristics of the social environment more important? Can characteristics of the social environment mimic dysfunctional perceptions and beliefs? Coyne and Whiffen (1995) argue that scores on personality measures might reflect, in part, features of a person's social environment. Applied to perfectionism research, a person's scores on socially prescribed perfectionism

measures may, in part, reflect features of the person's social environment (e.g., interactions with a demanding, controlling, perfectionistic person). Research suggesting certain family environments are related to perfectionism is presented below.

3.1 PERFECTIONISM AND FAMILY ENVIRONMENTS

Research suggests that the family environment can have an impact on an individual's perfectionism. Specifically, certain characteristics of the family environment are associated with the development and maintenance of perfectionism. Several of these characteristics are outlined below.

3.1.1 Unsupportive or Adverse Family Environments

Some researchers and theorists suggest children may develop perfectionism as a way of coping with an unsupportive or adverse family environment. For instance, early theorists described the development of perfectionism as a consequence of being exposed to contingent parental approval (Hamachek, 1978; Missildine, 1963). Individuals high in socially prescribed perfectionism are especially likely to have experienced conditions of contingent self-worth (Hewitt & Flett, 1991). For these individuals, they feel that the approval and acceptance of others, especially their parents, is contingent on them being perfect or meeting others' excessive demands.

A more extreme, adverse familial environment may include physical, emotional, and/or psychological maltreatment from parents. To cope with such environments, Flett, Hewitt, Oliver, and MacDonald (2002) suggest that children may develop perfectionism as a strategy to prevent or minimize further abuse or criticism. These authors propose that children who strive to be perfect may believe that achieving perfection is the only way to escape or avoid harm. Research testing the link between adverse family environments

and perfectionism finds that both a daughter's perception of her mother as harsh, and a mother's admittance to being harsh was related to perfectionism in daughters (Frost, Lahart, & Rosenblate, 1991). This provides preliminary support that both personality (e.g., daughter's socially prescribed perfectionism) and characteristics of the social environment (e.g., mother's harsh, perfectionistic expectations) are related to distress and maladjustment of the child.

3.1.2 Perfectionistic Parents

Children learn from their parents. These ideas build upon Albert Bandura's (1986) work suggesting that children mimic and endorse the standards and expectations of adults to whom they are exposed. Indirect support for the influence of social modeling and learning is offered by research suggesting that perfectionism "runs in the family" (Flett et al., 2002). As a result, children exposed to a family environment where parents are highly perfectionistic may develop perfectionism as a result of social modeling and learning the perfectionistic tendencies their parents endorse. Research suggests that perfectionism in daughters is related to perfectionism in mothers, but not to perfectionism in fathers (Chang, 2000; Frost et al., 1991; Vieth & Trull, 1999). Moreover, perfectionism in sons is related to perfectionism in fathers, but not to (or inversely to) perfectionism in mothers. These results suggest that the transmission of perfectionism through social modeling may be restricted to same-sex child-parent dyads (Flett et al., 2002). Another possible explanation for the co-occurrence of perfectionism among family members is genetic transmission. Few studies have explored the extent to which perfectionism is influenced by genetic factors (e.g., Kamakura, Ando, Ono, & Maekawa, 2003). However, the

available evidence from twin study designs does argue that perfectionism is moderately heritable (Tozzi et al., 2004; Wade & Bulik, 2006).

3.1.3 Summary

Research links the family environment to perfectionism. However, few studies have examined the influence of an individual's personality (e.g., his or her socially prescribed perfectionism), together with the influence of the family environment, to help explain self-defeating behaviours. To address this gap, in the study presented in Chapter 4, I focused on the contribution of personality and the family environment to aid in our understanding of one self-defeating behaviour, namely binge eating. Specifically, I focused on mother-daughter dyads as research suggests the mother-daughter relationship is important in understanding both perfectionism and binge eating (Bruch, 1979; Flett et al., 2002; Polivy & Herman, 2002). This research will help answer important questions mentioned above. For instance, this research will test whether a daughter's perceptions of her mother as demanding perfection of her corresponds to a mother's reports of exerting excessive demands and psychological control. Further, Study 2 will test whether perceptions of the mother-daughter relationship (on the part of the daughter) or reports of the mother's parenting style (on the part of the mother) are more important in understanding distress and self-defeating behaviours (specifically binge eating).

3.2 BINGE EATING

As described in Chapter 1 and Chapter 2, binge eating involves a rapid and uncontrolled consumption of a large amount of food and has serious implications for physical and mental health (e.g., Dingemans, Bruna, & van Furth, 2002; Wilfley, Wilson & Agras, 2003). Considerable attention in the field of disordered eating is devoted to

identifying various factors that contribute to binge eating (Heatherton & Baumeister, 1991; Polivy & Herman, 2002). In fact, several models attempt to explain why binge eating occurs. These models provide impetus for the development of the perfectionism model of binge eating tested in Study 2 (see Chapter 4). Thus, I review them below.

3.2.1 Interpersonal Models of Binge Eating

Interpersonal models (e.g., Rieger et al., 2010; Weissman, Markowitz, & Klerman, 2000) suggest that psychopathology cannot be separated from its interpersonal context. In relation to binge eating, evidence emphasizes dysfunction in the interpersonal domain among individuals with disordered eating habits (for a review, see Wilfley, Stein, & Welch, 2003). Moreover, research suggests binge eating is triggered by negative social experiences and maintained by further deterioration of interpersonal functioning (Rieger et al., 2010). Additionally, research into the interpersonal roots of binge eating suggests that feeling rejected or dissociated from one's social environment may lead to binge eating (Mackinnon et al., 2011). This connection is partially supported by experimental research. For example, after listening to vignettes conveying interpersonal conflict and interpersonal rejection, individuals experienced an increased desire to binge eat (Cattanach, Malley, & Rodin, 1988).

3.2.2 Affect-Regulation Models of Binge Eating

Affect regulation models assert that maladaptive behaviours are used to decrease negative emotions (Gross, 2007). With respect to binge eating, proponents of affect regulation models suggest that increases in negative emotions trigger episodes of binge eating. In turn, binge eating functions to alleviate negative affect through distraction or comfort (Arnou, Kenardy, & Agras, 1992; Heatherton & Baumeister, 1991; Meyer,

Waller & Waters, 1998; Wisner & Telch, 1999). The link between negative emotions and binge eating is supported across various research designs including retrospective self-reports, experience sampling, and experimental research (Chua, Touyz, & Hill, 2004; Greeno, Wing, & Shiffman, 2000; Grilo, Shiffman, & Carter-Campbell, 1994; Lynch, Everingham, Dubitzky, Hartman, & Kasser, 2000). More recently, meta-analytic data from 36 ecological momentary assessments (i.e., studies involving momentary ratings and repeated assessments over time) supports negative affect as a precursor to binge eating (Haedt-Matt & Keel, 2011).

3.2.3 Dietary Restraint Models of Binge Eating

Dietary restraint is discussed as a possible explanation for binge eating (Polivy & Herman, 1993). Dietary restraint involves a deliberate attempt at restricting one's caloric intake in an effort to control one's weight and shape. The dietary restraint model suggests strict dietary restraint is hard to maintain and leaves people in a hypocaloric state, which predisposes binge eating. Uninhibited eating may also result from breaking one's strict dietary rules akin to the abstinence-violation effect (Stice et al., 2001). Some available evidence supports dietary restraint models of binge eating. For example, in a sample of obese binge eaters, Le Grange, Gorin, Catley, and Stone (2001) found that greater dietary restraint was reported prior to episodes of binge eating when compared to reports prior to normal eating or to randomly spaced reports. However, not all evidence supports the link between dietary restraint and binge eating. For instance, in a sample of obese binge eaters, Masheb and Grilo (2000) failed to find a positive link between dietary restraint and binge eating. Given the mixed findings, more research examining the role of dietary restraint in binge eating is needed.

3.2.4 Personality Models of Binge Eating

A large body of research suggests personality traits play an important role in the emergence and the maintenance of disordered eating (Cassin & von Ranson, 2005). For instance, research suggests perfectionism is present before (e.g., Joiner, Heatherton, Rudd, & Schmidt, 1997), during (e.g., Cockell et al., 2002), and after episodes of disordered eating (Stein et al., 2002). Further, in a meta-analysis of 6 longitudinal studies, Stice (2002) identified perfectionism as both a vulnerability factor (i.e., a prospective predictor of symptom onset) and a maintenance factor (i.e., a longitudinal predictor of symptom persistence) in disordered eating. Although evidence consistently links perfectionism to disordered eating, the vast majority of research focuses on anorexia nervosa and bulimia nervosa, and less so on binge eating. Of the few studies relating perfectionism to binge eating, two theoretically driven and empirically supported models are promising. First, a three-factor interactive moderation model (for a review see Abramson, Bardone-Cone, Vohs, Joiner, & Heatherton, 2006) suggests that when women high in perfectionism experience body dissatisfaction and low self-efficacy, they are prone to binge eat (Bardone-Cone et al., 2008). This model is also supported with self-esteem in place of self-efficacy (Joiner et al., 1997; Vohs, Bardone, Joiner, Abramson, 1999; Vohs et al., 2001). The three-factor interactive model is important for understanding when perfectionistic women binge eat, however, it tells us little about why perfectionistic women binge eat.

The perfectionism model of binge eating (described in Chapter 4) addresses the question of why perfectionism is related to binge eating. This personality-driven model argues that perfectionism leaves people vulnerable to binge eating by generating

situations and experiences (e.g., interpersonal problems, depressive affect, dietary restraint) that trigger binge eating (Mackinnon et al., 2011; Sherry & Hall, 2009). The perfectionism model of binge eating integrates aspects of the models described above into one comprehensive model. In Study 2 (Chapter 4), I expand on prior tests of the perfectionism model of binge eating by testing the influence of both daughters' perfectionism and mothers' parenting in predicting binge triggers and binge eating.

CHAPTER 4. TESTING THE PERFECTIONISM MODEL OF BINGE EATING IN MOTHER-DAUGHTER DYADS: A MIXED LONGITUDINAL AND DAILY DIARY STUDY

4.1 INTRODUCTION

Binge eating (i.e., rapidly and uncontrollably eating a large amount of food in a short period of time) is a health-damaging behaviour linked to functional impairment and decreased quality of life (Wonderlich, Gordon, Mitchell, Crosby, & Engel, 2009). Among young women, binge eating is especially common and impairing (Mackinnon et al., 2011). Identifying factors that contribute to binge eating in young women will aid in developing targeted assessments and interventions. Personality traits (e.g., perfectionism) and exposure to negative parenting styles (e.g., psychological control) are two widely discussed contributors to binge eating (Polivy & Herman, 2002). To advance knowledge of binge eating, integrative models combining these putative contributors are needed. In the present research, I addressed this need by testing and extending the perfectionism model of binge eating in a sample of mother-daughter dyads studied with a mixed longitudinal and daily diary design.

4.1.1 Perfectionism and Binge Eating

Though evidence suggests perfectionism is tied to binge eating (Pratt, Telch, Labouvie, Wilson, & Agras, 2001), few models explain why this relationship occurs. The perfectionism model of binge eating (Mackinnon et al., 2011; Sherry & Hall, 2009) is one such model and suggests perfectionism contributes to binge eating by generating situations or experiences that trigger binge eating. These proposed “binge triggers” include interpersonal discrepancies (i.e., viewing oneself as falling short of others’ expectations), low interpersonal esteem (i.e., feeling unaccepted by, uneasy around, and

disliked by others), depressive affect (i.e., feeling miserable and sad), and dietary restraint (i.e., behaviours aimed at reduced intake of calories). Sherry and Hall (2009) termed these four variables “binge triggers,” as evidence suggests they come before and contribute to binge eating (e.g., Heatherton & Baumeister, 1991; Herman & Polivy, 2004). Whether to escape perceptions of letting others down or feelings of disconnection from others, to reduce sadness, or to alleviate hunger brought on by extreme dietary restraint, evidence suggests these binge triggers explain why women high in perfectionism binge eat. Using a 7-day daily diary design, Sherry and Hall (2009) found support for the perfectionism model of binge eating in 566 female undergraduates. Mackinnon et al. (2011) also found support for this model in 200 female undergraduates studied using a 3-week, 3-wave longitudinal design.

4.1.2 Improving the Literature on Perfectionism and Binge Eating

To advance our understanding of the perfectionism-binge eating link, methodological and conceptual improvements are needed. For instance, as discussed in Chapter 2, daily diary designs are advantageous. Moreover, multi-wave longitudinal designs with at least three measurement occasions are needed for strong tests of indirect (mediated) effects (Cole & Maxwell, 2003). The present study addresses methodological limitations of previous research by using a mixed longitudinal and daily diary design.

From a conceptual standpoint, research on perfectionism and binge eating is limited by its overly narrow focus on individuals. Despite recognition that binge eating can be triggered by and maintained by negative social experiences (Rieger et al., 2010), researchers have yet to situate the perfectionism-binge eating link in its broader interpersonal context. Attributing binge eating to individual factors (e.g., perfectionism)

without fully considering the impact of interpersonal relationship factors may miss key information relevant to our understanding of binge eating.

The mother-daughter relationship is one important interpersonal relationship implicated in both perfectionism and binge eating. Research links mothers' parenting styles to daughters' perfectionism and suggests daughters may become perfectionistic to cope with pressures and demands their mothers place on them (Flett, Hewitt, Oliver, & Macdonald, 2002). Strained mother-daughter relationships and maternal pressures and demands also appear centrally involved in daughters' binge eating (Bruch, 1979; Polivy & Herman, 2002). In fact, evidence suggests daughters who are exposed to problematic maternal parenting (e.g., criticism, affectionless control) are more likely to binge eat (Striegel-Moore et al., 2005). In sum, research suggests focusing on daughters' individual factors (e.g., perfectionism) *and* the mother-daughter relationship is important to thoroughly understand, assess, and treat binge eating.

