

Perfectionism From Inside and Outside: Clarifying the Role of Intra- and Interpersonal Processes in Predicting Maladjustment Using Multi-Source and Intensive Longitudinal Methods

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Abstract

Life as a post-secondary student can be volatile and stressful, and illustrated by maladjustment (e.g., depressive symptoms). It is critical to understand factors that increase the risk for negative outcomes that can occur during this time. The current research examined dispositional perfectionism and interpersonal contexts as vulnerability factors for maladjustment in undergraduate students using multi-source and intensive longitudinal methods (e.g., daily diaries). There is evidence that dimensions of perfectionism are specific vulnerability factors for maladjustment especially in the presence of congruent stressors. Research also highlights the importance of investigating the perfectionism-maladjustment relationship within interpersonal contexts. In study 1, we tested the specific vulnerability hypothesis by assessing the extent to which socially prescribed perfectionism and self-oriented perfectionism impacted the stressfulness of congruent stressors (i.e., interpersonal stress and achievement stress, respectively), resulting in maladjustment among undergraduate students. The targets ($N = 296$) from study 1, identified members of their social network (i.e., influencers) to participate in study 2. Influencers ($N = 720$) reported on their own perfectionistic expectations to allow for an evaluation of targets' interpersonal contexts. Specifically, we tested an indirect effect of perfectionistic climate (reported by influencers) on targets' maladjustment via targets' socially prescribed perfectionism. We also evaluated the perfectionism social disconnection model, which suggests that interpersonal difficulties mediate the relationship between perfectionism and maladjustment. In study 1, the multilevel mixed models did not support the specific vulnerability hypothesis, although daily interpersonal stress and achievement stress predicted daily depressive affect. In study 2, path analyses showed that there were significant relations observed between targets' socially prescribed perfectionism and maladjustment outcomes (e.g., stress, depressive

symptoms, negative affect). There was no evidence to support the effect of the perfectionistic climate (reported by influencers) on targets' maladjustment. Lastly, there was partial support for the perfectionism social disconnection model, which suggested that targets' interpersonal difficulties (e.g., poor social self-esteem) mediated the relationship between targets' socially prescribed perfectionism and depressive symptoms. Targets' neuroticism emerged as an independent predictor of maladjustment across the analyses, further emphasizing the need to test models for incremental validity. This program of research addressed major methodological and statistical gaps in the literature and helped to inform strategies for prevention and intervention with undergraduate students who might be struggling with unrealistic pressures for perfection and adjustment difficulties. Specifically, a multilevel approach (e.g., individual, institutional) that emphasizes early mental health literacy, mental health curriculum in schools, individual intervention, and education for caregivers and professionals in educational and workplace settings is presented.

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Chapter 1. Introduction

The psychological well-being of post-secondary students is considered a public health concern (Eisenberg et al., 2007; Liu et al., 2019; Stallman, 2010). For example, research surveys report prevalence estimates for depressive disorders ranging from 10% to 85% in university students (Auerbach et al., 2018; Eisenberg et al., 2007; Ibrahim et al., 2013; Moghimi et al., 2023). Additional survey data reveals that 7-16% of post-secondary students report suicidal thoughts and behaviours at some point within their lifetime (Mortier et al., 2018; Ontario University and College Health Association [OUCHA], 2016), and within an undergraduate sample, 24% report suicidal ideation and 9% report suicide attempts in the previous year (Liu et al., 2019). According to the American College Health Association's (ACHA, 2019) assessment of health trends and behaviours among post-secondary institutions in Canada, approximately 88% report feeling overwhelmed, 64% report feeling hopeless, 76% report feeling sadness, and 69% report feelings of anxiety at some point within the previous 12-month period. Survey data of Canadian undergraduate students show 19%-28% report symptoms of depression and 33%-65% report symptoms of anxiety (Duffy et al., 2020; Meckamalil et al., 2022; Woodgate et al., 2020). It is apparent that symptoms of mental illness, such as anxiety and depression, are a prevalent concern for Canadian post-secondary students.

Students are particularly vulnerable to the many stressors that may be experienced throughout post-secondary education (Hirsch et al., 2019; Linden et al., 2022). The stressors that students experience throughout their post-secondary education may include financial difficulties, academic problems (e.g., lower grades than expected), interpersonal issues (e.g., roommate issues, conflicts with peers), family issues, and separation from support systems (Aselton, 2012; Cadaret & Bennett, 2019; Eisenberg et al., 2007; Hirsch et al., 2019; Lester, 2014; Linden et al.,

2022). In ACHA's (2019) survey, 61% of Canadian post-secondary students report experiencing "more than average" or "tremendous" levels of stress. In another Canadian health survey, odds ratio estimates indicate that post-secondary students have a greater likelihood of experiencing persistent stress compared to nonstudents of the same age range (18 to 25 years; Wiens et al., 2020). These elevated levels of perceived stress can have a significant negative impact on mental health, particularly the development and maintenance of depression and suicidal ideation (Hirsch et al., 2019; Lester, 2014). For instance, in a cross-sectional study of self-reported perceived stress, depressive symptoms, and suicidal behaviour, Hirsch and colleagues (2019) found that depression symptoms were a significant mediator of the relationship between perceived stress and suicidal behaviour in college students. It was concluded that college students that experience greater levels of perceived stress (e.g., social, financial, academic) may feel overwhelmed and unable to cope which may result in a worsening of feelings of sadness and hopelessness that may further exacerbate other symptoms of depression such as suicidal behaviour. Altogether, the literature highlights the vulnerability of post-secondary students and the impact of perceived stress experienced throughout post-secondary education.

According to the American Psychological Association (2018, Maladjustment section), maladjustment is described as an "inability to maintain effective relationships, function successfully in various domains, or cope with difficulties and stresses." Maladjustment is displayed in various forms including, symptoms of depression, anxiety, and eating disorders, obsessive-compulsivity, suicidal ideation, and stress (see Chang, 2002; Chang & Rand, 2000; Chen et al., 2017; Flett et al., 2007; Hewitt & Flett, 1991; Kawamoto & Furutani, 2018; Wick et al., 2020). Maladjustment experienced by post-secondary students may also be reflected by impairments in the ability to work and study (Stallman, 2010). Longitudinal studies suggest that

university students with depressive symptoms tend to report lower grade point averages (Duffy et al., 2020), especially compared to students without symptoms of depression (Hysenbegasi et al., 2005). Andrews and Wilding (2004) looked at symptoms of depression and anxiety and adverse life experiences in university students a month prior to entering university and during the second year of university. They found that 29% of the university students that entered without symptoms, later developed mild anxiety or depression in their second year. Moreover, relationship and financial difficulties experienced in the second year (reported by 20-29% of the students) were associated with greater levels of depression, and both depression and financial difficulties had a negative impact on exam performance (Andrews & Wilding, 2004). The research findings converge upon the significant interplay between stressors and maladjustment in university students.

Beginning in March 2020, the COVID-19 pandemic brought about significant changes for post-secondary students such as school closures, academic disruptions and uncertainty, and restrictions on social gatherings (Jacobs et al., 2023; Zhu et al., 2021). The drastic changes added to students' stress (Keyserlingk et al., 2022), resulting in elevated mental health challenges (Jacobs et al., 2023; Moghimi et al., 2023). A study of American college students comparing students' well-being before (i.e., Fall 2019) and after (i.e., Fall 2020) the lockdown period of the pandemic, found a 32% prevalence increase in psychological distress, as well as an increase in the negative impact of anxiety or depression on academic performance, loneliness, suicidality, and stress (Jacobs et al., 2023). In a sample of Canadian undergraduate students, 59.6% reported symptoms of depression and 58% reported symptoms of anxiety (Moghimi et al., 2023). A meta-analysis of the global prevalence of depression and anxiety among post-secondary students indicated that 30.6% reported moderate to severe depressive symptoms and 28.2% reported

moderate to severe anxiety symptoms during the COVID-19 pandemic (Zhu et al., 2021). Altogether, evidence suggests that post-secondary students' psychological distress was particularly elevated during the COVID-19 pandemic.

It is clear that life throughout post-secondary education can be a volatile and stressful time for young adults, evidenced by the presence of maladjustment. Thus, it is critical to understand contributing factors that increase the risk for negative outcomes that can occur during this time (Henin & Berman, 2016). In addition, developing explanatory models can inform targeted prevention and intervention strategies for university students (Misra et al., 2000; Smith, Sherry, McLarnon, et al., 2018). The current program of research consisted of two studies that examined vulnerability factors for maladjustment outcomes in university students. For the current program of research, the maladjustment outcomes of interest included stress, depressive affect, depressive symptoms, negative affect, and positive affect. This chapter begins with an introduction to perfectionism as a key vulnerability factor of interest for the current research. Following the description of perfectionism, the diathesis-stress and specific vulnerability models linking individual perfectionism to maladjustment are discussed as they were the primary focus of study 1. Since the perfectionism-maladjustment relationship occurs within interpersonal contexts, a review of interpersonal factors that influence this relationship is presented. Specifically, perfectionistic climate and the perfectionism social disconnection model are outlined, and the models evaluated in study 2 are reviewed.

Perfectionism

Perfectionism is a “personality style” (Smith, Sherry, Ge, et al., 2021, p. 3) that can operate at several levels within an individual, including trait dimensions, perfectionistic self-presentational components, and perfectionistic cognitions (Flett & Hewitt, 2002; Flett et al.,

2022; Gotwals et al., 2003; Hewitt & Flett, 1991; Hewitt et al., 1996; Hewitt et al., 2017; Hill et al., 2015; Smith, Sherry, Ge, et al., 2021). Although perfectionism is defined in various ways, there is consistency across the literature that perfectionism is not merely setting high standards but includes pathological components, such as overconcerns for mistakes, preoccupations with precision, critical evaluations of the self, and interpersonal sensitivity, that have been associated with psychological disturbances (Flett & Hewitt, 2002; Frost et al., 1990; Hewitt & Flett, 2002; Limburg et al., 2017; Smith et al., 2016). Trait dimensions of perfectionism, that is, the stable factors that drive perfectionistic cognitions and behaviours, are of primary interest for the current studies. More specifically, Hewitt and Flett's (1991) conceptualization of trait perfectionism as a deeply ingrained need for perfection with different sources and targets of perfection is central to the current research. Hewitt and Flett (1991) empirically identified dimensions of trait perfectionism that are: directed towards the self (self-oriented), perceived to be inflicted on the self from others (socially prescribed), and imposed on others (other-oriented).