4.1.3 Extending the Perfectionism Model of Binge Eating

The present study represents the most methodologically rigorous and conceptually rich test of the perfectionism model of binge eating to date. I propose that binge eating in young women arises both from their perceptions that their mothers rigidly and ceaselessly demand perfection of them (i.e., daughters' socially prescribed perfectionism) and from their exposure to controlling and demanding mothers (i.e., mothers' psychological control; see Figure 4.1).

Psychological control. Psychological control is a negative parenting style typified by controlling and manipulative behaviours used to govern a child's thoughts, feelings, and behaviours (Barber & Harmon, 2002). Psychologically controlling parents

are demanding and pressure their children to meet their harsh, excessive expectations by withdrawing their love and expressing their disappointment (Barber, 1996). This form of parenting is tied to negative outcomes for youth including negative self-evaluations, depression, and disordered eating (Barber & Harmon, 2002; Salafia et al., 2009). Recently, investigators began studying the link between psychological control and perfectionism. Maternal psychological control (as reported by daughters) is tied to daughters' perfectionism (Fletcher, Shim, & Wang, 2012; Soenens et al., 2005; Soenens et al., 2008b); however, maternal psychological control (as reported by mothers) is not correlated with daughters' perfectionism (Soenens et al., 2005; Soenens et al., 2008a). Additional research suggests perfectionism mediates the relationship between maternal psychological control (as reported by daughters) and daughters' disordered eating (Soenens et al., 2008b); however, research testing the influence of maternal psychological control (as reported by mothers) on daughters' binge triggers and binge eating is needed. In the present study, I address this gap in the literature while building on evidence that links psychological control to negative outcomes.

Perfectionism in the perfectionism model of binge eating. Evidence suggests that perfectionism is a multidimensional construct. Hewitt and Flett (1991) argued socially prescribed perfectionism (i.e., perceiving others are demanding perfection of oneself) and self-oriented perfectionism (i.e., demanding perfection of oneself) are two key dimensions. Socially prescribed perfectionism is consistently related to interpersonal problems and to binge eating (Pratt et al., 2001; Sherry & Hall, 2009) and is therefore relevant to my study. In contrast, self-oriented perfectionism is largely unrelated to interpersonal problems and binge eating (Mackinnon et al., 2011; Sherry & Hall, 2009)

and is more clearly related to problems in the achievement domain (e.g., academic stress; Hewitt & Flett, 1991).⁵ Unlike prior studies, where socially prescribed perfectionism was measured with reference to broad, undifferentiated perceptions of others (e.g., “People expect nothing less than perfection from me”), I measured daughters’ socially prescribed perfectionism in terms of the mother-daughter dyad (e.g., “My mother expects nothing less than perfection from me”). This approach assesses daughters’ specific perceptions of their mothers and resembles other dyadic studies (Mackinnon et al., 2012).

Testing the perfectionism model of binge eating in mother-daughter dyads. I

propose that daughters’ socially prescribed perfectionism and mothers’ psychological control indirectly influence daughters’ binge eating by creating conditions in which binge eating is more likely to occur (see Figure 4.1). Both a daughter’s perception of her mother imposing unrealistic expectations and harshly evaluating her performance (i.e., her socially prescribed perfectionism) and a daughter’s exposure to a demanding and

⁵ Different measures of perfectionism have been used in testing the perfectionism model of binge eating. Mackinnon et al. (2011) tested this model using a measure of perfectionism called concern over mistakes (i.e., negative reactions to perceived failures and dichotomous “all-or-nothing” thinking; e.g., “If I fail at work, then I am a failure as a person”). Socially prescribed perfectionism assesses exclusively interpersonal features of perfectionism (see Sherry, Hewitt, Flett, & Harvey, 2003), whereas concern over mistakes assesses predominantly cognitive features of perfectionism. As I am studying interpersonal relationships (i.e., mother-daughter dyads), I focused on socially prescribed perfectionism. Sherry and Hall (2009) also focused on socially prescribed perfectionism in testing the perfectionism model of binge eating.

controlling parenting style (i.e., her mother's psychological control) may lead to binge eating through experiences known to trigger binge eating (i.e., discrepancies, depressive affect, and dietary restraint; Sherry & Hall, 2009).

To expand, daughters high in socially prescribed perfectionism and daughters exposed to psychologically controlling mothers feel pressured (accurately or not) to achieve unobtainable, lofty expectations that are (accurately or not) imposed on them by their mothers. Since meeting perceived or actual expectations of perfection from their mothers is improbable, these daughters will often evaluate themselves negatively, believing they have fallen short of their mothers' demands (see Figure 4.1; see also Sherry & Hall, 2009). This form of negative self-evaluation (daughters' discrepancies) weakens the mother-daughter relationship and leaves daughters feeling that they have lost any chance at acceptance and love from their mothers. Like socially prescribed perfectionism, I measured daughters' discrepancies in terms of the mother-daughter dyad (i.e., daughters viewing themselves as falling short of their mothers' expectations). As Figure 4.1 shows, in my model, daughters' discrepancies are proposed to result from daughters' socially prescribed perfectionism and mothers' psychological control; daughters' discrepancies are also proposed to represent a form of mother-daughter discord that precipitates periods of depressive affect and attempts at dietary restraint in daughters, thereby generating conditions conducive to daughters' binge eating (see also Mackinnon et al., 2011; Sherry & Hall, 2009).

The original perfectionism model of binge eating included low interpersonal esteem as an interpersonal binge trigger (Sherry & Hall, 2009). Conceptually and empirically, discrepancies and low interpersonal esteem are highly overlapping.

Discrepancies involve viewing oneself as falling short of others' expectations and low interpersonal esteem involves feeling unaccepted by, uneasy around, and disliked by others. Not surprisingly, scales used to assess these constructs are highly correlated ($r = .72$; Sherry & Hall, 2009), raising questions about their independence. In the present study, I focused only on discrepancies because evidence suggests discrepancies are a prototypic form of social cognition for people high in socially prescribed perfectionism and discrepancies are more strongly tied to binge eating and the other variables of the perfectionism model of binge eating (compared with low interpersonal esteem; Sherry & Hall, 2009).

Feeling not good enough in the eyes of their mothers is depressing for daughters (Hewitt, Flett, Sherry, & Caelian, 2006). Daughters who are high in socially prescribed perfectionism and subjected to their mothers' psychological control feel judged and disliked by their mothers. Such interpersonal problems may instigate periods of depressive affect. Feeling depressed, daughters attempt to alleviate their sadness by binge eating (see Figure 4.1; Heatherton & Baumeister, 1991; Mackinnon et al., 2011). Indeed, evidence suggests depressive affect contributes to binge eating, thereby supporting depressive affect as a binge trigger (Haedt-Matt & Keel, 2011).

In the present version of the perfectionism model of binge eating, dietary restraint is seen as an attempt to garner approval by and gain acceptance from one's mother by achieving bodily perfection through weight loss. Daughters' socially prescribed perfectionism and mothers' psychological control are thought to leave daughters feeling inadequate—subject to their mothers' dissatisfaction and disapproval. Amid this disturbed mother-daughter relationship, I conceptualize dietary restraint as an attempt by

daughters to win their mothers' approval and/or avoid their mothers' criticism by obtaining a thinner, "socially approved" body. Pressure from mothers strongly influences daughters' attempts at weight loss (McCabe & Ricciardelli, 2005). However, dietary restraint potentiates binge eating, as daughters compensate for hypocaloric states arising from self-starvation (see Figure 4.1; Herman & Polivy, 2004; Sherry & Hall, 2009).

I conceptualize binge eating as a maladaptive coping response used in an effort to deal with situations and experiences (e.g., depressive affect) brought on by perceived and actual demands from one's mother. Feeling defective, depressed, and calorically deprived, I propose daughters turn to binge eating in an attempt to cope (see Figure 4.1; Sherry & Hall, 2009). Binge eating may offer a brief escape from daughters' discrepancies, depressive affect, and dietary restraint that arise from an unhealthy, unsatisfying mother-daughter relationship (Heatherton & Baumeister, 1991; Mackinnon et al., 2011). The perfectionism model of binge eating outlined here provides a framework for understanding how perfectionism and exposure to psychologically controlling mothers contribute to binge triggers and binge eating.

4.1.4 Hypothesized Direct Effects and Correlations

Binge eating appears temporally stable (Mackinnon et al., 2011); thus, I expected Wave 1 binge eating will be related to Wave 3 binge eating. Given evidence suggesting psychological control (as reported by mothers) is not significantly related to daughters' perfectionism (Soenens et al., 2005; Soenens et al., 2008a), I did not expect these constructs to be positively correlated. Based on findings linking socially prescribed perfectionism and psychological control to disordered eating (Sherry & Hall, 2009; Salafia et al., 2009), I expected daughters' socially prescribed perfectionism and mothers'

psychological control will be positively correlated with daughters' Wave 1 binge eating (see Figure 4.1). I also expected daughters' Wave 1 socially prescribed perfectionism will be related to daughters' Wave 2 discrepancies; a generally similar prediction was supported in a prior study (Sherry & Hall, 2009). Given research linking psychological control to daughters' negative self-evaluation (Salafia et al., 2009), I expected mothers' Wave 1 psychological control will be related to daughters' Wave 2 discrepancies. Building upon Sherry and Hall (2009) and Mackinnon et al. (2011) in which similar hypotheses were predicted and observed, I expected daughters' Wave 2 discrepancies will be related to daughters' Wave 2 depressive affect and dietary restraint; and daughters' Wave 2 depressive affect and dietary restraint will be related to daughters' Wave 3 binge eating (see Figure 4.1).

4.1.5 Hypothesized Indirect Effects

In my study, I expected (a) Daughters' Wave 1 socially prescribed perfectionism will indirectly affect daughters' Wave 2 depressive affect through daughters' Wave 2 discrepancies; (b) daughters' Wave 1 socially prescribed perfectionism will indirectly affect daughters' Wave 2 dietary restraint through daughters' Wave 2 discrepancies; and (c) daughters' Wave 1 socially prescribed perfectionism will indirectly affect daughters' Wave 3 binge eating through all three binge triggers (i.e., discrepancies, depressive affect, and dietary restraint; see Figure 4.1). I also expected that daughters' Wave 2 discrepancies will indirectly affect daughters' Wave 3 binge eating through daughters' Wave 2 depressive affect and dietary restraint. Mackinnon et al. (2011) and Sherry and Hall (2009) predicted, and found support for, a similar set of indirect effects where binge triggers are mechanisms explaining why perfectionism is tied to binge eating. Research

suggests mothers' psychological control is tied to negative outcomes for daughters, including depression and disordered eating (Barber & Harmon, 2002; Salafia et al., 2009; Soenens et al., 2008b). Building on such work, I expected: (a) Mothers' Wave 1 psychological control will indirectly affect daughters' Wave 2 depressive affect via daughters' Wave 2 discrepancies; (b) mothers' Wave 1 psychological control will indirectly affect daughters' Wave 2 dietary restraint via daughters' Wave 2 discrepancies; and (c) mothers' Wave 1 psychological control will indirectly affect Wave 3 daughters' binge eating via all binge triggers (see Figure 4.1). These indirect effects test my assertion that daughters' socially prescribed perfectionism and mothers' psychological control lead to mother-daughter discord (i.e., discrepancies), and this discord brings about depressive affect and attempts at dietary restraint that lead to binge eating.

4.2 METHOD

4.2.1 Participants

I recruited 218 mother-daughter dyads. Daughters were undergraduates recruited via flyers and Dalhousie University's Department of Psychology participant pool. On average, daughters were 19.99 years old ($SD = 3.15$) and enrolled in their second year of university ($M = 2.14$, $SD = 1.16$). Most daughters were Caucasian (91.7%), born in Canada (94.0%), and reported being single (51.8%) or dating (36.2%). Daughters' average body mass index (BMI) was 23.12 ($SD = 4.40$). My sample resembles other samples of young women from Dalhousie University (Mackinnon et al., 2011).

On average, mothers were 50.06 years old ($SD = 4.92$) and had 15.76 years of education ($SD = 3.01$). Most mothers were Caucasian (90.4%), born in Canada (84.4%), and reported their relationship status as married/common-law (82.6%) or

separated/divorced (14.2%). Mothers' average BMI was 26.23 ($SD = 5.62$). Mothers and daughters saw each other in person an average of 2.51 times per week ($SD = 3.02$); spoke on the phone 3.67 times per week ($SD = 2.27$); texted each other 3.98 times per week ($SD = 2.60$); and emailed each other 2.33 times per week ($SD = 4.29$). Overall, 21.2% of daughters lived with their mothers; the remaining lived in the same province (29.5%) or country (45.0%). Few daughters (3.7%) lived in a different country than their mothers and 0.6% did not indicate their proximity. For daughters, 72.5% were from intact families (i.e., parents married), 26.6% had divorced or separated parents, and 0.9% had a single mother.

4.2.2 Measures

Consistent with research suggesting socially prescribed perfectionism and psychological control are stable (Hewitt & Flett, 1991; Barber, Stolz, & Olsen, 2005), I used a long-term timeframe for these measures (i.e., during the past several years). I used a weekly timeframe (i.e., during the past seven days) for binge eating; this timeframe matches my research design. As in Study 1 (Chapter 2), I used a short-term timeframe (i.e., since your last entry) for daily scales (e.g., discrepancies). To reduce participant burden, I shortened the daily scales. For all scales, higher scores denote higher levels of measured constructs.

Socially prescribed perfectionism. Socially prescribed perfectionism was assessed with the 5-item Multidimensional Perfectionism Scale socially prescribed perfectionism short-form (see Hewitt, Habke, Lee-Baggley, Sherry, & Flett, 2008; Hewitt & Flett, 1991; see Appendix A). Each item (e.g., “Others expect nothing less than perfection from me”) was modified to be mother-specific (e.g., “My mother expects

nothing less than perfection from me”). All items were rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Evidence from my study suggests the mother-specific socially prescribed perfectionism short-form is strongly correlated with the unmodified, original socially prescribed perfectionism short-form ($r = .73, p < .001$).

Psychological control. Psychological control was assessed with the 8-item Psychological Control Scale (Barber, 1996; see Appendix N). In Barber’s original scale, participants rate their parents’ behaviour. Researchers have also modified this scale so parents can rate their own behaviour (e.g., Soenens et al., 2008a). For instance, “My mother/father is a person who is always trying to change how I feel about things” was modified to “I am always trying to change how my daughter feels about things.” I used this modified scale; mothers rated items on a 3-point scale ranging from 1 (*not like me*) to 3 (*a lot like me*). Soenens et al. (2008a) reported that the mother-reported version is correlated with Barber’s original youth-report version ($r = .31, p < .001$).

Discrepancies. Discrepancies were assessed using the three highest factor-loading items from the discrepancies subscale of the Reconstructed Depressive Experiences Questionnaire (see Bagby, Parker, Joffe, & Buis, 1994; see Appendix F). This measure is described in Study 1 (see Chapter 2). Items (e.g., “I found that I didn’t live up to others’ ideals for me”) were modified to be mother-specific (e.g., “I found that I didn’t live up to my mother’s ideals for me”). Evidence from the present study demonstrates that the unmodified, original discrepancies subscale of the Reconstructed Depressive Experiences Questionnaire is highly correlated with the modified mother-specific version ($r = .73, p < .001$).

Depressive affect. Consistent with past daily diary studies (e.g., Study 1; Sherry & Hall, 2009), I assessed depressive affect using the three highest factor-loading items from of the Profile of Mood States depression subscale (McNair, Lorr, & Droppleman, 1992; see Appendix H). This measure is described in Study 1 (see Chapter 2).

Dietary restraint. In measuring dietary restraint, researchers recommend focusing only on items assessing specific, concrete behaviours used to restrict caloric consumption (Mackinnon et al., 2011). I measured dietary restraint using the four highest factor-loading items from the Dutch Restraint Eating Scale (van Strien, Frijters, Bergers, & Defares, 1986; see Appendix O) that assess such specific, concrete behaviours. All items (e.g., “I refused food offered because I was concerned about my weight”) were rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Binge eating. To measure binge eating, I used four items from the Eating Disorder Inventory bulimia subscale (Garner, Olmstead, & Polivy, 1983; see Appendix K). This measure is described in Study 1 (see Chapter 2).

4.2.3 Procedure

Dalhousie University’s Ethics Board approved the study. All daughters responded to an ad inviting their participation in a research study on personality. Daughters were required to have a female parent (i.e., any female adult who had been or was in a caretaking role, hereafter referred to as “mother”) who wanted to participate.⁶ Mothers

⁶ Most female parents were biological mothers ($N = 211$ or 96.8%). However, I also included adoptive mothers ($N = 3$), aunts ($N = 1$), grandmothers ($N = 1$), and guardians ($N = 2$).

and daughters needed Internet access and had to speak and read English fluently.

Participation was voluntary and confidential.

The study involved three waves. In Wave 1, daughters provided informed consent and received instruction on the study protocol. Then daughters completed demographics and Wave 1 measures (i.e., socially prescribed perfectionism and binge eating). With contact information provided by the daughters, mothers were emailed a link to an online consent form and upon consenting, were directed to an online survey assessing demographics and psychological control.

For daughters, Wave 2 began one week after completing Wave 1. Wave 2 involved two online surveys per day for seven days in a row. These surveys assessed discrepancies, depressive affect, and dietary restraint. To assess the first and second half of daughters' days, we asked daughters to complete online surveys 8 hours after waking and just before going to bed. To increase participation rates, I sent daughters two emails each day reminding them to complete their online surveys. All online surveys were date and time stamped.

Wave 3 occurred one week after daughters completed Wave 2. During Wave 3, daughters returned to the lab and completed the binge eating measure. Daughters were then debriefed and compensated with either \$25 or \$10 and three bonus points towards a psychology class.

4.2.4 Data Analytic Strategy

I conducted missing value analysis, descriptive statistics, and tests of multivariate normality for all variables. Path analysis was used to test the path model for the

perfectionism model of binge eating (see Figure 4.1). I tested hypothesized indirect effects via bootstrapping.

4.3 RESULTS

4.3.1 Protocol Compliance and Missing Data

All daughters in the study had their mother participate. Most daughters (99.1%) who completed Wave 1 also completed Wave 2, providing a total of 2575 diaries. Same day diaries (i.e., midday and bedtime diaries) were submitted roughly 8 hours apart ($M = 8.40$, $SD = 4.51$). A total of 52 diaries were excluded as they were provided less than 2 hours apart, meaning 2523 diaries (98.0%) were provided in a timely, useable manner and retained in the final sample. On average, daughters completed 11.81 (of a possible 14) daily diaries ($SD = 2.54$). Response rates were high, with rates that ranged from a high of 96.1% on Days 2 and Day 3 to a low of 85.3% on Day 7. Most daughters who completed Wave 1 also completed Wave 3 (99.5%), and did so in a timely manner consistent with the study protocol (i.e., $M = 21.51$ days after Wave 1, $SD = 2.13$).

Missing data were minimal across all waves of my study (0.5 to 1.4%) and were missing completely at random as indicated by a nonsignificant Little's Missing Completely at Random test, $\chi^2(37, N = 218) = 37.38, p = .45$ (Little, 1988). Given this minimal and completely random missing data, I handled missing data with expectation maximization in SPSS 17.0.

4.3.2 Descriptive Statistics and Multivariate Normality

Ranges, means, standard deviations, and bivariate correlations are presented in Table 4.1. For all my analyses, daughters' discrepancies, depressive affect, and dietary restraint were aggregated from all available daily diary data. Bivariate correlations

showed daughters' Wave 1 socially prescribed perfectionism is not significantly related to mothers' Wave 1 psychological control. Daughters' Wave 1 socially prescribed perfectionism is significantly related to daughters' Wave 1 binge eating, Wave 2 discrepancies, Wave 2 depressive affect, Wave 2 dietary restraint, and Wave 3 binge eating. In addition, mothers' Wave 1 psychological control is significantly related to daughters' Wave 2 discrepancies, Wave 2 depressive affect, and Wave 2 dietary restraint, but is not significantly related to Wave 1 and 3 binge eating. Daughters' Wave 1 binge eating, Wave 2 discrepancies, Wave 2 depressive affect, Wave 2 dietary restraint, and Wave 3 binge eating are significantly interrelated. Most demographics (i.e., age, year in university, years of formal education, ethnicity, relationship status, mothers' BMI) were not significantly correlated with the model variables. Country of birth had insufficient variability to analyze. Daughters' BMI was significantly correlated with daughters' Wave 1 socially prescribed perfectionism ($r = .21, p < .01$.) and daughters' Wave 2 discrepancies ($r = .17, p < .05$). As such, I used daughters' BMI as a covariate when testing the model. Overall, correlations in the present study resemble earlier research (Mackinnon et al., 2011; Sherry & Hall, 2009) and suggest merit in testing the perfectionism model of binge eating.

Small's omnibus test indicated my data were multivariate nonnormal (DeCarlo, 1997). Thus, two procedures robust to multivariate nonnormality were used in my study. Specifically, I used the Bollen-Stine bootstrap measure of model fit and I calculated parameter estimates using bias-corrected bootstraps with 20,000 ($N = 218$) bootstrap samples (Kline, 2005).

4.3.3 Path Analysis

Model fit. I assessed model fit with the Bollen-Stine bootstrap measure, χ^2/df ratio, comparative fit index (CFI), and root-mean-square error of approximation (RMSEA) with a 90% confidence interval (90% CI). A well-fitting model is indicated by a nonsignificant Bollen-Stine bootstrap measure ($p > .05$), χ^2/df around 2, CFI $> .95$, and RMSEA $< .08$ (Kline, 2005).

Direct effects. The path model shown in Figure 4.1 fit the data well: Bollen-Stine bootstrap $p = .16$, $\chi^2/df = 2.06$, CFI = .98, RMSEA = .07 (90% CI: .02, .11)⁷. As hypothesized, daughters' Wave 1 binge eating was significantly related to daughters' Wave 3 binge eating, daughters' Wave 1 socially prescribed perfectionism was unrelated to mothers' Wave 1 psychological control, and daughters' Wave 1 socially prescribed perfectionism was significantly related to daughters' Wave 1 binge eating. In addition, daughters' Wave 1 socially prescribed perfectionism and mothers' Wave 1 psychological control were both significantly related to daughters' Wave 2 discrepancies, daughters' Wave 2 discrepancies were significantly related to daughters' Wave 2 depressive affect and dietary restraint, and daughters' Wave 2 dietary restraint was significantly related to daughters' Wave 3 binge eating. Unexpectedly, mothers' Wave 1 psychological control was not significantly correlated with daughters' Wave 1 binge eating, and daughters'

⁷ I included daughters' Wave 1 BMI as a covariate; in the interest of clarity, I did not display BMI in Figure 4.1. Daughters' Wave 1 BMI was significantly and positively correlated ($r = .30$, $p < .01$) with daughters' Wave 1 socially prescribed perfectionism and unrelated ($p > .05$) to daughters' Wave 1 binge eating, mothers' Wave 1 psychological control, daughters' Wave 2 discrepancies, depressive affect, and dietary restraint, and daughters' Wave 3 binge eating.

Wave 2 depressive affect was not significantly related to daughters' Wave 3 binge eating. As expected, daughters' Wave 1 socially prescribed perfectionism and mothers' Wave 1 psychological control were not significantly related to daughters' Wave 3 binge eating as direct effects. Next, I tested if these two variables indirectly affected daughters' Wave 3 binge eating and the other variables of the model.

Indirect effects. I computed indirect effects by multiplying path coefficients from the predictors to the mediators and from the mediators to the criterion. To test the significance of the indirect effects, I used random sampling with replacement to create 20,000 ($N = 218$) bootstrap samples from the original data. From these samples, I estimated bias-corrected standard errors and 95% CIs. A 95% CI that does not include zero suggests the indirect effect is significant ($p < .05$; Mallinckrodt, Abraham, Wei, & Russell, 2006). All hypothesized indirect effects were significant as shown in Table 4.2. I found that both daughters' Wave 1 socially prescribed perfectionism and mothers' Wave 1 psychological control indirectly affected (a) daughters' Wave 2 depressive affect (via daughters' Wave 2 discrepancies), (b) daughters' Wave 2 dietary restraint (via daughters' Wave 2 discrepancies), and (c) daughters' Wave 3 binge eating (via all three binge triggers). In addition, daughters' Wave 2 discrepancies indirectly affected daughters' Wave 3 binge eating via daughters' Wave 2 depressive affect and dietary restraint.⁸

⁸ I focused on testing indirect (mediated) effects. However, I also conducted exploratory moderational analyses. Using six regression analyses, I tested if (a) daughters' Wave 1 socially prescribed perfectionism interacted with daughters' Wave 2 discrepancies, depressive affect, or dietary restraint to predict daughters' Wave 3 binge eating and (b) if mothers' Wave 1 psychological control interacted with daughters' Wave

4.4 DISCUSSION

This study represents a needed advance in the perfectionism and binge eating literature. I tested and generally found support for a version of the perfectionism model of binge eating that emphasized the importance of daughters' socially prescribed perfectionism and mothers' psychological control in understanding daughters' binge triggers and binge eating. This model fit the data reasonably well, with six of seven hypothesized direct effects and all seven hypothesized indirect effects receiving support (see Table 4.2 and Figure 4.1). Overall, the present study highlights the significant influence a dysfunctional mother-daughter relationship can have on daughters' binge triggers and binge eating and suggests researchers and clinicians should consider both the interpersonal and the characterological context within which binge eating occurs.

4.4.1 The Perfectionism Model of Binge Eating in Mother-Daughter Dyads

Little is known about why people binge eat. My study incorporates socially prescribed perfectionism, maternal psychological control, and three binge triggers into a coherent model organized around the mother-daughter relationship. This model highlights targets for assessment and treatment by clarifying mechanisms that are responsible for the relationships among socially prescribed perfectionism, maternal psychological control, and binge eating. My study offers the most rigorous,

2 discrepancies, depressive affect, or dietary restraint to predict daughters' Wave 3 binge eating. All moderational analyses were nonsignificant. Thus, the link between daughters' Wave 1 socially prescribed perfectionism and daughters' Wave 3 binge eating, and the relationship between mothers' Wave 1 psychological control and daughters' Wave 3 binge eating is not moderated by binge triggers.

comprehensive test of the perfectionism model of binge eating to date. Consistent with hypotheses and previous research (Mackinnon et al., 2011), binge eating was temporally stable in the present study. Controlling for this stability allowed me to stringently test the role of model variables in predicting changes in daughters' binge eating from Wave 1 to Wave 3.