Self-oriented perfectionism is conceptualized as coming from within the self, such that the individual forms their own set of expectations to be perfect and experiences a hypersensitivity to perceived failure and critical self-evaluations (Flett et al., 2022; Hewitt & Flett, 2002). Socially prescribed perfectionism is viewed as an interpersonal dimension reflected by the perception of unrealistic demands from others and believing that one is not able to meet such demands and thus there is a focus on the perceived failure to meet the high standards of others. Other-oriented perfectionism is also an interpersonal dimension of perfectionism that is displayed as unrealistic expectations for others to be perfect, including, romantic partners, employees, and children.

There is a documented rise in perfectionism in recent generations of post-secondary students (Curran & Hill, 2019). Meta-analyses of studies evaluating perfectionism in college students from 1989 to 2016 show a linear increase in self-oriented perfectionism, socially prescribed perfectionism and other-oriented perfectionism (Curran & Hill, 2019; Smith et al., 2019). Therefore, it is particularly important to examine the adverse effects of the multiple dimensions of perfectionism since the current generation of post-secondary students are more likely than ever before to perceive social contexts as increasingly demanding, feel judged more harshly, and strive for perfection in order to receive approval from others (Curran & Hill, 2019).

Relations Between Dimensions of Perfectionism and Maladjustment

In this section we begin with a review of the literature that examines relations between Hewitt and Flett's (1991) dimensions of perfectionism and maladjustment outcomes (Smith et al., 2016) and then we focus on major findings for maladjustment outcomes for each dimension of perfectionism individually. In a meta-analysis of studies assessing the relationship between perfectionism and psychopathology, Limburg and colleagues (2017) examined the role of all dimensions of perfectionism. Results indicated that both socially prescribed perfectionism and self-oriented perfectionism were positively associated with psychopathology outcomes across studies with clinical and non-clinical samples. Specifically, socially prescribed perfectionism was a significant positive predictor of psychological disorders including depression, anxiety, obsessive-compulsive disorder and anorexia nervosa and symptoms of psychopathology including, depressive symptoms, anxiety, worry, obsessive beliefs, and social phobia. Self-oriented perfectionism was associated with depression and anorexia nervosa and symptoms of worry, obsessive beliefs, and disordered eating. Other-oriented perfectionism emerged as a negative predictor of psychopathology, which suggested that it may be more of a protective

factor than a risk factor for individuals. Consistent with previous research, the results showed that socially prescribed perfectionism had a larger effect for psychopathology outcomes compared to the other dimensions. Limburg and colleagues (2017) identified that the majority of the studies involved correlational designs which limited the inferences that could be made about the relationship between perfectionism and psychopathology.

Another meta-analysis that focused specifically on longitudinal studies of perfectionism dimensions as vulnerability factors for depressive symptoms also found support for socially prescribed perfectionism and self-oriented perfectionism as vulnerability factors, beyond the influence of neuroticism (Smith et al., 2016). Socially prescribed perfectionism and self-oriented perfectionism had a unique significant positive effect, meaning that they were both positively associated with later depressive symptoms after controlling for baseline depression and neuroticism. It was noted that socially prescribed perfectionism had a larger mean effect size compared to self-oriented perfectionism, which suggested that socially prescribed perfectionism had a stronger influence on depressive symptoms (Smith et al., 2016). Smith and colleagues (2016) noted that in their search for studies, most of the studies reviewed were cross-sectional and did not control for neuroticism - two significant limitations in the literature. Neuroticism is a higher-order personality trait reflected by a propensity for negative emotions, hostility, and impulsivity that is closely associated with lower-order traits such as perfectionism, and depressive symptoms (Costa & McCrae, 1992; Smith et al., 2016). Therefore, without controlling for neuroticism it becomes less clear the extent to which perfectionism specifically predicts maladjustment outcomes beyond other overlapping factors such as neuroticism (Smith et al., 2016). Further, cross-sectional study designs lack the ability to address changes in depressive symptoms over time. Therefore, the researchers suggested that future research of the

perfectionism-depression link should account for potential overlap with neuroticism and use longitudinal designs. Together, these meta-analyses indicate that the different dimensions of perfectionism may be related to psychopathology in different directions and to different degrees, and therefore it is important to examine the subscales separately to identify their distinct relations with maladjustment (Limburg et al., 2017).

More recently, in a meta-analysis of longitudinal studies of samples including psychiatric patients, community members, and university students, Smith, Sherry, Ray, and colleagues (2021) questioned whether there was a reciprocal relationship between perfectionism and depressive symptoms. They found that socially prescribed perfectionism and self-oriented perfectionism were vulnerability factors for depressive symptoms, and not complications of depressive symptoms. Support for a unidirectional relationship between socially prescribed perfectionism and depression suggests the underlying belief of pressure from others to be perfect leads to thoughts, feelings, and behaviours which are consistent with depression (Smith, Sherry, Ray et al., 2021). Further, the need to achieve perfection for the self was associated with greater depressive symptoms. In their review of the longitudinal studies, the authors noted that all of the studies relied on mono-source designs and suggested the need for informant reports when studying constructs such as perfectionism, given that individuals may feel the need to present in a way that is perceived to be desirable (Smith, Sherry, Ray, et al., 2021).

The Relationship Between Socially Prescribed Perfectionism and Maladjustment

Socially prescribed perfectionism, often described as the most debilitating compared to the other dimensions of perfectionism, is consistently associated with psychopathology in university students, such as depression and suicidal ideation (e.g., Chang & Rand, 2000; Curran & Hill, 2019; Flett et al., 2007; Flett et al., 2014; Flett et al., 2022; Hewitt & Flett, 1991; Hewitt

et al., 1994; Hewitt et al., 2022; Klibert et al., 2014; Limburg et al., 2017; Martin et al., 1996; Shafran et al., 2001; Sherry et al., 2003; Smith et al., 2016). For example, in a cross-sectional study, Martin and colleagues (1996) found that socially prescribed perfectionism was a significant unique predictor of self-report symptoms of depression in university students. Their analyses indicated that socially prescribed perfectionism explained unique variance in depressive symptoms, beyond other dimensions of perfectionism (e.g., self-oriented perfectionism, other-oriented perfectionism). Similarly, Sherry and colleagues (2003) found that socially prescribed perfectionism was a unique predictor of depressive symptoms in university students beyond other dimensions of perfectionism (e.g., self-oriented perfectionism, other-oriented perfectionism), as well as dependent attitudes (i.e., need for admiration) and perfectionistic attitudes. In another cross-sectional study, Flett and colleagues (2007) found that socially prescribed perfectionism was a significant predictor of depressive symptoms in university students. Altogether, these correlational findings indicate that students with elevated socially prescribed perfectionism may be at greater risk for elevated levels of depression compared to students lower in socially prescribed perfectionism.

In a meta-analysis of the perfectionism-suicide relationship, Smith, Sherry, Chen and colleagues (2018) found that socially prescribed perfectionism was associated with longitudinal elevations in suicidal ideation in samples of undergraduate students, community members, and psychiatric patients. The studies that were evaluated showed that for individuals who perceive their social world as filled with pressure, judgement, and criticism, more negative thoughts (e.g., suicidal ideation) were experienced. The researchers noted that although more longitudinal research designs are being used, the literature is still limited by cross-sectional studies that lack the ability to test the temporal sequence of risk factors and maladjustment outcomes. Further,

Smith, Sherry, Chen and colleagues (2018) suggested that future research should test models to explain when and why perfectionism is associated with other constructs (e.g., stress, social issues) to predict suicidality.

Socially prescribed perfectionism also has an influence on people's daily lives, including their daily mood (Harper, Eddington, Lunsford, et al., 2020). Harper, Eddington, Lunsford, and colleagues (2020) conducted a study of perfectionism and daily emotions in a sample of university students using a daily diary methodology (i.e., completing daily online surveys for 14 days). The results indicated that socially prescribed perfectionism was a significant predictor of daily negative affect including sadness and guilt. This finding highlights the influence of stable traits that may vary between individuals, such as socially prescribed perfectionism, on the daily experiences of emotion in university students.

Researchers theorize that socially prescribed perfectionism may contribute to depression due to interpersonal sensitivity, preoccupation with others, and a strong need for approval from others in order to avoid negative evaluation (Flett et al., 1997; Hewitt & Flett, 1991; Hewitt & Flett, 1993; Hewitt et al., 2006). Feelings of loneliness and hopelessness are inherent in socially prescribed perfectionism because individuals who endorse the beliefs that the better they do, the better they are expected to do, often feel socially rejected and that the perceived demands from others can never be satisfied (Flett et al., 1997; Hewitt & Flett, 1991; Hewitt & Flett, 1993; Hewitt et al., 2006; Hewitt et al., 2017). These feelings of loneliness, hopelessness, and helplessness that socially prescribed perfectionists experience are conceptualized as precursors for maladjustment (Hewitt et al., 2017).

The Relationship Between Self-Oriented Perfectionism and Maladjustment

Although self-oriented perfectionism has shown weaker associations with maladjustment compared to socially prescribed perfectionism, it is associated with depression across the literature (e.g., Hewitt & Flett, 1993; Hewitt et al., 2017; Limburg et al., 2017; Smith et al., 2016; Smith, Sherry, Ray, et al., 2021). Early cross-sectional research conducted by Hewitt and Flett provides evidence for significant and positive correlations between self-oriented perfectionism and self-reported depressive symptoms in university students (Hewitt & Flett, 1990; Hewitt & Flett, 1991). Harper, Eddington, Lunsford, and colleagues' (2020) daily diary study showed that self-oriented perfectionism strengthened the relationship between negative attribution (e.g., tendency to blame oneself for failure) and daily sadness, suggesting that when university students with greater self-oriented perfectionism experienced negative attributions in their daily life, it was associated with heightened sadness. Their findings offer some support for the relationship between self-oriented perfectionism and maladjustment (e.g., sadness) within the presence of contextual factors (e.g., negative attributions; Harper, Eddington, Lunsford, et al., 2020).