Daughters' socially prescribed perfectionism and mothers' psychological control were unrelated in my study (see Soenens et al., 2005; Soenens et al., 2008a). Some research indicates psychological control is directly related to perfectionism; however, research supporting this link often relies on daughters' self-reported perceptions of their mothers' parenting (Fletcher et al., 2012; Soenens et al., 2005). Researchers need to collect daughters' reports of socially prescribed perfectionism and mothers' reports of psychological control (as in the present study) to account for potential monosource biases (e.g., a daughters' personality traits may lead her to selectively recall and report her mothers' parenting behaviour). The mother-daughter relationship is nuanced and replete with opportunities for (mis)interpretations. A daughter reporting that her mother is controlling and demanding may reflect exposure to a psychologically controlling mother or may reflect a daughter high in socially prescribed perfectionism who erroneously perceives her mother as controlling and demanding. My results, along with other studies (Soenens et al., 2005; Soenens et al., 2008a), suggest that perceiving one's mother as demanding perfection may have little to do with whether one's mother actually behaves in a controlling and demanding manner. From this perspective, a daughter's socially prescribed perfectionism may be thought of as a chronic, dysfunctional schema about oneself vis-a-vis one's mother. This schema may influence how a daughter high in

socially prescribed perfectionism interprets her interactions with her mother—predisposing the daughter to experience her mother as demanding and controlling.

Consistent with prior work (Sherry & Hall, 2009), and as expected, daughters' socially prescribed perfectionism was positively and significantly correlated with daughters' Wave 1 and Wave 3 binge eating. Socially prescribed perfectionism may encapsulate several core attributes of, or key concerns for, people who binge eat (Sherry & Hall, 2009). In testing the model, daughters' BMI was positively and significantly correlated with daughters' socially prescribed perfectionism, but was unrelated to other model variables. Longitudinal research is needed to understand the BMI-socially prescribed perfectionism link. Socially prescribed perfectionism may be associated with chronic binge eating that contributes to weight gain over time.

As predicted, daughters who perceived pressure from their mothers to be perfect viewed their mothers as dissatisfied with them and disappointed in them (i.e., daughters' discrepancies). This is consistent with work suggesting socially prescribed perfectionism leads to perceptions of having let others down (Sherry & Hall, 2009). Daughters who are high in socially prescribed perfectionism are in a bind. On the one hand, they want approval and acceptance from their mothers (Hewitt et al., 2006); on the other hand, my results indicate that these daughters often perceive the opposite from their mothers—disapproval and rejection, leaving them feeling disconnected from their mothers and distressed by their mother-daughter relationship.

Congruent with previous research (Sherry & Hall, 2009), and as expected, daughters' socially prescribed perfectionism (a) influenced daughters' depressive affect and dietary restraint via daughters' discrepancies and (b) influenced daughters' binge

eating via all binge triggers. Socially prescribed perfectionism thus appears to represent an underlying personality trait that places daughters at risk for binge eating by setting conditions (e.g., caloric deprivation) wherein bingeing is likely to occur. My results highlight the importance that daughters' beliefs that their mothers are demanding perfection of them have on daughters' emotions and behaviours and suggest that these beliefs add incrementally to our understanding of the variables of the model beyond maternal psychological control. A reduction in daughters' beliefs that their mothers expect perfection of them might lead to an associated reduction in daughters' discrepancies, depressive affect, dietary restraint, and binge eating.

Contrary to hypotheses, mothers' Wave 1 psychological control was not significantly related to daughters' Wave 1 and Wave 3 binge eating. Significant correlations observed between mothers' psychological control and daughters' disordered eating in earlier studies (Salafia et al., 2009) may reflect correlations artificially inflated by having daughters report on both their eating behaviours and on their mothers' parenting. However, this study is the first (that I know of) to test the influence of maternal psychological control on binge eating specifically. It is possible that, as my results suggest, mothers' psychological control is only indirectly related to daughters' binge eating via daughters' discrepancies, depressive affect, and dietary restraint.

The present study suggests mothers' psychological control plays a unique role in influencing daughters by contributing to situations that trigger binge eating. Mothers' psychological control does not appear redundant with daughters' socially prescribed perfectionism when it comes to understanding daughters' discrepancies, depressive affect, and dietary restraint. Consistent with hypotheses, mothers' psychological control

was related to daughters viewing their mothers as dissatisfied with them and disappointed in them. Moreover, mothers' psychological control contributed to (a) daughters' depressive affect and daughters' dietary restraint through daughters' discrepancies and (b) daughters' binge eating through all three binge triggers. Psychologically controlling mothers exert pressure on their daughters by holding excessive and rigid expectations for them, showing that failure is unacceptable, and withholding love and acceptance unless high standards are met (Barber & Harmon, 2002). This parenting style makes it hard for daughters to develop a healthy and realistic view of themselves (Barber, 1996). My results suggest daughters evaluate themselves based on how they are measuring up to their mothers' expectations. It is possible daughters have not developed, or do not pursue, their own expectations because they are too busy trying to live up to their mothers' expectations. Perceiving a discrepancy between how they are and how their mothers expect them to be, daughters feel sad, attempt to restrict their diet, and binge eat.

Overall, findings suggest both perceiving pressure from their mothers to be perfect (i.e., daughters' socially prescribed perfectionism) and experiencing demanding and controlling behaviour from their mothers (i.e., mothers' psychological control) leaves daughters feeling they have let their mothers down (i.e., daughters' discrepancies), potentially weakening the mother-daughter relationship. Similar to past tests of the perfectionism model of binge eating (Mackinnon et al., 2011; Sherry & Hall, 2009), and as predicted, I found that daughters' discrepancies are directly related to daughters' depressive affect and dietary restraint, and indirectly related to daughters' binge eating. Feeling unable to meet their mothers' expectations is upsetting for daughters who often believe (accurately or not) that approval and acceptance from their mothers is contingent

on meeting their mothers' expectations. As such, daughters are prone to periods of depressive affect arising from their perceptions of not living up to their mothers' expectations. Participating in a dysfunctional mother-daughter relationship, combined with daughters' desires to win their mothers' approval and acceptance, leads to attempts at dietary restraint. Daughters may believe that by achieving and presenting an image of perfectionism (i.e., an idealized, socially sanctioned thin body), they will receive the acceptance and approval from their mothers that they desire. Lastly, my results suggest viewing oneself as falling short of one's mother's expectations leads to episodes of binge eating, which may be used in an attempt to cope with or escape from negative feelings or to counteract the effects of caloric restriction (Mackinnon et al., 2011). Unfortunately, binge eating is unlikely to result in lasting positive effects and may result in further feelings of having let their mothers down (see Study 1 in Chapter 2).

A caveat to the generally supportive results was the nonsignificant path between Wave 2 depressive affect and Wave 3 binge eating. Contrary to hypotheses, daughters' depressive affect was not directly tied to daughters' binge eating (see Figure 4.1). This was somewhat unexpected as the correlational analyses, and past research (Haedt-Matt & Keel, 2011), links depressive affect to binge eating. Sherry and Hall (2009) also failed to find support for the depressive affect-binge eating path. In the context of the model (i.e., a multivariate model with five putative contributors to binge eating), depressive affect may not predict binge eating. However, it is premature to rule out depressive affect as an antecedent of binge eating. For example, the path null between Wave 2 depressive affect and Wave 3 binge eating may have occurred because too much time (i.e., 1 week) elapsed between these measurement occasions.

In sum, results suggested daughters' perceptions of their mothers holding unrealistic and perfectionistic expectations, mothers exerting control and making demands, and daughters believing they are unable to meet their mothers' expectations contributes to a host of problems for daughters, including depressive affect, dietary restraint, and binge eating. For young women who believe their mothers require them to be perfect and whose mothers are demanding and controlling, binge eating may provide a means of coping with their unhealthy and unsatisfying mother-daughter relationship, with feelings of sadness arising from this relationship, and with harsh caloric deprivation used in an attempt to mend this relationship (Heatherton & Baumeister, 1991; Sherry & Hall, 2009).

4.4.2 Limitations and Future Directions

Though my study addresses notable conceptual and methodological gaps in the research literature, we acknowledge several limitations. The 1-week temporal spacing between Waves 1, 2, and 3 and the twice-a-day daily diary-reporting schedule used in my study may have impacted results. Future studies should use different temporal spacing between waves (e.g., 6 months) and different reporting schedules (e.g., event-contingent reporting) to test the perfectionism model of binge eating. In addition, the socially prescribed perfectionism and discrepancies measures were modified to be mother-specific. Although evidence from my study suggests that these modified measures are reliable and valid, ultimately, less is known about their psychometric properties.

The perfectionism model of binge eating predicted, and my results supported, a unidirectional pattern of influence wherein mothers impacted daughters. However, bidirectional patterns of influence, where daughters behave in ways that evoke certain

responses or behaviours from their mothers may also be present and require empirical testing. Assessing maternal psychological control from the mothers' perspective is an advantage. However, I acknowledge that mothers' reports of psychological control could be biased or distorted due to underreporting, responding defensively, or limited insight.

My study involved female undergraduates who were mostly young, advantaged, and Caucasian. It remains to be seen if results generalize to other populations. Future research should test the perfectionism model of binge eating with daughters at other developmental stages (e.g., adolescence) and with participants who exhibit more severe perfectionism and binge eating (e.g., clinical samples). Lastly, my results suggest that the mother-daughter relationship is one important interpersonal context that influences binge eating; however, daughters are embedded in other interpersonal contexts that likely influence their binge triggers and binge eating. Future research should study the effects of perfectionism and other interpersonal influences from various family members (e.g., fathers or siblings), friends, and romantic partners.

Fundamental to ending patterns of binge eating is understanding how interpersonal and characterological variables work in concert to generate binge eating. The present study brings researchers and clinicians closer to achieving this important goal.

Table 4.1

Ranges, Means, Standard Deviations, Alpha Reliabilities, and Bivariate Correlations

Variable	Potential	Actual	M	SD	α	1	2	3	4	5	6	7
	range	range										
1. Daughters' Wave 1 socially pres. perfectionism	5-35	5.0-35.0	15.06	8.08	.93	–	.24	.16	.36	.31	.28	.21
2. Daughters' Wave 1 binge eating	4-28	4.0-27.0	8.67	5.42	.84	–	–	.07	.26	.20	.16	.60
3. Mothers' Wave 1 psychological control	8-24	8.0-24.0	10.04	2.27	.74	–	–	–	.31	.23	.23	.05
4. Daughters' Wave 2 discrepancies	3-21	3.0-21.0	4.20	2.41	.96	–	–	–	.61	.51	.17	
5. Daughters' Wave 2 depressive affect	0-12	0.0-12.0	1.56	1.76	.85	–	–	–	–	.43	.18	
6. Daughters' Wave 2 dietary restraint	4-20	4.0-20.0	5.71	2.93	.92	–	–	–	–	–	.25	
7. Daughters' Wave 3 binge eating	4-28	4.0-25.0	7.36	4.39	.77	–	–	–	–	–	–	

Note. Socially pres. perfectionism = socially prescribed perfectionism. A bivariate correlation of .10 is a small effect size, a bivariate

correlation of .30 is a medium effect size, and a bivariate correlation of .50 is a large effect size. Bivariate correlations greater than .16

are significant at $p < .05$; bivariate correlations greater than .18 are significant at $p < .01$; and bivariate correlations greater than .23 are

significant at $p < .001$.

Table 4.2

Bootstrap Analyses of Indirect Effects

Hypothesized indirect effect	Unstandardized indirect effect (<i>B</i>)	Standardized indirect effect (β)	Bootstrap estimates	
			<i>SE</i> for standardized indirect effect	95% confidence interval for standardized indirect effect (lower and upper)
Daughters' Wave 1 socially prescribed perfectionism to daughters' Wave 2 depressive affect	.053	.243	.046	.151, .331***
Daughters' Wave 1 socially prescribed perfectionism to daughters' Wave 2 dietary restraint	.077	.203	.040	.127, .283***
Daughters' Wave 1 socially prescribed perfectionism to daughters' Wave 3 binge eating	.019	.036	.018	.003, .075*
Daughters' Wave 2 discrepancies to daughters' Wave 3 binge eating	.164	.091	.044	.003, .177*
Mothers' Wave 1 psychological control to daughters' Wave 2 depressive affect	.137	.175	.089	.038, .371**
Mothers' Wave 1 psychological control to daughters' Wave 2 dietary restraint	.199	.147	.078	.033, .328**
Mothers' Wave 1 psychological control to daughters' Wave 3 binge eating	.050	.026	.016	.007, .081**

Note. *SE* = bias-corrected standard error.

* $p < .05$; ** $p < .01$; *** $p < .001$.

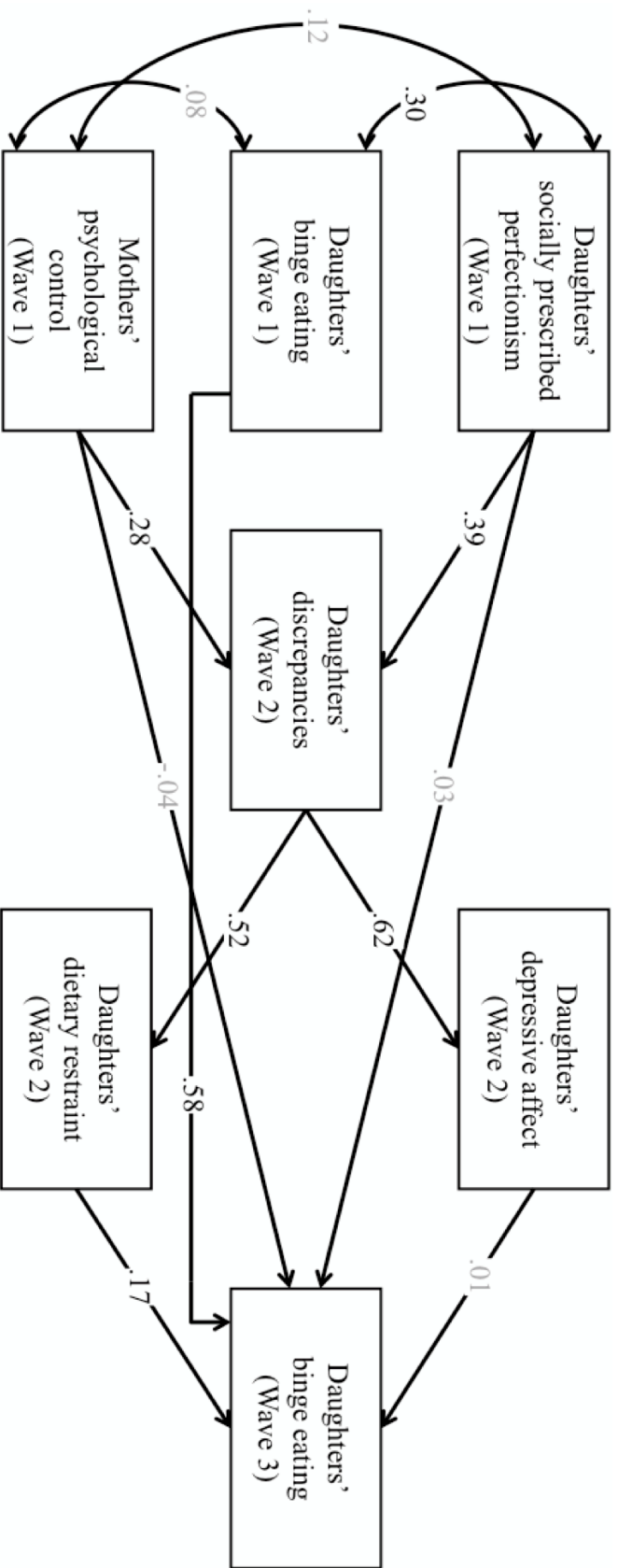


Figure 4.1. Path model for the perfectionism model of binge eating. Rectangles represent observed variables. Single-headed arrows represent hypothesized paths. Double-headed arrows represent hypothesized correlations. Significant standardized coefficients are shown in black. Nonsignificant standardized coefficients are shown in grey. In the interest of clarity, error terms are not displayed.

CHAPTER 5. GENERAL DISCUSSION

The primary objectives of this dissertation research were to (a) integrate previously disparate areas of research on perfectionism traits and research on perfectionism-linked processes to aid in our understanding of self-defeating behaviours (Study 1 and Study 2); and to (b) situate perfectionism research in its interpersonal contexts examining perceptions of others as critical and demanding (Study 1 and Study 2) and exposure to controlling and demanding others (Study 2) in explaining self-defeating behaviours. Comprehensive discussions of the results of each study are provided in the individual study manuscripts (see Chapter 2 and Chapter 4). The general discussion presented here provides a summary and integrates the results of Study 1 and Study 2 by comparing the models tested in each study. In addition, I consider the wider implications of this research with respect to personality, relationships, and self-defeating behaviour. Last, I discuss the clinical implications, limitations, and future directions of this research.

5.1 SUMMARY

In Study 1, I developed and tested a model that describes why socially prescribed perfectionists become and remain stuck in self-defeating cycles. This research synthesizes past work into a comprehensive model centered on socially prescribed perfectionism (a maladaptive personality trait). In this study, I found support for socially prescribed perfectionism driving a vicious cycle of perfectionism processes that explain why people high in socially prescribed perfectionism engage in self-defeating behaviours. Out of context, it is difficult to understand why someone who strives to be perfect for others would engage in behaviours that are counterproductive to achieving their goals. For instance, it seems paradoxical that socially prescribed perfectionists binge eat,

procrastinate, and come into conflict with others. However, developing a greater understanding of the perfectionism traits and processes that contribute to these behaviours can help explain them. The model in Study 1 provides information key to our understanding of these seemingly paradoxical behaviours. My results suggest that believing others always and absolutely demand perfection, socially prescribed perfectionists often feel that they have let others down. To remedy this perceived failure, they attempt to mask their shortcomings by trying to present an image of “perfection.” However, this is an ineffective and unsatisfying way of relating to other people that results in feelings of sadness. Struggling with depressive affect, people high in socially prescribed perfectionism tend to cope ineffectively by engaging in self-defeating behaviours contrary to their original goal of being perfect in the eyes of others. These self-defeating behaviours lead people high in socially prescribed perfectionism to believe they have let others down—a belief that initiates another cycle of self-defeat.

In Study 2, I tested a version of the perfectionism model of binge eating in mother-daughter dyads. This model emphasizes the role that dysfunctional mother-daughter relationships can have on a daughter’s well-being. Results suggest that both a daughter’s perception of her mother as demanding perfectionism of her (i.e., daughters’ socially prescribed perfectionism) and her mother exerting excessive control and unrealistic demands (i.e., mothers’ psychological control) contribute to a daughter’s beliefs that she is falling short of her mother’s expectations (i.e., daughter’s discrepancies). Overall, the research suggests that together these variables contribute to a host of problems for the daughters including depressive affect, dietary restraint, and binge eating. For these young women, binge eating may offer a means of coping with their

unhealthy and unsatisfying mother-daughter relationship, with feelings of sadness arising from this relationship, and with caloric deprivation used in an attempt to garner approval and acceptance (Heatherton & Baumeister, 1991; Sherry & Hall, 2009). This research provides novel evidence that personality traits and interpersonal relationships are both important for understanding self-defeating behaviours.

5.2 COMPARING STUDY 1 AND STUDY 2

Study 1 and Study 2 test and find support for two theoretically derived models. These models have important differences but also share certain commonalities. In this section, these differences and commonalities are discussed. The results of Study 1 and Study 2 are consistent with prior literature demonstrating that socially prescribed perfectionism is a maladaptive personality trait (Dunkley et al., 2003; Enns & Cox, 2002; Flett et al., 1992; Flett et al., 1996; Flett et al., 2002; Hewitt & Flett, 1991; Sherry & Hall, 2009; Sherry et al., 2008). In fact, the present research suggests that socially prescribed perfectionism is related to interpersonal problems (i.e., discrepancies, perfectionistic self-presentation, and interpersonal conflict), emotional problems (i.e., depressive affect), and self-defeating behaviours (i.e., binge eating, procrastination, and interpersonal conflict). Despite ample evidence linking socially prescribed perfectionism to negative outcomes, few studies have tested whether socially prescribed perfectionism incrementally advances our understanding of these negative outcomes beyond other contributors. The results of the present research indicate that socially prescribed perfectionism is a unique vulnerability factor for perfectionism processes and self-defeating behaviours, as the relationships between these variables were maintained after controlling for self-oriented perfectionism (Study 1), daughters' body mass index (Study 2), and mothers'

psychological control (Study 2). These findings are consistent with prior evidence supporting a role for socially prescribed perfectionism in the perfectionism model of binge eating above and beyond neuroticism (i.e., a tendency to experience negative emotional states), self-oriented perfectionism, and perfectionistic strivings (Mackinnon et al., 2011; Sherry & Hall, 2009).

Not only is determining the incremental validity of the core element of each model (i.e., socially prescribed perfectionism) important, but so is testing the predictive specificity of each model (Garber & Hollon, 1991). Study 1 suggests socially prescribed perfectionism drives a maladaptive cycle that contributes to three self-defeating behaviours (i.e., binge eating, procrastination, and interpersonal conflict). Thus, the model is Study 1 adequately predicts a range of maladaptive outcomes that are prototypic for socially prescribed perfectionists. Study 2 focuses on binge eating. While this study did not test the specificity of the model, prior research demonstrates that the perfectionism model of binge eating appears specific to binge eating and not to other outcomes (e.g., binge drinking; Mackinnon et al., 2011).

In terms of predictive validity, in Study 1 socially prescribed perfectionism predicts both general tendencies (at the between person level, aggregated across 14 occasions) and daily variability (at the within person level) in discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviours. Results of Study 1 also revealed important differences between relationships modeled at the between-person level and at the within-person level (i.e., the relationship between depressive affect and self-defeating behaviours). Oftentimes, researchers make (untested) assumptions that relationships observed at the between-person level are relevant at the

individual, within-person level. However, as my results show, between-person models do not test or support relationships that are valid at the individual level (Borsboom, Mellenbergh, & van Heerden, 2003). Indeed, within-person models may reveal different relationships between variables than between-person models (Fleeson, 2007).

In Study 2, socially prescribed perfectionism predicts general tendencies (at the between person level, aggregated across 14 occasions) in discrepancies, depressive affect, and dietary restraint. For example, these results suggest that on average, daughters who experience more discrepancies also experience more depressive affect and more dietary restraint (on average). However, the results of Study 2 cannot tell us if experiencing discrepancies directly contributes to experiencing depressive affect and attempts at dietary restraint for individual participants. Study 2 assessed binge eating during the baseline assessment and during a longitudinal follow-up. Results showed that binge eating exhibits substantial stability. Given this stability, it is notable that daughters' socially prescribed perfectionism, mothers' psychological control, and daughters' binge triggers also predict binge eating beyond preexisting levels of binge eating.

The model tested in Study 1 was derived from theory and empirically supported, however, additional research testing its replicability is needed. The perfectionism model of binge eating tested in Study 2 was built on a previously supported model (see Mackinnon et al., 2011; Sherry & Hall, 2009). Although important differences exist between the model tested in Study 2 and the models tested in previous studies, the similarities (e.g., sample of young women; specified sequence of variables) suggest the perfectionism model of binge eating is replicable.

The assumptions regarding causality differ in Study 1 and Study 2. Study 1 tests a conceptual model that outlines a cyclical process wherein discrepancies influence perfectionistic self-presentation, perfectionistic self-presentation influences depressive affect, depressive affect influences self-defeating behaviours, and self-defeating behaviours influence discrepancies. This approach to studying personality fills an important gap in the literature as few studies entertain anything beyond linear patterns and fail to consider the cyclical, repetitive nature of relationships between personality traits, personality processes, and self-defeating behaviours (Wachtel, 1994).

Building on past research, the model tested in Study 2 is linear wherein socially prescribed perfectionism and psychological control influence discrepancies, which influence depressive affect and dietary restraint, which ultimately influence binge eating. Although this research is important, it fails to consider how daughters feel or behave once they have engaged in binge eating. Evidence from Study 1 suggests socially prescribed perfectionists who binge eat might experience subsequent feelings of having let others down. Thus, future research should test a cyclical version of the perfectionism model of binge eating wherein binge eating generates further discrepancies, depressive affect, and dietary restraint among socially prescribed perfectionists (Mackinnon et al., 2011).

Both Study 1 and Study 2 involved structured online daily diaries involving two surveys each day for 7 days in a row. However, the data obtained in the daily diary portion of each study were analyzed differently. In Study 1, using multilevel structural equation modeling, the data were analyzed in aggregate form at the between-person level and analyzed in disaggregated form at the within-person level. This allowed me to test patterns of relationships between the variables on an average level (across the group of

participants) and on a daily level (for each individual participant). In Study 2, the data were aggregated across the 14 measurement occasions and analyzed using path analysis. Although some variability was lost, this approach allowed me to test general (on average) relationships between socially prescribed perfectionism, psychological control, binge triggers, and binge eating. In Study 2, I also included a follow-up assessment of binge eating. This allowed temporal separation between the predictors, mediators, and criterion variables. Moreover, measuring binge eating during the baseline assessment and during the longitudinal follow-up provided a means to predict change and provided a more stringent test of the model that assessed the influence of socially prescribed perfectionism, maternal psychological control, and binge triggers on binge eating.

The models tested in Study 1 and Study 2 both focus on dysfunction in interpersonal relationships and the link between this dysfunction and negative outcomes. Despite this similarity, one major difference between Study 1 and Study 2 is the unit of analysis. In Study 1, I focused on individuals and assessed how their perceptions of their social environment influenced their daily life, thereby providing an in depth account of the daily life of a socially prescribed perfectionist. In Study 2, I focused on individuals and mother-daughter dyads. This study tested the contribution of an individual's personality and an individual's interactions with and exposure to aversive parenting, in predicting binge triggers and binge eating. Together, Study 1 and Study 2 provide novel evidence describing both the daily life of a socially prescribed perfectionist and the influence of interpersonal dysfunction on self-defeating behaviours.

5.3 WIDER IMPLICATIONS FOR THEORY AND RESEARCH

5.3.1 Perfectionism

Empirical evidence presented in this dissertation provides support for the conceptual models outlined in Study 1 and Study 2. These models integrate previously distinct areas of research on perfectionism structure, perfectionism processes, interpersonal relationships, distress, and self-defeating behaviours. The results of Study 1 suggest that both stable perfectionism structure (also known as traits or dispositions) and dynamic perfectionism processes are important for understanding socially prescribed perfectionists' self-defeating cycles. Studying perfectionism structure and its associations with self-defeating behaviours is consistent with the majority of research on perfectionism (Frost et al., 1990; Graham et al., 2010; Hewitt & Flett, 1991). Studying perfectionism processes is in line with more recent research attempting to understand how perfectionism expresses itself on an individual level, daily level, or momentary level (Sherry & Hall, 2009). Studying both perfectionism structure and processes together is novel and thus provides insight into how these elements work together to explain seemingly paradoxical self-defeating behaviours.