Theoretically, the maladaptive aspects of self-oriented perfectionism may be linked to depressive symptoms due to a strict adherence to high personal standards and constant self-evaluation (Hewitt & Flett, 1993). Self-oriented perfectionists feel they must obtain absolute perfection and anything less than that is interpreted as flawed (Hewitt et al., 2017). Even if individuals with elevated self-oriented perfectionism perform well, they are unable to enjoy any successes as they are very self-critical and tend to find some fault in their performance (Hewitt et al., 2017). This negative view of the self creates a vulnerability for depression because there is a heightened focus on failures paired with self-punishment (Hewitt & Flett, 1993; Hewitt et al., 2017).

The Relationship Between Other-Oriented Perfectionism and Maladjustment

Other-oriented perfectionism is inconsistently associated with depressive symptoms (e.g., Chang & Rand, 2000; Chen et al., 2017; Limburg et al., 2017). For example, Hewitt and Flett (1990) found a significant and positive correlation between other-oriented perfectionism and depressive symptoms in a cross-sectional study with a sample of university students, while other researchers have documented evidence for either no relationship or a negative relationship with symptoms of depression. For instance, in Smith Sherry, Chen and colleagues' (2018) meta-analysis, there were no significant relationships between being higher in other-oriented perfectionism and experiencing more suicidal ideation and attempts across the studies evaluated.

A study conducted by Chen and colleagues (2017) which was included in the meta-analysis above, highlights a potential explanation for the inconsistent relationship between other-oriented perfectionism and depressive symptoms. They investigated associations between other-oriented perfectionism and depressive symptoms and suicidal behaviours in European Canadian and Asian Canadian university students using a cross-sectional study design. Their results showed that there were different relationships between other-oriented perfectionism and psychological adjustment, based on the ethnicity of the participants. Specifically, Asian Canadians with elevated other-oriented perfectionism reported significantly higher levels of suicidal ideation, while European Canadians with elevated other-oriented perfectionism reported lower levels of suicidal ideation. This study highlights that for Western cultures, other-oriented perfectionism may be more protective compared to collectivistic Asian cultures (Chen et al., 2017).

Theoretically, other-oriented perfectionism may not be consistently and directly related to depression because there is an external focus (Hewitt & Flett, 1993). For those higher in other-

oriented perfectionism, the demands for perfection are projected externally to others, therefore the distress associated with such demands may be put onto others rather than being internalized (Chen et al., 2017; Hewitt & Flett, 1991). It is often the individuals that are the recipients of the demands that suffer (Smith, Sherry, Mushquash, et al., 2017). Other-oriented perfectionism may contribute indirectly to distress due to difficulties maintaining stable relationships (Hewitt & Flett, 1991; Hewitt & Flett, 1993).

The perfectionism dimensions each have the potential to pose significant risk for adjustment difficulties in university students (Hewitt et al., 2017). As a trait, perfectionism may have adverse effects at intrapersonal and/or interpersonal levels (Smith Sherry, Ge, et al., 2021). Additional research that can advance the correlational findings of the relationship between perfectionism and maladjustment is important because it provides a way to identify individuals at-risk, identify factors that contribute to the worsening of psychological distress, and it informs potential treatment interventions that are needed for university students (Hewitt et al., 1996). Smith, Sherry, Chen and colleagues (2018) add that future research should empirically test models to explain when and why perfectionism combines with other constructs (e.g., stress, social issues) to predict maladjustment. In the evaluation of such models, it is important to test the extent to which perfectionism adds incrementally beyond other predictors to enhance our understanding of the specific effects of perfectionism on maladjustment. Therefore, the current research investigated dimensions of perfectionism as vulnerability factors for maladjustment in conjunction with intrapersonal (e.g., individual stress) and interpersonal contexts (e.g., perfectionistic climate) using intensive longitudinal methods. In study 1, we investigated specific dimensions of perfectionism and daily stressors that contribute to maladjustment outcomes in

university students. In study 2, we examined the influence of dimensions of perfectionism within interpersonal contexts that further explain adjustment difficulties in university students.

Dispositional Perfectionism and Specific Vulnerability to Maladjustment

Diathesis-Stress Model

Over the past few decades, researchers have attempted to explain the link between dimensions of perfectionism and maladjustment. An initial theory was the *diathesis-stress model* of perfectionism, which suggested that perfectionism was a risk factor for maladjustment triggered by life stress (Chang & Rand, 2000; Flett et al., 1995; Hewitt & Dyck, 1986; Hewitt & Flett, 1993; Hewitt & Flett, 2002; Hewitt et al., 2017; Smith et al., 2016). Hewitt and Flett (2002) expanded on the original description of the diathesis-stress model, and proposed that perfectionists may be predisposed to maladjustment through various stress mechanisms. For example, individuals higher in perfectionism may experience higher levels of stress in different forms compared to those that are lower in perfectionism, which makes perfectionists more vulnerable to the experiences of negative life events. Perfectionistic tendencies may amplify the experience of daily hassles (e.g., dissatisfaction with academic performance, conflicts with friends or romantic partners, social isolation), making them more aversive (Hewitt & Flett, 2002; Kohn et al., 1990). Perfectionism may also generate more daily stressors and perpetuate the negative effects of stress since perfectionists often engage in frequent and stringent self-evaluation and focus on the negative aspects of performance (Flett et al., 1995; Hewitt et al., 1996; Smith et al., 2020). Altogether, the diathesis-stress model emphasizes the contribution of stress to the relationship between perfectionism and maladjustment.

Some empirical support for the diathesis-stress model has been displayed through longitudinal studies. For example, in Chang and Rand's (2000) longitudinal study of the

diathesis-stress model in college students, their findings demonstrated that the positive relationship between socially prescribed perfectionism and maladjustment (i.e., depression, anxiety, hostility and hopelessness) reported one month later was exacerbated by self-reported stress. In situations where there were lower stress levels reported, the relationship between socially prescribed perfectionism and maladjustment was nonsignificant. In situations where there were higher levels of stress reported, there was a significant positive relationship between socially prescribed perfectionism and maladjustment. However, the diathesis-stress model was not supported for self-oriented or other-oriented perfectionism. Similarly, Enns and colleagues (2005) conducted a longitudinal study with first-year medical students, and their results indicated that socially prescribed perfectionism significantly interacted with negative life events to predict greater depression and hopelessness over 5 months (Enns et al., 2005). This suggests that those higher in socially prescribed perfectionism were more vulnerable to depression and hopelessness in the context of greater stress. However, their finding of a significant interaction between self-oriented perfectionism and negative life events did not support the diathesis model, as it predicted improvements in depression and hopelessness over 5 months. Olson and Kwon's (2008) longitudinal study showed support for the diathesis-stress model, specifically, that elevated levels of self-oriented perfectionism and socially prescribed perfectionism interacted with rumination and academic stress to predict greater dysphoria in undergraduate students across 4 weeks. This indicates that undergraduate students with higher self-oriented perfectionism or socially prescribed perfectionism are vulnerable to depressive symptoms when they are faced with greater academic stress (Olson & Kwon, 2008). Overall, these study findings highlight that dimensions of perfectionism (e.g., socially prescribed, self-oriented) may be a diathesis for maladjustment, particularly in the context of greater stress.

According to the diathesis-stress model, vulnerability for depression should be evaluated within the context of daily stressors given their negative impact on symptoms of depression for post-secondary students higher in perfectionism (Hewitt & Flett, 1993; 2002). However, research investigating the associations between perfectionism, stress, and depression have relied on self-report measures that fail to account for naturally occurring daily stressors consistently across the literature (Smith et al., 2016). Across the longitudinal studies, it was noted that the self-report measures of stress may have been limited by response biases and it was suggested that replication studies should use other forms of measurement, such as naturalistic observation. The predictive utility of perfectionism may be understated if such daily life stressors are not accounted for, further suggesting the importance of evaluating perfectionism in the context of life stressors.

Specific Vulnerability Hypothesis

Hewitt and Flett (1993) extended the diathesis-stress model and proposed that life stressors that are congruent with a particular dimension of perfectionism may be experienced as more severe and impactful than noncongruent stressors. This conceptual framework is called the *specific vulnerability hypothesis* (Hewitt & Flett, 1993; Hewitt et al., 1996; Sherry et al., 2003). The specific vulnerability hypothesis proposes that stressors are more likely to produce depressive symptoms if they pose a threat to a central part of the self. For instance, those with elevated self-oriented perfectionism, who focus especially on personal expectations for achievement, will be more affected by stressors that highlight achievement-related failure compared to other types of failure (e.g., social). This is because achievement-related outcomes are interpreted as a reflection of the self (Hewitt & Flett, 1993). Therefore, students higher in self-oriented perfectionism may be more severely impacted by poor performance on an exam or

assignment compared to other types of situations and stressors, due to a heightened sense of worthlessness and guilt (Békés et al., 2015; Smith, Sherry, McLarnon, et al., 2018).

The specific vulnerability hypothesis has been applied to socially prescribed perfectionism as well. According to the model, socially prescribed perfectionism interacts with interpersonal stressors to create an increased vulnerability for depression compared to other types of stressors (Hewitt & Flett, 1993). Socially prescribed perfectionists are often fearful of negative evaluation from others and desire approval from others and therefore interpersonal stressors are a primary concern. Therefore, students higher in socially prescribed perfectionism may experience more stress in response to feeling rejected by others that may produce increased depression, compared to students lower in socially prescribed perfectionism (Hewitt & Flett, 1993; Hewitt et al., 2006; Smith, Sherry, McLarnon, et al., 2018).