Personality psychologists are increasingly recognizing the importance of studying individuals in terms of their stable and distinctive qualities (e.g., their socially prescribed perfectionism) *and* the processes underlying these regularities that influence how people function (Mischel, 1999). Fleeson (2007) suggests that “a complete description of personality requires knowledge of both the structures being operated on and the processes operating on them” (p. 524). Therefore, Study 1 advances our understanding of perfectionism by providing a detailed account of both the structures being operated on (i.e., socially prescribed perfectionism) and the processes operating on them (i.e., perfectionistic discrepancies, perfectionistic self-presentation).

Some authors criticize personality research for making (untested) assumptions that between-person relationships are relevant on the individual level. For example, Cervone (2005) states that “robust between-person findings provide no evidence that the between-person constructs correspond isomorphically to within-person systems” (p. 427). Moreover, others suggest that between-person analyses do not support causal relationships at the individual level (Borsboom et al., 2003). To infer that relationships exist at both the between-person level and the within-person level, studies need to test these relationships at both levels. Using multilevel modeling in Study 1 allowed me to do so. Interestingly, one relationship was supported at the between-person level (i.e., depressive affect predicting self-defeating behaviours), but not at the within-person level. This provides further justification for the importance of testing relationships at both the levels and not assuming that relationships among variables on average (across a group of participants) are consistent with relationships among variables for each individual within the group of participants.

Support for the conceptual model tested in Study 2 suggests that both personality traits and interpersonal relationships are important in our understanding of binge triggers and binge eating. Personality researchers often narrowly focus on specific personality traits and their influence on maladjustment. Perfectionism researchers are no exception with the majority focusing on when and why various dimensions of perfectionism are linked to depression, disordered eating, academic problems, and interpersonal problems (Dunkley et al., 2003; Flett et al., 1992; Flett et al., 2002; Graham et al., 2010; Sherry & Hall, 2009; Sherry et al., 2008). Results of Study 2 indicate that this approach might be limiting. To fully understand the contribution of an interpersonal personality trait like

socially prescribed perfectionism, researchers need to consider and assess interpersonal relationships. It is important to know whether perceptions of others demanding perfection, exposure to controlling and demanding others, or both, are influential in predicting distress and self-defeating behaviours.

5.3.2 Interpersonal Relationships

The models tested in Study 1 and Study 2 indicate that self-defeating behaviours cannot be separated from the interpersonal contexts in which they occur (Weissman et al., 2000). Specifically, my dissertation suggests that dysfunction in interpersonal relationships, stemming from a maladaptive personality trait (e.g., socially prescribed perfectionism) or an unhealthy relationship (e.g., a mother-daughter relationship characterized by control and demandingness), can have a detrimental impact on well-being. Research and theory asserts that humans need to be close to others and to have an inherent desire for acceptance and affiliation (Baumeister & Leary, 1995). Socially prescribed perfectionism represents a personality trait that disrupts social acceptance and social affiliation. Individuals high in socially prescribed perfectionism are preoccupied with how other people perceive them, and this preoccupation contributes to self-defeating behaviours (e.g., binge eating; Striegel-Moore, Silberstein, & Rodin, 1993). People high in socially prescribed perfectionism are consequently in a bind. They believe that perfection is required to achieve acceptance and love, yet they consistently feel unable to be perfect (Hewitt et al., 2006). This results in the deterioration of their interpersonal relationships and in their well being by leading to self-defeating behaviours. Together, the role of interpersonal factors in contributing to self-defeating behaviours emphasizes

the importance of viewing people not just as isolated individuals but also as individuals in relation to others (Guisinger & Blatt, 1994).

My research also suggests that proximity to certain people (e.g., people who are perceived to be critical and demanding or people who are critical and demanding) can leave young women feeling bad and vulnerable to self-defeating behaviours (Barber & Harmon, 2002). Research on disordered eating has long suggested that families of individuals with disordered eating (e.g., binge eating) are more critical, create more pressure, and are more demanding (Pike et al., 2006; Striegel-Moore et al., 2005). However, researchers have placed undue emphasis on daughters' purportedly extreme or distorted perfectionistic beliefs, perceptions, and behaviours, while largely ignoring the possible contribution of parents' criticism, pressures, and demands. This represents an important weakness in existing literature as evidence indicates that interpersonal factors exert a strong influence on binge eating (Wilfley et al., 2002). My dissertation thus fills an important gap and is consistent with calls for "more complex models needed to accommodate ... a person's ... involvement in significant social contexts" (Coyne & Whiffen, 1995, p. 358). People do not exist in isolation, yet the majority of research on perfectionism and self-defeating behaviours does not consider the social contexts in which perfectionists and their self-defeating behaviours occur. The findings from the present research suggest that personality researchers generally, and perfectionism researchers specifically, need to include both characterological contributors and interpersonal contributors in their explanatory models.

5.3.3 Self-Defeating Behaviours

Few studies linking perfectionism to self-defeating behaviours entertain anything beyond linear patterns and fail to consider the cyclical, repetitive nature of the self-defeating behaviours. Wachtel (1994) argued that in an effort to feel better in the short term, people sometimes engage in behaviours that continue to make them feel bad in the long term. Moreover, Watzlawick, Weakland, and Fisch (1974) suggest that the very efforts people take to make themselves feel better ends up perpetuating their distress. Although theorists have discussed the cyclical nature of personality and psychopathology (Shedler, 2010), most models of perfectionism are linear and end with the experience of a symptom (Dunkley et al., 2003; Graham et al., 2010; Sherry & Hall, 2009). That is, most models of perfectionism and psychopathology fail to account for the repetitive, recurrent nature of the problems experienced by people high in socially prescribed perfectionism. Study 1 extends existing literature by proposing, testing, and supporting a cyclical model incorporating several key elements of the day-to-day functioning of people high in socially prescribed perfectionism (i.e., self-evaluation, self-presentation, affect, behaviour). This model suggests that the behaviours perfectionists engage in to help them cope with their distressing beliefs and emotions only make them feel worse. Specifically, these individuals end up feeling that they have, yet again, let others down. This form of self-evaluation (of not measuring up to others standards) generates additional self-defeating cycles. Until now, it has been difficult to understand why people who are preoccupied with living up to presumed standards imposed on them by others would binge eating, procrastinate, and come into conflict with others. Findings from Study 1 suggest that patterns of self-evaluation, self-presentation, and affect prototypic of socially

prescribed perfectionists can explain why these individuals behave imperfectly and remain stuck in self-defeating cycles.

The findings of Study 2 in some ways echo Study 1 by suggesting that socially prescribed perfectionism is an important predictor of self-defeating behaviours. However, Study 2 also provides evidence that the mother-daughter relationship can have a powerful influence on daughters' self-defeating behaviours. As mentioned above, it is often challenging to comprehend why perfectionists binge eat. Study 2 provides insight into this seemingly paradoxical behaviour and suggests that dysfunction in the mother-daughter relationship can explain why some perfectionistic young women end up binge eating. For these young women, their personality and their exposure to controlling and demanding mothers contribute to frequent feelings of having let their mothers down. This sets the stage for binge eating by generating feelings (i.e., depressive affect) and experiences (i.e., dietary restraint) that are conducive to binge eating. Thus, ongoing problems in the mother-daughter relationship (e.g., daughters' socially prescribed perfectionism, mothers' psychological control, daughters' discrepancies) can contribute to ongoing self-defeating behaviours. These ideas are consistent with Luborsky's (2000) notion of core conflictual relationship themes that re-emerge throughout people's lives and that keep them stuck in destructive patterns of relating and behaving. To fully understand self-defeating behaviours, results of my research suggest that attention should be paid to personality, interpersonal relationships, and their interrelations.

5.4 CLINICAL IMPLICATIONS

5.4.1 Prevention

As mentioned in Chapter 3, various factors including unsupportive or aversive family environments, perfectionistic parents, or genetics, are believed to contribute to the development and maintenance of perfectionism. However, there is still much to learn as research identifying contributors in the development of perfectionism is in its infancy. Therefore, preventative efforts aimed at decreasing the likelihood of developing perfectionism is premature. While the findings from my dissertation research cannot speak directly to the development of perfectionism, results of Study 1 and Study 2 do suggest that perfectionism and a dysfunctional mother-daughter relationship play important roles in contributing to emotional problems and self-defeating behaviours among socially prescribed perfectionists. As such, increased efforts could be placed on addressing perfectionism and mother-daughter relationship problems in an effort to prevent or decrease associated emotional problems and self-defeating behaviours. For instance, existing prevention programs focusing on healthy eating and positive body image (e.g., McVey, Gusella, Tweed, & Ferrari, 2009) could be modified to include information on perfectionism and mother-daughter relationships. Bringing greater awareness to the impact that perfectionism and dysfunctional mother-daughter relationships can have on well-being may work towards preventing emotional problems and self-defeating behaviours among perfectionistic youth. However, before moving forward, additional research testing the efficacy and effectiveness of supplementing existing prevention programs or developing new prevention programs is needed.

5.4.2 Assessment

Results of Study 1 and Study 2 can inform assessment of self-defeating behaviours. For example, clinicians faced with clients who binge eat, procrastinate, or

experience interpersonal problems might assess them for perfectionistic traits and related perfectionism processes. If clinicians find that their clients experience chronic and distressing beliefs that others expect them to be perfect, constantly feel like they have let others down, and try to redeem themselves by presenting an image of perfectionism, then the model in Study 1 may also aid in their case conceptualization. Viewing the self-defeating behaviours as a consequence of socially prescribed perfectionism and related perfectionism processes can provide clarity in understanding why someone who desires to be perfect repeatedly engages in imperfect behaviours. In addition, Study 1 suggests that perfectionists get stuck in repetitive self-defeating cycles. Assessments should pay close attention to cycles (or repetition) in their clients' behaviours, especially cyclical patterns involving interpersonal relationships (Shedler, 2010). Identifying repetitive, self-defeating cycles and recurrent relationship problems through comprehensive assessments is an important first step in dismantling these cycles.

Study 2 highlights the role of the mother-daughter relationship in contributing to binge eating. Clinicians working with clients who binge eat might be encouraged to assess for perfectionistic traits and dysfunction in the mother-daughter relationship. Assessing the quality and functioning of the mother-daughter relationship and the degree to which factors related to this relationship (e.g., mothers exercising controlling and demanding behaviours) impact their clients' behaviours is important. Determining whether their clients perceive pressure to be perfect and encounter excessive demands and control can have important implications for understanding why young women binge eat. If available, clinicians may find it useful to assess not only the daughter, but also the mother. Results of Study 2 and other studies (Salafia et al., 2009; Soenens et al., 2005;

Soenens et al., 2008a) suggest that mothers' reports and daughters' reports of problematic parenting behaviours may be differentially related to negative outcomes (e.g., binge eating). As such, useful information may be gained from both daughters and their mothers. Family-based assessments focusing on the dynamics of the familial relationships, along with the problematic behaviours, are used extensively in settings focusing on assessing and treating eating disorders (Lock, 2011; Treasure et al., 2008). Results of Study 2 indicate that this approach might also be useful when working with perfectionistic young women who binge eat.

5.4.3 Treatment

If a clinician determines that his or her client has high levels of socially prescribed perfectionism and related processes, then the model in Study 1 will provide useful treatment targets for dismantling the perfectionistic client's distress and self-defeating cycles. If clients who binge eat report high levels of socially prescribed perfectionism and relationship problems with their mothers, then the model in Study 2 might provide useful treatment targets for improving the mother-daughter relationship and consequently decreasing binge eating.

Together, results of Study 1 and Study 2 support socially prescribed perfectionism as an important treatment target. For instance, results suggest a reduction in socially prescribed perfectionism might contribute to a reduction in discrepancies, depressive affect, and self-defeating behaviours (Study 1), and to a reduction in mother-specific discrepancies, depressive affect, dietary restraint, and binge eating (Study 2). Cognitive behavioural approaches to treating perfectionism are emerging (Flett & Hewitt, 2008). These interventions involve recognizing and challenging perfectionism-linked cognitive

distortions and behavioural patterns using various techniques including cognitive restructuring, behavioural experiments, and exposure exercises (see Antony & Swinson, 2009). Early evidence supports the effectiveness of cognitive behavioural interventions for perfectionism (Arpin-Cribbie, Irvine, & Ritvo, 2012; Pleva & Wade, 2006; Riley, Lee, Cooper, Fairburn, & Shafran, 2007). For example, in a recent randomized controlled trial in university students, Arpin-Cribbie et al. (2012) found that a web-based psychoeducational cognitive behavioural program was effective in reducing socially prescribed perfectionism. Moreover, this cognitive behavioural program led to greater reductions in socially prescribed perfectionism than general stress management training.

Despite the promising results of treatments aimed at reducing socially prescribed perfectionism, competing evidence suggests that perfectionism is a deep-seated personality trait that is difficult to treat and that interferes with treatment (Blatt & Zuroff, 2002). This evidence, combined with results of Study 1 and Study 2, suggest that treatment could focus on (a) discrepancies, perfectionistic self-presentation, depressive affect, and self-defeating behaviours (Study 1), or (b) the mother-daughter relationship, depressive affect, dietary restraint, and binge eating (Study 2). Focusing on perfectionism processes, affective experiences of perfectionists, and their self-defeating behaviours may be beneficial as they appear more malleable (compared to socially prescribed perfectionism; Sherry & Hall, 2009) and they may characterize the mechanisms through which socially prescribed perfectionism exerts its deleterious effects.