Research on the specific vulnerability hypothesis indicates mixed findings. Hewitt and Flett (1993) found some support for the specific vulnerability hypothesis in a cross-sectional study with a sample of patients with depression and a sample of patients with a broader range of psychopathology that included schizophrenia, depression, and adjustment disorders. Their results showed that self-oriented perfectionism interacted with achievement stressors to predict depression across both samples. However, socially prescribed perfectionism only interacted with interpersonal stressors to predict depression in the patient sample with depression only. Other studies have also shown inconsistent findings (e.g., Enns et al., 2005; Hewitt et al., 1996; Sherry et al., 2003). For example, Hewitt et al.'s (1996) longitudinal assessment of the specific vulnerability hypothesis in patients with depression showed support for self-oriented perfectionism as a specific vulnerability factor, but not socially prescribed perfectionism. Further, Blankstein and colleagues (2007) examined the relationship between perfectionism and

suicide risk within the specific vulnerability hypothesis and obtained unexpected findings. Socially prescribed perfectionism interacted with academic hassles to predict suicidal ideation, while self-oriented perfectionism also interacted with social hassles to predict suicidal ideation in students. Similarly, unexpected findings were reported by Sherry and colleagues (2003) who tested the specific vulnerability model in university students using a cross-sectional study. They found that socially prescribed perfectionism interacted with both interpersonal hassles and achievement hassles to predict depressive symptoms. However, there were no significant findings for self-oriented perfectionism.

Researchers evaluating the specific vulnerability hypothesis highlight that the use of self-report questionnaires, which may be affected by response biases and inaccuracy in ratings for study outcomes, may explain inconsistencies in the literature (Hewitt et al., 1996). Further, the inconsistent findings may be due to the reliance on questionnaire-based methods that consist of a constricted list of hassles (e.g., Hewitt & Flett, 1993; Sherry et al., 2003) or stressful life events (e.g., Enns et al., 2005; Hewitt et al., 1996). There is a need to use more accurate methods to better capture the real-life stressful events of students (Enns et al., 2005; Hewitt et al., 1996; Sherry et al., 2003).

Perfectionism and Interpersonal Contexts

Much of our daily life is spent surrounded by other people and interpersonal relations are considered a fundamental human need (Baumeister & Leary, 1995; Cacioppo et al., 2009). Ozer and Benet-Martinez (2006) propose that outcomes and processes associated with individual-difference variables should be studied at multiple levels, including the individual level, relationship level, and societal level. They add that interpersonal relationships are shaped in part, by dispositional traits. Consistent with this notion, Curran and Hill (2019, 2022) theorize that the

rise in perfectionism in university students is explained by changes observed over time in their societal background (e.g., amplified competitiveness, individualism, irrational ideals of perfection) which may be exemplified through their immediate social environments. Therefore, the interpersonal context is essential to studying individual-difference variables, such as perfectionism.

Lazarus and Folkman (1984) further highlight the importance of studying the interpersonal context through their proposal that maladjustment is a result of the relationship between a person and their environment. An individual's appraisal of a stressful situation (e.g., level of danger, support available) can have a significant impact on mental well-being. Students that view stressors as overwhelming and beyond their ability to cope will likely experience greater maladjustment. The perception of others (e.g., peers, family) in their environment can influence an individual's vulnerability for maladjustment. Therefore, individual-difference factors such as perfectionism are not the only variables that may explain maladjustment (Chang & Rand, 2000) and research that focuses solely on the individual without considering the broader interpersonal context may miss valuable information in understanding the relationship between perfectionism and maladjustment (Mackinnon et al., 2012).

Research on the relationship between perfectionism and maladjustment highlights the relevance of both intrapersonal qualities and interpersonal contexts (Hewitt et al., 2022; Smith, Sherry, Gautreau, et al., 2017; Smith, Sherry, Mushquash, et al., 2017). For example, aspects of perfectionism may make close relationships difficult due to relentless demands for others to be perfect (i.e., other-oriented perfectionism) or as the recipient of such perfectionistic pressures and expectations (i.e., socially prescribed perfectionism) there may be greater conflict in relationships, interpersonal stress, and maladjustment (Hewitt et al., 2006; Smith, Sherry, Ge, et

al., 2021). Further, empirical evidence indicates the importance of interpersonal contexts (e.g., parent-offspring relationships) that contribute to the link between perfectionism and maladjustment outcomes (Smith, Sherry, Gautreau, et al., 2017; Smith, Sherry, Mushquash, et al., 2017).

Interpersonal Pressures to be Perfect From the Perspective of the Individual

As mentioned previously, socially prescribed perfectionism is an interpersonal dimension of perfectionism that is consistently associated with maladjustment (Flett et al., 2022; Hewitt & Flett, 2002). The effects of socially prescribed perfectionism are particularly unique because stress is generated due to both internal factors (social cognitions) and external factors (interpersonal conflict, negative life events; Dunkley et al., 2003; Harper, Eddington, & Silvia, 2020; Hewitt & Flett, 2002; Smith, Sherry, et al., 2017). A vast amount of the literature on socially prescribed perfectionism has focused solely on the perception of demands from others from the perspective of the individual receiving the demands (e.g., Chang & Rand, 2000; Curran & Hill, 2022; Flett et al., 2007; Harper, Eddington, Lunsford, et al., 2020; Harper, Eddington, & Silvia, 2020; Hewitt et al., 1994; Limburg et al., 2017; Martin et al., 1996; Sherry et al., 2003; Perera & Chang, 2015). For example, Harper, Eddington, and Silvia (2020) conducted an experience sampling study of daily attributions of negative social events and evaluation of daily social functioning with university students that displayed elevated levels of socially prescribed perfectionism. Their findings showed that higher socially prescribed perfectionism contributed significantly to a greater proportion of daily negative social interactions compared to those lower in socially prescribed perfectionism. Self-oriented perfectionism was not a significant predictor of daily negative social interactions. The findings of this study were based strictly on the individual's perceptions of expectations from others and negative social interactions (Harper,

Eddington, & Silvia, 2020). Perera and Chang (2015) in a study of the interpersonal sources of socially prescribed perfectionism in university students found that the students perceived multiple interpersonal sources that portrayed unrealistically high expectations including parents, teachers, friends, siblings, and romantic partners. This study highlights that the perceived pressures to be perfect are not limited to just parental influences, they may come from multiple sources within one's social environment.

Perfectionistic Climate as a Predictor of Maladjustment. Across decades of research, perfectionism has typically been conceptualized as a personal quality (Hill & Grugan, 2020). However, Hill and Grugan (2020) propose an innovative conceptualization of perfectionism as an immediate consequence of the social environment. The researchers describe that a *perfectionistic climate* includes a set of informational cues and goal contingencies in the social environment that align with the overall message that performance must be perfect and that anything else than perfect performance is rejected. According to Hill and Grugan (2020), a perfectionistic climate encompasses multiple elements such as expectation, criticism, control, conditional regard, and anxiousness. Specifically, a perfectionistic climate is one where there are unrealistic and rigid standards, harsh criticism of performance, coercive behaviour that is used to pressure perfect performance (e.g., punishment, reward), manipulation of appreciation for perfect performance (i.e., feelings of acceptance in response to perfect performance), and excessive worrying about mistakes displayed by those within one's social environment (e.g., parent, teacher, coach; Hill & Grugan, 2020). The idea is that individuals may suffer the adverse consequences of perfectionism through the social environment without endorsing it fully as a personal quality. Hill and Grugan (2020) assert that perfectionism should not be investigated

solely as a personal quality of the individual but rather as a consequence of the pressures to be perfect stemming from the environment.

Grugan and colleagues (2021) evaluated the perfectionistic climate theoretical construct through the development and validation of a measure of perfectionistic climate in the domain of sport. The authors provided support for the five distinct and interrelated elements of the construct including expectations, criticism, control, conditional regard, and anxiousness in youth athletes. The researchers suggest that the construct offers a new way to study the perceived social pressures to be perfect in other domains outside of sport, such as family and education. To our knowledge, the construct has not been evaluated in educational settings yet.

Further investigation is needed to empirically evaluate the effects of broad interpersonal influences within one's social environment and their consequences related to maladjustment in other populations, including university students. Hill and Grugan's (2020) conceptualization of the perfectionistic climate highlights that perceived social pressures to be perfect may stem from multiple sources and be displayed in various ways (e.g., expectation, criticism, control, conditional regard, and anxiousness). However, less is known about the relationship between perfectionistic climate and adjustment outcomes in post-secondary students. Additionally, while we have an understanding of the perceptions of perfectionistic individuals from the viewpoint of the self (e.g., "others expect me to be perfect"), less is known about the perspective of those in an individual's social environment that may exert demands towards others (e.g., "I expect others to be perfect"). Consequently, in this area of the literature there has been a new line of research aimed at examining demands of perfection as reported by others (e.g., parent, romantic partner, friend) that may contribute to those suffering the adverse consequences associated with the perception of social pressures to be perfect.

Elements of Perfectionistic Climate Reported by Others

Elements of the perfectionistic climate (e.g., expectations, psychological control) observed in youth athletes have also been examined in post-secondary student populations. For a more fulsome understanding of the impact of the social environment on students' maladjustment, researchers have considered the perspectives of others in their investigations. For instance, in a cross-sectional study of university students, Vieth and Trull (1991) evaluated whether parents' perfectionistic tendencies related to offspring's perfectionistic tendencies, and the convergence between self-ratings and observer-ratings. Parents provided ratings of their own perfectionistic tendencies and that of their offspring, and university students provided ratings of their own perfectionistic tendencies. In summary, self-oriented perfectionism in students was related to self-oriented perfectionism in same-sex parents (e.g., mothers-daughters, fathers-sons). However, mothers' and fathers' other-oriented perfectionism was not associated with students' socially prescribed perfectionism. They found there was greater convergence between parents' ratings and daughters' ratings of perfectionism (e.g., self-oriented perfectionism, other-oriented perfectionism, socially prescribed perfectionism) compared to sons (e.g., socially prescribed perfectionism only). This study offers some evidence to support the influence of the family environment on some dimensions of perfectionism in students, as well as discrepancies in ratings from others that may be dependent on relationships (e.g., mother versus father). Vieth and Trull (1999) propose that future research should look at the environmental contributions to perfectionism beyond the parent-child relationship.