At least four interventions are relevant to addressing discrepancies, perfectionistic self-presentation, depressive affect, dietary restraint, and self-defeating behaviours among individuals high in socially prescribed perfectionism. First, cognitive behavioural

interventions may be useful. For example, clients might work towards recognizing and categorizing their discrepancies as cognitive distortions or hypotheses to be tested by looking for objective evidence that they are (or are not) falling short of others' expectations. To tackle their perfectionistic self-presentation and fear of sharing their authentic (and perhaps imperfect) self to others, clients might construct graduated exposure hierarchies where they sequentially expose themselves to situations or experiences that they previously avoided. For example, a client's hierarchy might include such tasks as leaving the house dressed imperfectly, displaying flaws to a trusted friend, or disclosing imperfections to a stranger. Through these experiences, clients' fear and avoidance would diminish and they may feel more comfortable sharing their true selves with the world. And lastly, self-monitoring might be useful for recognizing the antecedents and consequences of perfectionistic clients' self-defeating behaviours. For example, determining what occurs before they binge eating (e.g., they engage in dietary restraint or experience depressive affect), would help clients high in socially prescribed perfectionism recognize and disrupt their self-defeating patterns. Therapy could also work towards replacing these self-defeating behaviours with healthier coping strategies.

Another intervention that might be relevant for clients struggling with socially prescribed perfectionism and related processes, emotions, and self-defeating behaviours is mindfulness-based cognitive therapy (Segal, Williams, & Teasdale, 2002). This form of therapy combines cognitive interventions with skills training in mindfulness meditation. Mindfulness-based cognitive therapy might be used to encourage clients to acknowledge and subsequently let go of their perfectionistic tendencies (e.g., of not measuring up to others' expectations or needing to display an image of perfection).

Clients would be encouraged to live more fully in the present moment without judging or evaluating themselves, their experiences, or their environment (Hayes, 2004). For perfectionistic clients, this mindfulness-based approach would promote self-acceptance and disengagement from thoughts that previously contributed to emotional upset thereby disrupting the negative cycles that socially prescribed perfectionists repeatedly find themselves in.

Results of Study 1 and Study 2 emphasize the importance of interpersonal relationships in perpetuating distress and maladjustment. Therefore, interpersonal therapy and family therapy may be useful for clients high in socially prescribed perfectionism who struggle with self-defeating behaviours. Interpersonal therapy focuses on four interpersonal issues including grief, interpersonal role disputes, role transitions, and interpersonal deficits (Weissman et al., 2000). Results of the present studies imply that interpersonal deficits, where symptoms are associated with poor social skills or difficult interactions resulting in unsatisfying relationships, may be especially problematic for socially prescribed perfectionists. For instance, results suggest that people high in socially prescribed perfectionism often feel they are falling short of others', or their mothers', expectations, present themselves in an inauthentic manner to others, and interact with others in a conflictual manner. In interpersonal therapy, clinicians do not discuss symptoms (e.g., binge eating) with their clients, instead clinicians work on indirectly addressing their clients' symptoms by making positive changes in interpersonal functioning. Interpersonal therapy might be used to address socially prescribed perfectionists' interpersonal deficits by helping clients develop realistic and healthy relationships with others, cultivate their own expectations rather than relying on the

perception of others' expectations, and develop healthier interpersonal coping strategies to deal with negative emotions.

Results of Study 2 specifically suggest that unhealthy and unsatisfying mother-daughter relationships can affect daughters' well-being, therefore, family-based therapy might be indicated. Family-based therapy was originally developed for adolescents with anorexia nervosa (Eisler, le Grange, & Asen, 2003; Loeb et al., 2007). Studies testing its effectiveness for binge eating are scarce. However, evidence suggests family-based therapy for bulimia nervosa (which involves binge eating) is effective (le Grange, Crosby, Rathouz, & Leventhal, 2007). In relation to the results of Study 2, family-based therapy may be useful in aligning mothers and daughters with the goal of reducing daughters' self-defeating binge eating. Family-based therapy does not blame the families, or the individual, for the disordered eating. Instead, families are used as allies in supporting the client in his or her recovery (le Grange et al., 2007). Although this therapeutic approach seems relevant for young perfectionistic women who binge eat in the context of dysfunctional mother-daughter relationships, additional research is needed to support family-based therapy for perfectionistic binge eating women.

5.5 LIMITATIONS AND FUTURE DIRECTIONS

Specific limitations and future directions relevant to each study are discussed in Chapter 2 and Chapter 4. In this section, I discuss limitations and future directions of my dissertation research on a more broad level.

Both of my dissertation studies relied on Hewitt and Flett's (1991) model and measure of perfectionism. As outlined in Chapter 1, other models and measures of perfectionism exist (e.g., Frost et al. 1990; Multidimensional Perfectionism Scale), that

tap unique and important facets of perfectionism (e.g., concern over mistakes, doubts about actions). In addition, researchers have begun to integrate Hewitt and Flett's model with Frost et al.'s model into one comprehensive model of perfectionism (e.g., evaluative concerns perfectionism; Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000). Research supports the reliability and validity of the measures used in my dissertation studies. However, future research should test the models in Study 1 and Study 2 with other perfectionism dimensions (e.g., concern over mistakes) or with constructs that combine Hewitt and Flett's model with Frost et al.'s model (e.g., evaluative concerns perfectionism). This will allow us to determine whether my findings generalize to other measures of perfectionism and will provide insight into which dimensions of perfectionism are most related to perfectionism processes and self-defeating behaviours.

The majority of participants in Study 1, and all participants in Study 2, were young women. As such, I could not test for sex differences in my dissertation research. This is a limitation and an important future direction as evidence suggests that the self-defeating behaviours studied in my dissertation are relevant for both women and men (e.g., Hudson, Hiripi, Pope, & Kessler, 2007; Steel, 2007). It will also be important to test whether relationships between the variables in my two studies are relevant for both sexes. For example, men and women may respond to and cope with emotional distress (i.e., depressive affect) in different ways (Calvete, Camara, Estevez, & Villardon, 2011). Moreover, in testing the perfectionism model of binge eating, different patterns may emerge when studying young women and their relationships with their fathers, and young men and their relationships with their mothers and fathers. In summary, although the

present research provides valuable information relevant to young people, mostly young women, research testing the models in Study 1 and Study 2 in diverse samples is needed.

Both Study 1 and Study 2 involved a 7-day, 14-occasion, daily diary design. This design has many advantages including its ability to assess nuanced within person patterns that provides insight into dynamic processes and behaviours, greater ecological validity by studying how people think, feel, and behave in their regular environment, and improved reliability via repeated assessments and reporting events closer to their actual occurrence (Bolger et al., 2003; Conner, Feldman Barrett, Tugade, & Tennen, 2007). However, one important limitation of this approach is the extent to which repeatedly attending to and reporting on one's thoughts, feelings, and behaviours changes the occurrence of these thoughts, feelings, and behaviours (i.e., reactance; Conner et al., 2007). However, some research suggests that reactance associated with repeated assessments is minimal and less likely if participants complete multiple measures during each assessment and do not receive feedback on their responses (Affleck, Zautra, Tennen, & Armeli, 1999; Korotitsch & Nelson-Gray, 1999; Marco, Neale, Schwartz, Shiffman, & Stone, 1999). Although some evidence argues that reactance is minimal or diminished by using certain study characteristics, additional research studying the influence of reactance in daily diary studies of perfectionism and self-defeating behaviours is needed.

My dissertation relies exclusively on self-report measures, which is a limitation. While self-report measures remain the most commonly used form of assessment in personality research, such measures are limited in key ways. For example, participants' responses on self-report questionnaires may be inaccurate for a number of reasons including participants' attempts at self-enhancement (e.g., socially desirable responding),

participants' varying response styles (e.g., acquiescent or extreme responding), and limited insight into their personality, thoughts, feelings, and behaviours (Paulhus & Vazire, 2007). Future research should make use of other sources of information to test the models outlined in Study 1 and Study 2. For example, studies could include observer rating or direct behavioural observations. Observer ratings would allow researchers to obtain multiple reports (e.g., from peers, romantic partners) for each participant's perfectionism traits, perfectionism processes, affect, and self-defeating behaviours. Evidence suggests that significant others (e.g., peers, romantic partners) provide reliable and valid assessments of personality traits and related constructs (McCrae & Weiss, 2007). Thus, including information from observers may be a promising avenue for addressing some shortcomings associated with participants' self-reports. Direct behavioural observations provide a unique opportunity to see personality in action (Furr & Funder, 2007). This method of assessment could be useful for assessing aspects of participants' personality that may be particularly susceptible to socially desirable responding or limited insight. For example, in relation to my dissertation research, behaviour observations could be used to assess participants' interactions with others (e.g., with their mothers), and to assess participants' self-defeating behaviours (e.g., episodes of binge eating).

Another limitation of my dissertation research, and of most research on perfectionism and self-defeating behaviours, is the failure to include a role for behaviour genetics (i.e., the study of the inheritance of behavioural traits; Bazzett, 2008). Research suggests that self-defeating behaviours (especially binge eating) tend to aggregate in families (Hudson et al., 2006). For instance, individuals with one first-degree relative

diagnosed with binge eating disorder (i.e., an eating disorder involving binge eating in the absence of compensatory behaviours) are more likely to also suffer from binge eating disorder, when compared to individuals whose relatives did not have binge eating disorder (Fowler & Bulik, 1997). Additionally, twin studies and family studies suggest that 41.0% to 57.0% of the variability in binge eating is attributable to genetic factors (Javaras et al., 2008; Reichborn-Kjennerud, Bulik, Tambs, & Harris, 2004; Sullivan, Bulik, & Kendler, 1998). Thus, genetic influences likely represent the strongest and most parsimonious influences on a person's self-defeating behaviours. Future research using twin studies or adoption studies to understand and to differentiate environmental contributors and genetic contributors to self-defeating behaviours is an important next step. Building in a role for behavioural genetics has the potential to improve our understanding of the role of perfectionism in self-defeating behaviours.

While the results of my studies provide support for the role of socially prescribed perfectionism in contributing to maladjustment, broader personality disorders were not considered. Perfectionism might represent a lower order personality trait that contributes to a more encompassing personality disorder, such as obsessive compulsive personality disorder (APA, 2000; Halmi et al., 2005). Indeed, diagnostic criteria suggest that obsessive compulsive personality disorder is “a pervasive pattern of preoccupation with orderliness, perfectionism, and mental and interpersonal control, at the expense of flexibility, openness, and efficiency” (APA, 2000, p. 729). Therefore, it is possible that perfectionism exerts its destructive influence by contributing to obsessive compulsive personality disorder. Future research testing the role of perfectionism, in concert with other facets of obsessive compulsive personality disorder (e.g., orderliness, control), in

contributing to self-defeating behaviours is needed. However, researchers are cautioned in viewing perfectionism as solely a trait associated with obsessive compulsive personality disorder. At present, perfectionism as mentioned in the current Diagnostic and Statistical Manual of Mental Disorders (APA, 2000) is poorly defined and non-specific, making no mention of the multidimensional nature of the construct (Ayearst, Flett, & Hewitt, in press). Moreover, Ayearst et al. (in press) argue that perfectionism is one of many maladaptive personality traits that contribute to various forms of personality pathology, not just obsessive compulsive personality disorder. More research is needed to determine the unique and accumulative influences that perfectionism and broader personality disorders have on self-defeating behaviours.

A major strength of my dissertation research is the mixed longitudinal and daily diary approach. By using this design, I was able to temporally separate the predictors (e.g., socially prescribed perfectionism), the mediators (e.g., dietary restraint, and the outcomes (e.g., binge eating), thereby providing greater support for the hypothesized relationships. However, true experimental research is needed to make causal inferences, which provides certain challenges for personality researchers. True experimental research involves manipulating the independent variable to assess corresponding changes in the dependent variable. But researchers are not able to manipulate levels of personality traits such as socially prescribed perfectionism. Nor are we able to assign people to certain conditions where one condition induces high levels of socially prescribed perfectionism and another condition induces low levels of socially prescribed perfectionism. Personality traits (like socially prescribed perfectionism) are stable, individual differences that are not easily amenable to experimental manipulation (Revelle & Oehlberg, 2008). Despite this,

researchers are beginning to use experimental methods to test how traits combine with experimental variables to produce changes in various states (e.g., affect, thoughts, desires, behaviours; Revelle, 2007). For example, studies test how extraversion (a personality trait) combines with positive mood inducing stimuli (experimental variables) to produce changes in mood, performance, and psychophysiology (state variables; Larson & Ketelaar, 1989; Rogers & Revelle, 1998; Canli, Sivers, Whitfield, Gotlib, & Gabrieli, 2002). Testing how perfectionism interacts with experimental variables to produce changes in perfectionism processes (e.g., discrepancies, perfectionistic self-presentation), affect (e.g., depressive affect), or self-defeating behaviours (e.g., binge eating, procrastination) is a needed advancement to allow causal inferences to be made.

5.6 CONCLUDING REMARKS

The results of Study 1 and Study 2 help to explain why people who strive to be perfect for others often engage in imperfect, self-defeating behaviours such as binge eating, procrastinating, and creating conflict with others. It is often challenging for researchers, clinicians, and people suffering with socially prescribed perfectionism to understand why striving to be perfect for others often results in behaviours that are incongruent with this goal. My findings help to shed light on this seemingly paradoxical relationship.