Mushquash and Sherry (2013) tested a perfectionism model of binge eating in mother-daughter dyads which included reports from mothers. The mixed longitudinal daily diary study evaluated daughters' ratings of socially prescribed perfectionism and mothers' ratings of

psychological control (i.e., controlling and manipulative parenting style) as indirect predictors of binge eating in university students via triggers of binge eating (e.g., depressive affect). The study showed support for this model, as daughters' socially prescribed perfectionism and mothers' psychological control predicted triggers of binge eating, which contributed to daughters' binge eating longitudinally. These findings suggest that students with higher socially prescribed perfectionism are vulnerable to difficulties with adjustment due to the psychological control reported by their mothers. An additional study finding was that daughters' socially prescribed perfectionism and mothers' psychological control were unrelated. This finding indicates that the perception of others may not align with the reports made by others (e.g., mothers; Mushquash & Sherry, 2013). Similar research has been conducted with romantic partners. Stoeber (2012) investigated the effects of partner-oriented perfectionism (i.e., expectations for the partner to be perfect) and partner-prescribed perfectionism (i.e., perceived expectations from one's partner to be perfect) in university students and their partners using a cross-sectional study design. Their findings showed that students who perceived greater partner demands to be perfect and who had greater perfectionistic expectations towards their partner were less satisfied with their romantic relationship compared to students who perceived lower partner demands and fewer expectations of their partner. However, partner-oriented perfectionism and partner-prescribed perfectionism rated by their partners had no significant effect on students' ratings of their relationship satisfaction. Together these studies highlight the impact of the perception of demands from others on adjustment difficulties in university students, and that there may be discrepancies between one's perception of others' demands and the actual demands in one's social environment (e.g., mothers, romantic partners).

Smith, Speth, and colleagues (2017) expanded on previous literature by looking at demands from others within one's social network. In a cross-sectional study, the authors asked undergraduate students (i.e., targets) to identify five members of their social network (i.e., influencers). The targets' social networks consisted of their mothers, fathers, friends, and romantic partners. Their findings showed that influencers' demands for others to be perfect (i.e., other-oriented perfectionism) had an indirect effect on targets' perceived stress because of targets' elevated levels of socially prescribed perfectionism. When targets' neuroticism was added to the model as a predictor, the indirect effect remained significant. The mediation model was not significant when self-oriented perfectionism was substituted for socially prescribed perfectionism. Smith and colleagues (2019) showed further support for the role of pressures to be perfect from others in a study of undergraduate students and their social network (e.g., parents, siblings, peers). Findings showed that greater other-oriented perfectionism reported by mothers and siblings indirectly predicted depressive symptoms in undergraduate students, through elevated socially prescribed perfectionism in undergraduate students. Taken together, these studies show that other-oriented perfectionism in one's social network contributes to maladjustment in undergraduate students through undergraduates students' socially prescribed perfectionism.

Much of the perfectionism literature has focused on the role of individual traits and perceptions (e.g., socially prescribed perfectionism) that may explain maladjustment, despite clear evidence of the importance of interpersonal contexts (Mackinnon et al., 2012). As such, it is important to consider the interpersonal climate that may also impact mental health functioning in post-secondary students. Hill and Grugan's (2020) description of a perfectionistic climate highlights several elements of the social environment that may contribute to maladjustment in

university students. Research on elements of the perfectionistic climate (e.g., psychological control, perfectionistic expectations) showed that psychological control and perfectionistic demands reported by others has a negative impact on university student adjustment (e.g., depressive symptoms, stress). However, less is known about the impact of all the elements of perfectionistic climate (e.g., expectations, psychological control, criticism, and conditional regard) on university student adjustment.

Research that has explored both the perspective of the individual that perceives pressures to be perfect and the perspective of others who may exert such pressures to be perfect, shows that there may not be consistent convergence between reports from individuals and others (e.g., Mushquash & Sherry, 2013; Vieth & Trull, 1991). Although there may not be consistent convergence between the reports, initial findings demonstrate that the demands to be perfect reported by members of one's social network may have significant adverse effects on university students through their reported perceptions of social demands to be perfect (Smith et al., 2019; Smith, Speth, et al., 2017). Therefore, it is important for future research to consider the influence of both perspectives (i.e., self and others) when evaluating adjustment outcomes in students (Mushquash & Sherry, 2013; Stoeber, 2012). It is important to note that due to the cross-sectional design of the majority of studies reviewed in this area (e.g., Smith et al., 2019; Smith, Speth et al., 2017; Stoeber, 2012), inferences regarding the directionality of these findings were limited. Thus, longitudinal research is needed to better understand the influence of perfectionistic demands reported by members in the social network on targets' socially prescribed perfectionism and changes in maladjustment over time.

Interpersonal Mechanisms That May Explain Vulnerability for Depression

While a perfectionistic climate may pose a risk for adjustment difficulties in university students, certain dimensions of the perfectionism trait may also make it difficult to maintain stable and harmonious interpersonal relationships (Flett et al., 2022; Smith, Sherry, McLarnon, et al., 2018). The *perfectionism social disconnection model* poses that interpersonal components of perfectionism (e.g., socially prescribed perfectionism, perfectionistic self-presentation) lead to depressive symptoms due to interpersonal difficulties (Hewitt et al., 2017; Hewitt et al., 2006; Smith, Sherry, McLarnon, et al., 2018). Hewitt and colleagues (2017; Hewitt et al., 2006) suggest that individuals with higher levels of socially prescribed perfectionism display an excessive need for acceptance from others and are driven to meet perceived demands of perfection from others (e.g., parents expecting outstanding grades) in order to attain approval and social connection. However, they feel as if they fail to meet the expectations of others and confirm fears of rejection that leads to marked distress and suicidal behaviour. It is proposed that a schema is formed involving concerns about anticipated negative interpersonal events characterized by inescapable social pressures to be perfect that can contribute to depressed mood and feelings of loneliness.

Research lends support to the perfectionism social disconnection model (e.g., Blankstein et al., 2007; Chen, et al., 2015; Chen et al., 2012; Roxborough et al., 2012; Sherry et al., 2008; Smith et al., 2020). Sherry and colleagues (2008) examined the perfectionism social disconnection model in a cross-sectional study of undergraduate students and found that those who were higher in socially prescribed perfectionism reported greater symptoms of depression due to perceived lack of social support from others. Smith, Sherry, McLarnon, and colleagues (2018) added to previous findings and tested the social disconnection model in a longitudinal study with university students. They found that socially prescribed perfectionism that was

assessed at baseline indirectly predicted depressive symptoms five months later, through interpersonal discrepancies (i.e., thoughts of failing to meet others' expectations) and social hopelessness, above and beyond self-oriented perfectionism, other-oriented perfectionism, and baseline depression.

Mackinnon and colleagues (2012) looked at the social disconnection model in heterosexual romantic dyads. They examined daily relationship conflict as reported by both partners using a longitudinal experience sampling design with university students. Their findings showed that socially prescribed perfectionism was associated with greater levels of depressive symptoms because of conflicts that were reported by both partners. Thus, individuals higher in socially prescribed perfectionism were inclined to perceive more negative social experiences such as conflict, that led to increased depressive symptoms in both partners compared to individuals lower in socially prescribed perfectionism (Mackinnon et al., 2012). Mackinnon and colleagues (2012) also showed that socially prescribed perfectionism predicted partner conflict and symptoms of depression beyond neuroticism which suggested that perfectionism contributed uniquely to the maladjustment outcomes.

Smith, Sherry, Mushquash, and colleagues (2017) assert that there is not a clear understanding of the role of self-oriented perfectionism and other-oriented perfectionism within the perfectionism social disconnection model. Self-oriented perfectionists pursue agentic goals (i.e., goals that serve oneself) in competition with others and may miss the chance to engage in and benefit from close relationships, while other-oriented perfectionists are often disappointed by others and find themselves in frequent conflict with others (Smith, Sherry, Mushquash, et al., 2017). The recipients of demands to be perfect and such disappointment seem to also suffer (Smith et al., 2016; Smith, Sherry, Mushquash, et al., 2017). Smith, Sherry, Mushquash, and

colleagues (2017) propose that being judged critically by others may lead individuals to feel lower social self-esteem (e.g., feeling disliked by others or rejected by others) that may increase the risk for symptoms of depression. Therefore, they expanded on the perfectionism social disconnection model and studied all three of Hewitt and Flett's (1991) dimensions of perfectionism in mother-daughter dyads through a daily diary design with longitudinal follow-up assessment. The study indicated that university-attending daughters' socially prescribed perfectionism and self-oriented perfectionism and mothers' other-oriented perfectionism all positively predicted daughters' depression through daughters' poor social self-esteem. This means that the perception of pressures from others to be perfect, self-generated drives to be perfect, and demanding mothers were all associated with daughters' feelings of rejection and social exclusion that contributed to feeling depressed.

Research on the perfectionism social disconnection model that evaluates the broad interpersonal context of those within one's social network has been limited. Shahar and colleagues (2004) evaluated the influence of perfectionism and social relationships (e.g., romantic partner, family, neighbour, close friend) on treatment outcomes for patients seeking treatment for major depressive disorder. Their results indicated that outpatients with elevated perfectionism prior to treatment experienced less improvement in symptoms of depression after approximately 15 weeks of treatment (i.e., psychotherapy or pharmacological therapy) because of poorer satisfaction with social relationships. This provides some initial support for the idea that those with perfectionism may generate maladaptive interpersonal contexts across many social relationships.

Overall, the study findings summarized in this section emphasize the need to consider the contribution of dispositional characteristics, interpersonal sources of perfectionism, and

interpersonal processes when looking at the relationship between perfectionism and depressive symptoms (e.g., Smith, Sherry, Mushquash, et al., 2017). The studies that have investigated the mechanisms of the perfectionism social disconnection model with reports from dyads (e.g., romantic partners, mothers and daughters) have found support for the model. However, it is less clear if the findings apply to the broad social network (i.e., mother, father, friend, romantic partner) as a whole. That is, to what extent do interpersonal mechanisms (e.g., poor social self-esteem; see Smith, Sherry, et al., 2017) explain relationships between pressures to be perfect from one's social network, individual perceptions to be perfect to gain approval from others, and depressive symptoms in students? Additional research is needed to understand the specific mechanisms that link intrapersonal and interpersonal influences of perfectionism and explain greater vulnerability for maladjustment in post-secondary students. Although there have been recent methodological advances in this area of research through the use of longitudinal designs, Smith, Sherry, McLarnon, and colleagues (2018) highlight the need for research on the perfectionism social disconnection model to go beyond self-report methods, perhaps through the use of informant reports, an area of the literature that needs to be further developed.

A Summary of Current Gaps in the Literature

In our review of the literature, there were notable trends observed across the studies when it came to study limitations. As such, we summarize here major gaps observed in the literature that the current studies sought to address, including methodological, statistical, and theoretical gaps.