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APPENDIX A. HEWITT AND FLETT MULTIDIMENSIONAL PERFECTIONISM SCALE

This measure is copyrighted and available through Multi-Health Systems (<http://www.mhs.com>). Sample items are provided below as listed in Hewitt and Flett (1991).

Self-Oriented Perfectionism

It makes me uneasy to see an error in my work.

One of my goals is to be perfect in everything I do.

I never aim for perfection in my work. (reverse-keyed)

I must work to my full potential at all times.

I must always be successful at school or work.

Socially Prescribed Perfectionism

The better I do, the better I am expected to do.

My family expects me to be perfect.

Those around me readily accept that I can make mistakes too. (reverse-keyed)

Anything that I do that is less than excellent will be seen as poor work by those around me.

APPENDIX B. FROST MULTIDIMENSIONAL PERFECTIONISM SCALE

Listed below are a number of statements concerning personal characteristics and traits. Read each item and decide whether you agree or disagree and to what extent. If you *strongly agree*, circle 5; if you *strongly disagree*, circle 1; if you feel somewhere in between, circle any one of the numbers between 1 and 5. If you feel neutral or undecided the midpoint is 3.

These questions are about the kind of person you generally are, that is, how you usually have felt or behaved over the past several years.

Interpersonal Perceptions Subscale

	Strongly Disagree		Strongly Agree		
1. Others criticize me for doing things less than perfect	1	2	3	4	5
2. I never feel like I can meet others' expectations	1	2	3	4	5
3. My parents always have higher expectations for my future than I have	1	2	3	4	5
4. I never feel I can meet my parents' standards	1	2	3	4	5

Personal Standards Subscale

	Strongly Disagree		Strongly Agree		
1. If I do not set the highest standards for myself, I am likely to end up a second-rate person.	1	2	3	4	5
2. It is important to me that I be perfect in everything I do.	1	2	3	4	5
3. I set higher goals than most people.	1	2	3	4	5
4. I am very good at focusing my efforts on attaining a goal.	1	2	3	4	5
5. I have extremely high goals.	1	2	3	4	5
6. Other people seem to accept lower standards from themselves than I do.	1	2	3	4	5
7. I expect higher performance in my daily tasks than most people.	1	2	3	4	5

APPENDIX C. EATING DISORDER INVENTORY

This is a scale which measures a variety of attitudes, feelings, and behaviours. Read each question and circle a number which applies best to you. Please answer each question very carefully.

These questions are about the kind of person you generally are, that is, how you usually have felt or behaved over the past several years.

NEVER = 1
 RARELY = 2
 SOMETIMES = 3
 OFTEN = 4
 USUALLY = 5
 ALWAYS = 6

NEVER ALWAYS

Socially Prescribed Perfectionism Subscale

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1. Only outstanding performance is good enough in my family | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. I try very hard to avoid disappointing others | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. My parents expect perfection of me | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. It often feels as if people make excessive demands of me | 1 | 2 | 3 | 4 | 5 | 6 |

Self-Oriented Perfectionism Subscale

- | | | | | | | |
|--|-------|---|---|---|---|--------|
| | NEVER | | | | | ALWAYS |
| 1. I hate being less than best at things..... | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. I feel that I must do things perfectly or not do them at all..... | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. I have extremely high goals | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. I set impossibly high standards for myself..... | 1 | 2 | 3 | 4 | 5 | 6 |

APPENDIX D. MULTIDIMENSIONAL DISCREPANCIES INVENTORY

This scale asks you to estimate the extent to which actual tendencies and behaviours relate to goals, and expectancies, etc. For each of the questions below, indicate your response by selecting a number between “1” and “4,” using the following scale:

1 = not at all 2 = slightly 3 = moderately 4 = very much

SINCE YOUR LAST ENTRY, TO WHAT EXTENT...

1. Did your behaviours fall short of other people’s expectations?..... 1 2 3 4
2. Was there a gap between how you were and how other people
would have liked you to be? 1 2 3 4
3. Were you dissatisfied with your ability to live up to the standards
that other people have imposed on you? 1 2 3 4

APPENDIX E. ALMOST PERFECT SCALE REVISED

Discrepancy Subscale

This is a questionnaire designed to measure your feelings, thoughts and behaviours **SINCE YOUR LAST ENTRY**. Read each item and decide whether you agree or disagree and to what extent. If you **strongly agree**, select 7; if you **strongly disagree**, select 1; if you feel somewhere in between, select any one of the numbers between 1 and 7. If you feel neutral or undecided the midpoint is 4.

SINCE MY LAST ENTRY...

	Strongly Disagree						Strongly Agree
1. I was unable to meet others' standards for performance	1	2	3	4	5	6	7
2. My performance did not measure up to others' standards	1	2	3	4	5	6	7
3. Others were dissatisfied with my performance	1	2	3	4	5	6	7

APPENDIX F. DEPRESSIVE EXPERIENCES QUESTIONNAIRE REVISED

This is a questionnaire designed to measure your feelings, thoughts and behaviours **SINCE YOUR LAST ENTRY**. Read each item and decide whether you agree or disagree and to what extent. If you **strongly agree**, select 7; if you **strongly disagree**, select 1; if you feel somewhere in between, select any one of the numbers between 1 and 7. If you feel neutral or undecided the midpoint is 4.

SINCE MY LAST ENTRY...

	Strongly Disagree						Strongly Agree
1. I found that I didn't live up to others' standards or ideals for me	1	2	3	4	5	6	7
2. There was a considerable difference between how I was and how others would have liked me to be	1	2	3	4	5	6	7
3. Others were not satisfied with what I had accomplished	1	2	3	4	5	6	7

APPENDIX G. PERFECTIONISTIC SELF-PRESENTATION SCALE

<p>READ EACH ITEM AND DECIDE WHETHER YOU AGREE OR DISAGREE AND TO WHAT EXTENT. If you <i>strongly agree</i>, select 7; if you <i>strongly disagree</i>, select 1; if you feel somewhere in between, select any one of the numbers between 1 and 7. If you feel neutral or undecided the midpoint is 4. These questions are about how you felt or behaved SINCE YOUR LAST ENTRY.</p>							
	Strongly Disagree			Strongly Agree			
1. I tried to seem perfect so others would see me more positively	1	2	3	4	5	6	7
2. I tried to always appear to be perfect	1	2	3	4	5	6	7
3. I strived to look perfect to others	1	2	3	4	5	6	7
4. I thought it was <i>not</i> okay to admit mistakes to others	1	2	3	4	5	6	7
5. I thought admitting failure to others is the worst possible thing	1	2	3	4	5	6	7
6. I tried to keep my faults to myself	1	2	3	4	5	6	7
7. I thought it would be awful if I made a fool of myself in front of others	1	2	3	4	5	6	7
8. I was concerned about making errors in public	1	2	3	4	5	6	7
9. I thought that failing at something is awful if other people know about it	1	2	3	4	5	6	7

Items 1-3 are from the Perfectionistic Self-Promotion subscale, items 4-6 are from the Non-Disclosure of Imperfection subscale, and items 7-9 are from the Non-Display of Imperfection subscale.

APPENDIX H. PROFILE OF MOOD STATES DEPRESSION SUBSCALE

Below is a list of words that describe feelings people have. Please read each one carefully. For each word, select the number which best describes how you have felt **SINCE YOUR LAST ENTRY**.

The numbers refer to the following descriptive phrases:

- 0 = Not at all
- 1 = A little
- 2 = Moderately
- 3 = Quite a bit
- 4 = Extremely

- | | | | | | | |
|----|-----------------|---|---|---|---|---|
| 1. | hopeless..... | 0 | 1 | 2 | 3 | 4 |
| 2. | worthless | 0 | 1 | 2 | 3 | 4 |
| 3. | sad | 0 | 1 | 2 | 3 | 4 |

APPENDIX I. DEPRESSION ADJECTIVE CHECKLIST FORM G

Below is a list of words that describe feelings people have. Please read each one carefully.
For each word, select the number which best describes how you have felt
SINCE YOUR LAST ENTRY.

The numbers refer to the following descriptive phrases:

- 0 = Not at all
- 1 = A little
- 2 = Moderately
- 3 = Quite a bit
- 4 = Extremely

- | | | | | | | |
|----|-----------------|---|---|---|---|---|
| 1. | depressed..... | 0 | 1 | 2 | 3 | 4 |
| 2. | lifeless | 0 | 1 | 2 | 3 | 4 |
| 3. | miserable | 0 | 1 | 2 | 3 | 4 |

APPENDIX J. POSITIVE AND NEGATIVE AFFECT SCHEDULE EXPANDED
FORM

Sadness Subscale

Below is a list of words that describe feelings people have. Please read each one carefully. For each word, select the number which best describes how you have felt **SINCE YOUR LAST ENTRY**.

The numbers refer to the following descriptive phrases:

0 = Not at all

1 = A little

2 = Moderately

3 = Quite a bit

4 = Extremely

- | | | | | | | |
|----|------------------|---|---|---|---|---|
| 1. | downhearted..... | 0 | 1 | 2 | 3 | 4 |
| 2. | alone..... | 0 | 1 | 2 | 3 | 4 |
| 3. | lonely..... | 0 | 1 | 2 | 3 | 4 |

APPENDIX K. EATING DISORDER INVENTORY BINGE EATING SUBSCALE

This is a scale which measures a variety of attitudes, feelings and behaviours **SINCE YOUR LAST ENTRY.**

If you **strongly agree**, select 7; if you **strongly disagree**, select 1; if you feel somewhere in between, select any one of the numbers between 1 and 7. If you feel neutral or undecided the midpoint is 4.

SINCE MY LAST ENTRY...

	Strongly Disagree					Strongly Agree
1. I stuffed myself with food	1	2	3	4	5	6 7
2. I went on an eating binge (or eating binges) where I felt that I could not stop	1	2	3	4	5	6 7
3. I thought about bingeing (overeating).....	1	2	3	4	5	6 7
4. I ate moderately in front of others and stuffed myself when they were gone	1	2	3	4	5	6 7

APPENDIX L. PROCRASTINATION SCALE

Read each item and decide whether you agree or disagree and to what extent. If you strongly agree, select 7; if you strongly disagree, select 1; if you feel somewhere in between, select any one of the numbers between 1 and 7. If you feel neutral or undecided the midpoint is 4.

These questions are about how you felt or behaved **SINCE YOUR LAST ENTRY**.

SINCE MY LAST ENTRY...

	Strongly Disagree						Strongly Agree
1. I wasted time but I couldn't seem to do anything about it.	1	2	3	4	5	6	7
2. I promised myself I'd do something and then dragged my feet (i.e., delayed).	1	2	3	4	5	6	7
3. I wasted time instead of starting on work I had to do.	1	2	3	4	5	6	7
4. I needlessly delayed finishing jobs.	1	2	3	4	5	6	7
5. When I had a task to complete, I waited until the last minute.	1	2	3	4	5	6	7

APPENDIX M. CONFLICTUAL BEHAVIORS TOWARDS OTHERS

Please indicate how well each of the following behaviours described YOU when you were with other people SINCE YOUR LAST ENTRY.											
1. critical/ judgmental	Not at all characteristic	1	2	3	4	5	6	7	8	9	Completely characteristic
2. controlling/ dominant	Not at all characteristic	1	2	3	4	5	6	7	8	9	Completely characteristic
3. moody/ irritable	Not at all characteristic	1	2	3	4	5	6	7	8	9	Completely characteristic
4. distant	Not at all characteristic	1	2	3	4	5	6	7	8	9	Completely characteristic
5. jealous	Not at all characteristic	1	2	3	4	5	6	7	8	9	Completely characteristic

APPENDIX N. PSYCHOLOGICAL CONTROL SCALE

- 1 = Not like me
- 2 = Somewhat like me
- 3 = A lot like me

These statements are about the kind of person **you** generally are, that is, how **you** usually have felt or behaved over the past several years.

1. I change the subject, whenever my daughter has something to say.
2. I finish my daughter's sentences whenever she talks.
3. I often interrupt my daughter.
4. I act like I know what my daughter is thinking or feeling.
5. I would like to be able to tell my daughter how to feel or think about things all the time.
6. I am always trying to change how my daughter feels or thinks about things.
7. I blame my daughter for other family members' problems.
8. I bring up my daughter's past mistakes when I criticize her.

APPENDIX O. DUTCH RESTRAINED EATING SCALE

This is a questionnaire designed to measure your thoughts and behaviours SINCE YOUR LAST ENTRY. Try to answer all of the items, even if you are not certain of the best answer. If you *strongly agree*, select 5; if you *strongly disagree*, select 1; if you feel somewhere in between, select any one of the numbers between 1 and 5. If you feel neutral or undecided the midpoint is 3.

SINCE MY LAST ENTRY...

	Strongly Disagree				Strongly Agree
1. I refused food or drink offered because I was concerned about my weight	1	2	3	4	5
2. I deliberately ate less in order not to become heavier	1	2	3	4	5
3. I tried not to eat between meals because I was watching my weight	1	2	3	4	5
4. I tried not to eat because I was watching my weight	1	2	3	4	5

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License date	Sep 20, 2012
Licensed content publisher	Elsevier
Licensed content publication	Journal of Research in Personality
Licensed content title	Understanding the Socially Prescribed Perfectionist's Cycle of Self-Defeat: A 7-Day, 14-Occasion Daily Diary Study
Licensed content author	Aislin R. Mushquash, Simon B. Sherry
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Expected completion date	Sep 2012
Estimated size (number of pages)	160
Elsevier VAT number	GB 494 6272 12
Permissions price	0.00 USD
VAT/Local Sales Tax	0.00 USD / GBP
Total	0.00 USD