Methodological Gaps

Although there is a growing number of longitudinal studies across the literature examining the relationship between perfectionism and maladjustment, a major limitation

consistently identified is the reliance on cross-sectional methodologies (Chang & Rand, 2000; Flett et al., 2022; Limburg et al., 2017; Smith, Sherry, Chen et al., 2018; Smith, Sherry, Ge, et al., 2021; Smith et al., 2019; Smith, Sherry, McLarnon, et al., 2018; Smith et al., 2016; Smith et al., 2020). Cross-sectional studies lack the ability to address temporal precedence, that is, evidence that the cause (e.g., perfectionism) comes before the effect (e.g., maladjustment; Smith et al., 2016). Therefore, researchers have called on the field to rely less on cross-sectional research designs and instead turn toward the use of longitudinal research designs to be able to make stronger conclusions about perfectionism as a vulnerability factor for maladjustment (Limburg et al., 2017).

The reliance on mono-source study designs is also a limitation in the literature (Limburg et al., 2017; Smith, Sherry, Ge, et al., 2021; Smith, Sherry, Ray, et al., 2021; Smith et al., 2016; Smith et al., 2020). Mono-source research is where the data collected is from the perspective of a single source (e.g., target participants). This can be particularly problematic when investigating perfectionism because individuals high in perfectionism are at risk for attempting to conceal imperfections from others (Klonsky et al., 2002; Smith, Sherry, Ray, et al., 2021; Smith et al., 2020). For instance, perfectionistic individuals may be less likely to report on experiences that may be viewed as flawed (e.g., academic problems) to hide any signs of imperfection which could affect the accuracy of their self-report. Also, individuals high in perfectionism may hold a belief system and view of the world that is different from the perception of others (Hewitt et al., 2017). For example, for socially prescribed perfectionists, the belief that others (e.g., family, friends, coworkers) have placed endless pressures to be perfect may be different from the perspective of others that are perceived to display the expectations to be perfect (Hewitt et al., 2017). Perfectionism is often studied from the vantage point of the self solely, while neglecting

the self in relation to others (Smith, Sherry, Ge, et al., 2021; Smith, Sherry, Ray, et al., 2021).

Without reports from others on their expectations and behaviours, it is difficult to fully understand perfectionists in social contexts. The extent to which perceived expectations of others from the perspective of the self and from the perspective of others contribute to maladjustment in university students has not been researched extensively. Therefore, researchers suggest that alternative methods of data collection that incorporate the perspective of others (e.g., multi-source designs, informant reports) would help to address this gap and advance the literature (Smith, Sherry, Ge, et al., 2021; Smith, Sherry, Ray, et al., 2021; Smith, Sherry, McLarnon et al., 2018; Smith et al., 2016).

For example, as reviewed earlier, Smith and colleagues (2019) used a multi-source design, with undergraduate students and members of their social network (e.g., parents, siblings, peers) who reported on social pressures to be perfect. The importance of using multi-source designs was emphasized as a means to evaluate how perfectionistic demands in influencers contributes to depression and perceived perfectionistic demands in university students. A limitation of their study was that the researchers allowed the students to freely choose which influencers to include in the study. The undergraduate students were asked to choose any five members of their social network to participate in the study. It is possible that by allowing them to freely choose, participants may have selected influencers that they perceived as being most demanding, which could have been a confounding factor that contributed to the main study results that other-oriented perfectionism reported by mothers and siblings was a mediator of the relationship between socially prescribed perfectionism and depressive symptoms. Smith and colleagues (2019) propose that future research may consider ways to improve selection of influencers so that it is more independent from the participants' personal preference. For

example, Klonsky and colleagues (2002) suggest using a predetermined set of categories (e.g., caregiver 1, caregiver 2, sibling, friend, romantic partner) to reduce the potential for selection bias.

In addition, in the literature assessing the impact of stressful events, there is a call for the use of more accurate measures of stressful life events (e.g., Enns et al., 2005; Hewitt et al., 1996; Kahn et al., 2023; Levine et al., 2020; Richardson & Rice, 2015; Smith, Saklofske, et al., 2017). The use of life-event or hassles lists to assess diathesis-stress models is identified as a major limitation in the literature (Chang & Rand, 2000). The assessment of stress through the use of specific lists may constrict individuals to a specific set of events that may not include the full spectrum of personal experiences or other life circumstances that may influence stressful events (Chang & Rand, 2000). Therefore, measures used throughout the literature may not accurately reflect the real-life stressful events that individuals are experiencing. It is important to measure stress in a way that does not constrain the responses of participants (Chang & Rand, 2000). Dunkley and colleagues (2003) add that in order to fully understand why perfectionists experience more chronic symptoms of depression, we need to understand how these individuals respond to minor, daily stressors rather than major life events that may be less frequent (Békés et al., 2015). Consistent with this notion, research suggests that daily hassles explain greater variance in psychological distress than more major life events (e.g., Pillow et al., 1996). While some researchers (e.g., Dunkley et al., 2014; Mandel et al., 2018; Richard et al., 2020) have incorporated more of a descriptive approach to measuring daily stress in studies of other dimensions of perfectionism (e.g., personal standards, self-critical), studies of Hewitt and Flett's (1991) dimensions of perfectionism (e.g., self-oriented perfectionism, socially prescribed perfectionism, other-oriented perfectionism) remain limited by measuring stress using restricted

lists or questionnaires. Therefore, future research needs to consider more valid and reliable ways to assess daily stress through the use of more advanced forms of measurement that involve naturalistic observation and/or self-monitoring, such as daily emotional reports (Kahn et al., 2023; Olson & Kwon, 2008).

A process-oriented approach, such as daily diary design, can increase reliability through the use of repeated assessments and increase ecological validity by measuring social and psychological processes as they naturally occur (Bolger et al., 2003; Smith, Sherry, et al., 2017). In a daily diary design, participants are asked to provide frequent self-reports on experiences of everyday life (Bolger et al., 2003). By obtaining frequent reporting over the course of a day (e.g., twice per day versus once per day), it allows for better recall of daily events and a unique window into the dynamics of stress and affect processes closer to their real time of occurrence (Bolger et al., 2003; Dunkley et al., 2003; Harper, Eddington, Lunsford, et al., 2020; Harper, Eddington, & Silvia, 2020; Lazarus & Folkman, 1984; Tennen et al., 2000). Daily diary designs can also help reveal individual differences in rapidly fluctuating processes over time, such as stress appraisal and emotions, an area of the perfectionism literature that requires further research (Bolger et al., 2003; Tennen et al., 2000).

Statistical Gaps

In terms of statistical analyses, daily diary designs also allow for a greater focus on within-person changes (i.e., changes within an individual unfolding over time) compared to between-person differences (i.e., differences between individuals). Across the literature, there has been a major focus on between-persons designs and analyses that lack the ability to answer within-person questions that can address conceptually different and important questions about daily fluctuations in stress and affect within individuals (Dunkley et al., 2003). For example,

most research has shown that across individuals, perfectionism is a stable, between-person factor that indicates a greater risk for maladjustment when measured at a single time point (e.g., Flett et al., 2007; Harper, Eddington, & Silvia, 2020; Hewitt & Flett, 1990; Hewitt & Flett, 1991; Hewitt & Flett, 1993; Martin et al., 1996; Sherry et al., 2003). The use of a daily diary design allows for within-person analyses that can address questions about the temporal sequence of events and assess processes (e.g., stress, affect) as they occur naturally in the daily life within each individual across varying contexts and situations, while also accounting for between-person differences (Bolger et al., 2003; Tennen et al., 2000). When repeated assessments are obtained, multilevel modelling can be used to predict between- and within-person relationships between variables of interest. Thus, a daily diary design would allow us to determine whether within-person processes (e.g., daily stress predicts daily maladjustment) exist and whether these processes differ between individuals (e.g., those higher in perfectionism compared to those lower in perfectionism). Researchers propose that future studies should advance the literature by evaluating perfectionism (between-person factor) and social difficulties (within-person factors; e.g., social self-esteem) daily to determine within-person changes that may help explain maladjustment in university students (Smith, Sherry, et al., 2017).

Another statistical gap involves the limited literature on the incremental predictive utility of perfectionism above other related factors such as neuroticism (Smith et al., 2016). Given some evidence of overlap between perfectionism and neuroticism and evidence of neuroticism as a significant predictor of depressive symptoms as well, many researchers have questioned whether perfectionism is a unique predictor of maladjustment beyond neuroticism (Békés et al., 2015; Dunkley et al., 2012; Enns et al., 2005; Lahey, 2009; Mackinnon et al., 2012; Smith et al., 2016). For example, Smith and colleagues (2016) conducted a meta-analysis of longitudinal studies that

examined perfectionism dimensions as vulnerability factors for symptoms of depression beyond the influence of neuroticism. The researchers found that dimensions of perfectionism were unique predictors of depressive symptoms after controlling for baseline depression and neuroticism. Smith et al. (2016) highlighted that in their search for studies controlling for neuroticism, the lack of control for neuroticism was a significant limitation in the literature evaluating perfectionism as a vulnerability factor. The study of dimensions of perfectionism without controlling for neuroticism runs the risk of potential errors in the interpretations of results that may be partly explained by overlap with neuroticism (Smith et al., 2016). Therefore, it is important for future models of the perfectionism-maladjustment link to account for potential overlap with neuroticism.

Theoretical Gaps

There is still much to learn about the relationship between perfectionism and maladjustment and moderating and mediating factors (Smith, Sherry, Ge, et al., 2021). There are inconsistencies in the literature around the specific vulnerability hypothesis that may be partly explained by the limitations of methods and measures as outlined above. Testing theoretical models with more advanced and reliable methods will advance our understanding of theoretical models being tested in this research (Smith, Sherry, Ge, et al., 2021). The proposed construct of perfectionistic climate put forward by Hill and Grugan (2020) is in its infancy. Initial research showed that the construct is valid in youth athletes however, it is unclear empirically whether the construct can be applied to university students and their social environment. As our understanding of theoretical models develop, it is important to continue empirically evaluating and advancing such models (Smith, Sherry, Ge, et al., 2021). The perfectionism social disconnection model is one example that continues to be developed with additional pathways,

and now needs to be empirically evaluated with the use of more sophisticated methods, such as multi-source daily diary designs, to determine if the findings remain consistent across the social network and within daily processes (Smith, Sherry, Ge, et al., 2021).

Chapter 2. Current Research

Objective

The overall objective of the current research was to better understand intrapersonal and interpersonal factors that contribute to adjustment difficulties in university students. The current research used a longitudinal daily diary design across two studies to help overcome methodological limitations in previous research and address gaps in knowledge on theoretical models in the literature. More specifically, in study 1 we aimed to address the following research questions:

1. Does socially prescribed perfectionism moderate the relationship between interpersonal stress and depressive affect in university students? The proposed moderation model is displayed in Figure 1.
2. Does self-oriented perfectionism moderate the relationship between achievement-related stress and depressive affect in university students? The proposed moderation model is displayed in Figure 2.

In study 2, a multi-source component was added to the design of study 1 to address the following research questions:

3. Does socially prescribed perfectionism mediate the relationship between influencers' perfectionistic climate and maladjustment outcomes in university students? The proposed mediation model is displayed in Figure 3.

4. Does social self-esteem and relationship difficulties mediate the relationship between targets' self-oriented and socially prescribed perfectionism, influencers' other-oriented perfectionism and depressive symptoms in university students? The proposed mediation model is displayed in Figure 4.

Across both studies we aimed to address the following research question:

5. Does socially prescribed perfectionism and self-oriented perfectionism predict maladjustment above and beyond neuroticism?

Hypotheses

In considering past research and empirical evidence to date, hypotheses associated with the research questions above were:

1. Based on the specific vulnerability hypothesis (Hewitt & Flett, 1993; Hewitt et al., 1996; Hewitt et al., 2006), we hypothesized that there would be a significant interaction between socially prescribed perfectionism (between-person factor) and daily interpersonal stress (within-person factor) that would predict daily fluctuations in depressive affect. We predicted that the interaction would show individuals higher in socially prescribed perfectionism would experience greater depressive affect in response to interpersonal stressors, compared to noncongruent stressors.
2. Similarly, we hypothesized that there would be a significant interaction between self-oriented perfectionism (between-person factor) and daily achievement stress (within-person factor) that would predict daily fluctuations in depressive affect. We expected that the interaction would show that individuals higher in self-oriented perfectionism would experience greater depressive affect in response to achievement stressors, compared to noncongruent stressors. The specificity of these hypothesized models

was tested by substituting the other perfectionism dimensions into these predicted models to further evaluate the specific vulnerability hypothesis. Non-significant findings were expected for dimensions of perfectionism that were not congruent with the type of stressor that occurred, since the specific vulnerability hypothesis outlined that the dimension of perfectionism (e.g., socially prescribed perfectionism) and the type of stressor (e.g., social) should be congruent.

3. Based on past research (Smith et al., 2019; Smith, Speth, et al., 2017) and the proposed perfectionistic climate construct outlined by Hill and Grugan (2020), we predicted that influencers' report of a stronger perfectionistic climate (between-person factor) would be associated with greater daily maladjustment outcomes (i.e., greater depressive symptoms, lower positive affect, greater negative affect, greater stress) due to targets' heightened socially prescribed perfectionism (between-person factor).
4. Expanding on the perfectionism social disconnection model (Blankstein et al., 2007; Chen et al., 2015; Chen et al., 2012; Roxborough et al., 2012; Sherry et al., 2008; Smith et al., 2020; Smith et al., 2018; Smith, Sherry, et al., 2017), we expected that influencers' other-oriented perfectionism (between-person factor) and targets' socially prescribed perfectionism and self-oriented perfectionism (between-person factors) would be associated with greater daily depressive symptoms through poorer daily social self-esteem and poorer daily reports of relationship qualities (i.e., lower support, higher conflict; within-person factors).
5. Given that past studies indicated that dimensions of perfectionism were unique predictors of maladjustment after controlling for neuroticism (e.g., Mackinnon et al.,

2012; Smith et al., 2016; Smith, Speth, et al., 2017), we expected that socially prescribed and self-oriented perfectionism would have unique predictive utility with respect to maladjustment above neuroticism across all models.

Sample Size Estimate

For multilevel modeling (i.e., with between-person and within-person levels), there is not strong evidence to help make sample size decisions (Maas & Hox, 2005; Tabachnick & Fidell, 2019). A few simulation studies suggest that the sample size should be based on the higher-level analysis (i.e., between-person level; Maas & Hox, 2005; Snijders & Bosker, 1999). For the most complex path model in the current research (see Figure 4), a sample of at least 119 participants would be needed to achieve a power of .8 and effect size of .2 (Soper, 2021). Studies in the literature that conducted similar analyses with diary data had samples sizes ranging from 162 to 312 (Dunkley et al., 2003; Harper, Eddington, Lunsford et al., 2020; Smith et al., 2019; Smith, Sherry, et al., 2017). Monte Carlo simulations conducted by Schönbrodt and Perugini (2013) indicated that correlations stabilize as the sample size approaches 250. Smith et al. (2020) highlighted that a large proportion of studies looking at perfectionism and maladjustment have had sample sizes that are less than 250, which may suggest that many were underpowered. Taking this altogether, we estimated that a sample size of approximately 250 target participants would meet sample size requirements for both studies. We aimed to recruit approximately 300 undergraduate students to account for non-responders which would result in a sample of approximately 250 target undergraduate students and a sample of 1250 influencers.

Chapter 3. Study 1 Method

Participants

The participants were undergraduate students ($N = 296$) that attended Lakehead University between October 2021 and December 2022. The eligibility criteria for the study required undergraduate students to speak and read fluently in English, to have consistent access to the internet, and to be willing to provide contact information for at least five influencers (i.e., an adult they had known for at least 3 months) to be contacted for study 2. The majority of the participants identified their ethnicity as Caucasian or White (44.3%), and the remainder identified as Asian (21.6%), Black or African (14.5%), Indigenous (5.7%), multi-ethnic (5.4%), or other ethnicities (6.8%). The sample identified predominantly as female (81.1%), with a mean age of 22.5 ($SD = 6.5$) years. Over half of the sample (i.e., 55.1%) was in their first year of university. The undergraduate students mostly declared university majors in Psychology (29.7%) and Nursing (23.3%), followed by Social Work (6.8%), Kinesiology (3.7%), Interdisciplinary Studies (3.7%), Engineering (3.7%), Computer Science (3.4%), more than one major (5.1%), undeclared major (5.4%), and other majors (14.5%).

Procedure

The study procedure was approved by Lakehead University's Research Ethics Board (file number: 1468860) and conducted according to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2; Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, 2014). Participants were recruited through posters displayed around the Lakehead University Thunder Bay campus and through SONA (Lakehead University's online psychology student recruitment system). Interested undergraduate students were asked to attend a virtual orientation session via Zoom. At the orientation session, students were provided with information about both studies. We provided participants with an informed

consent form for study 1 and consent to contact influencers for study 2 to review. Once informed consent was obtained, participants received information and assistance on how to use SurveyMonkey to complete the diary entries over the following week. At the end of the orientation session, we asked participants to complete the baseline measures (e.g., perfectionism, neuroticism) via SurveyMonkey. Participants were compensated for their time during the orientation by receiving either 1.5 bonus marks toward an eligible psychology course or \$15 cash. Following the virtual orientation session, we sent an email with instructions and a link to complete the daily diaries online to participants. Participants were instructed to complete their first diary at their midday point (i.e., 8 hours after waking) and their second entry 1 hour before bed. This design was chosen because it captures the first and second half of participants' day and it accounts for differences in sleep schedules (Mushquash & Sherry, 2012).

The day following the orientation session, participants completed two diary entries (one at midday and one at end of day) for 7 consecutive days. The diary consisted of a small set of questionnaires that took approximately 10 minutes to complete using SurveyMonkey. To encourage completion of the diary entries, participants received personalized reminders at midday and end of day via e-mail to complete their diary entry as had been done in past research (Mushquash & Sherry, 2012). Participants were compensated for their time after completing the daily measures for 7 days with either 2.5 bonus marks toward an eligible psychology course or \$35 cash. Data collection occurred between October 2021 and December 2022.

Study 1 Baseline Measures

Self-Oriented Perfectionism and Socially Prescribed Perfectionism

We used the short-form of the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991; Hewitt et al., 2008; Stoeber, 2018; see Appendix A) as a measure of self-oriented

perfectionism and socially prescribed perfectionism. The two subscales each contain five items rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The ratings for each item were summed to obtain total subscale scores, with higher subscale scores indicating greater self-oriented perfectionism and greater socially prescribed perfectionism. A sample item from each subscale includes, “I demand nothing less than perfection from myself” (self-oriented perfectionism), “People expect nothing less than perfection from me” (socially prescribed perfectionism). Researchers have confirmed that the short-form version of the MPS reflects similar psychometric properties of the full scale MPS (Hewitt et al., 2008; Stoeber, 2018). Cronbach’s alpha values reported for self-oriented perfectionism and socially prescribed perfectionism ranged from .75 to .88 (Hewitt et al., 2008; Stoeber, 2018). The current research indicated similar Cronbach’s alpha values for self-oriented perfectionism (.87) and socially prescribed perfectionism (.80).

Neuroticism

We used the neuroticism subscale from the Big Five Inventory (BFI-N; Benet-Martinez & John, 1998; see Appendix B) to measure neuroticism. The subscale consists of eight items each rated on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) based on how the participants felt or behaved over the past several years. The total subscale score was computed by summing the item scores. A sample item from the scale includes, “I see myself as someone who gets nervous easily.” The BFI scales display similar psychometric properties compared to other Big Five measures, such as the NEO Five Factor Inventory (Costa & McCrae, 1992). Cronbach’s alpha values reported in the literature range from .79 to .84 (Benet-Martinez & John, 1998; Sherry & Hall, 2009; Sherry et al., 2013). The Cronbach’s alpha in the current study was .78.

Study 1 Daily Diary Measures

Since daily diaries can be burdensome and time-consuming (Bolger & Laurenceau, 2013), the scales used for the daily diaries across were shortened to reduce participant burden and fatigue and prevent potential risk of poorer quality of data (Credé et al., 2012). Shortened scales have the advantage of improving participation rates and motivation to complete surveys more accurately (Edwards et al., 2004; Rammstedt & Beierlein, 2014). In our development of the daily surveys, we used the highest loading items of each scale based on published data, which is consistent with the approach used in other studies using similar daily diary designs (e.g., Mushquash & Sherry, 2013; Sherry & Hall, 2009). While some argue that scales with larger sets of items may have superior validity in comparison to scales with fewer items (e.g., Credé et al., 2012; Smith et al., 2000), research (e.g., Sherry & Hall, 2009) suggests that single constructs (e.g., depressive affect) can be measured using shortened scales while maintaining reliability and validity (Rammstedt & Beierlein, 2014). At the beginning of each scale, the instructions were modified for participants to rate and/or describe their maladjustment outcomes, stressors, and interpersonal issues since their last diary entry.

Depressive Affect

Depressive affect was measured using items from the depression subscale of the Profile of Mood States (POMS; McNair et al., 1992; see Appendix C). The four highest loading items on the original 15-item subscale (McNair et al., 1992) were used in study 1 to measure depressive affect. Participants were asked to report on current depressive affect from a list of adjectives (i.e., sad, hopeless, discouraged, and worthless) by rating each item on a 4-point Likert scale (1 = *not at all* to 4 = *extremely*). The items were summed to create a total subscale score, with higher scores indicating greater depressive affect. Confirmatory factor analysis supports that

these items converge upon a depression factor (Baker et al., 2002). Validity of the measure was also supported through significant associations between the depression subscale and measures of depression, positive affect, and negative affect (Baker et al., 2002). Reliability coefficients reported in the literature for short-form versions of the POMS range from .88 to .93 (Baker et al., 2002; Bourgeois et al., 2010; Shacham, 1983; Sherry et al., 2014). In the current study, the Cronbach's alpha was .86.

Interpersonal and Achievement-Related Stress

Consistent with the stress and coping literature (Aldridge-Jerry et al., 2011; Dunkley et al., 2003; Stone & Neale 1984), participants were asked, "Since your last entry, provide a brief description of the most bothersome, upsetting, or stressful event or issue. Please indicate what happened, where the event took place, who was involved, and what made the event important." The stress descriptions were coded by stressor type (e.g., achievement, interpersonal) based on descriptions of achievement (e.g., academic problems, unemployment, and workload) and interpersonal stressors (e.g., social commitments, intimacy, and family arguments) documented in the literature (Blankstein et al., 2007; Dunkley et al., 2003; Enns et al., 2005; Hewitt et al., 1993; Hewitt et al., 1996; Sherry et al., 2003). The events were independently coded by two raters (writer and research assistant). A random sample of 15 participants (i.e., 155 events) were rated and $\geq 96\%$ were agreed upon regarding classification. Any disagreements concerning the categorization of events were resolved with the input from a third expert rater (i.e., dissertation supervisor). Having established reliability, the remaining events (approximately 2592) were coded by the writer. Two categorical variables were created, including achievement-related stress (1 = *yes*, 0 = *no*) and interpersonal stress (1 = *yes*, 0 = *no*). For instance, stress descriptions that were coded as achievement-related stressors included, "... I got a really low grade in a

quiz,” “I found a class I had this morning stressful,” and “I just feel overwhelmed with schoolwork today.” Stress descriptions that were coded as interpersonal stressors included, “I argued with my boyfriend,” “I had to cancel plans with a friend... and she was angry or disappointed with me,” and “ [I] was criticized for not doing enough housework, by my significant other.”

Study 1 Data Analytic Strategy

Descriptive statistics, main analyses, and exploratory analyses for study 1 were completed using IBM SPSS Statistics version 28.0.1.1. Multilevel mixed modelling (MLM) was used as its statistical model corrects for autocorrelation in errors of the outcome (Bolger & Laurenceau, 2013). To test the first hypothesis, that there would be a significant interaction between socially prescribed perfectionism (between-person factor) and daily interpersonal stress (within-person factor) to predict depressive affect, multilevel regression analysis was used. The analysis tested for a cross-level interaction between socially prescribed perfectionism (Level 2, between-person variable) and interpersonal stress (Level 1, within-person variable) to predict daily fluctuations in depressive affect (Bolger et al., 2003; Bolger & Laurenceau, 2013). The model assessed the relationship between daily interpersonal stressors and depressive affect and the extent to which this relationship was moderated by socially prescribed perfectionism.

To test the second hypothesis, that there would be a significant interaction between self-oriented perfectionism (between-person factor) and daily achievement stress (within-person factor) to predict daily fluctuations in depressive affect, multilevel regression analysis was used. The analysis tested for a cross-level interaction between self-oriented perfectionism (Level 2, between-person variable) and achievement-related stress (Level 1, within-person variable) to explain daily changes in depressive affect. Specifically, the multilevel regression analysis

evaluated the relationship between daily achievement-related stress and daily fluctuations in depressive affect and the extent to which self-oriented perfectionism moderated this relationship.

The Level 2 variables (between-person) were centered at the sample's grand mean and Level 1 variables (within-person) were centered at each participant's individual mean (Bolger & Laurenceau, 2013). Cross-level interactions were evaluated to examine the moderating role of the Level 2 variables (e.g., socially prescribed perfectionism, self-oriented perfectionism) within the Level 1 relationship (e.g., the slope between interpersonal stress and depressive affect or the slope between achievement-related stress and depressive affect) by regressing the Level 1 slope on the Level 2 variables. Time was included as a covariate in the models to account for any potential linear effects of time (Bolger & Laurenceau, 2013). The specificity of these models was also evaluated by substituting the non-congruent perfectionism dimensions into each model. The incremental validity of perfectionism was evaluated by adding neuroticism into the models as a covariate.

Chapter 4. Study 1 Results

Data Cleaning and Preparation

Baseline Data

The amount of missing data for measures of socially prescribed perfectionism, self-oriented perfectionism, and neuroticism were minimal (0-2.7% across scale items). A non-significant Little's MCAR test, $X^2(4, N = 297) = 3.81, p = .43$, showed that the data were missing completely at random for measures of socially prescribed perfectionism, self-oriented perfectionism, and neuroticism (Little, 1988; Osborne, 2013). The overall summary of missing values and missing value patterns showed that minimal data were missing and there were no distinct patterns of missing data (Tabachnick & Fidell, 2019). Multiple imputation was used to

generate estimated values for missing data and evaluate assumptions listed below (Tabachnick & Fidell, 2019). Multiple imputation is considered the method of choice when multiple datasets are created and combined (Tabachnick & Fidell, 2019).

There were no univariate outliers noted outside of the z score range (± 3.29 , $p < .001$; Tabachnick & Fidell, 2019). Given the significant impact that multivariate outliers can have on analyses, we assessed the probability estimates for Mahalanobis distance on the chi-square distribution to check for multivariate outliers (Tabachnick & Fidell, 2019). We found one probability estimate below .001 that was of concern and the case was removed from the dataset, as recommended by Tabachnick and Fidell (2019).

We tested assumptions of normality, non-multicollinearity, linearity, and homoscedasticity. Skewness and kurtosis values proved to stay below 1.00 and frequency histograms and P-P plots suggested that the data had minimal skewness or kurtosis (Osborne, 2013; Tabachnick & Fidell, 2019). An examination of a correlation matrix revealed that none of the correlations were extremely high (e.g., .90 and above) and therefore multicollinearity was not a concern (Tabachnick & Fidell, 2019). Visual inspection of bivariate scatterplots and residual scatterplots indicated that the linearity and homoscedasticity assumptions were met (Tabachnick & Fidell, 2019).

Daily Diary Data

The daily measurements (e.g., up to 14 daily surveys) were nested within each individual. We screened the diary dataset for missing data for the POMS, and missing data were minimal (1.3%). There was greater missing data (14.6%) for the stress descriptions. A description of the coding procedure for daily stressors is provided below. Maximum likelihood estimation was

used to handle missing diary data, as it is the recommended approach to account for missing diary data within analyses (Bolger & Laurenceau, 2013)

A total of 3127 daily entries were documented. The entries were reviewed to ensure that only two entries were completed per day. There were no restrictions on temporal separation of the daily entries. When multiple entries were recorded within minutes of each other, we treated them as duplicates, and the most completed version of the survey was included. The removal of the duplicates resulted in the deletion of 86 entries. Participants that completed at least 3 diary entries in total remained in the dataset, as this allowed for a variable slope for each participant and retention of the most amount of data (Nezlek, 2001; Stoeber & Janssen, 2011). Nine participants were unable to complete at least 3 diary entries and were removed from the dataset. This entire review process for accuracy of surveys resulted in 103 entries removed (i.e., .03% of the entries). We reviewed the data using time-based panel plots to check for errors, time trends, and within-person variability (Laurenceau & Bolger, 2021). Visual inspection of the time-based panel plots indicated that there was within-person variability across the variables and no errors or systematic trends for time observed.

Descriptive Statistics

The means, standard deviations, and bivariate correlations for the study 1 scales are portrayed in Table 1. The scale means and standard deviations for the current study are consistent with research using similar samples (Etherson et al., 2022; Etherson et al., in press; Graham et al., 2010; Hewitt et al., 2008; McGrath et al., 2012; Nealis et al., 2015; Sherry et al., 2013). All of the variables were significantly and positively correlated as was expected.

Participants reported a total of 1225 achievement stressors, such as poor grades, exams, and work performance. They also indicated a total of 722 interpersonal stressors including,

conflicts with family, friends, and romantic partners, family illness or death, and caregiver burden. A total of 194 stressors were coded as both achievement and interpersonal stressors. On average, participants reported 2.83 ($SD = .40$) interpersonal stressors and 4.80 ($SD = .43$) achievement stressors over the duration of the week.

Main Analyses

We conducted a mixed multilevel model to predict depressive affect, particularly, an interaction between socially prescribed perfectionism and within-person interpersonal stress. As outlined in Table 2, the fixed effects show that within-person interpersonal stress significantly and positively predicted depressive affect. Neuroticism (between-subjects) significantly and positively predicted depressive affect. Time significantly and negatively predicted depressive affect. After accounting for within-subjects, between-subjects effects, and time, there was no evidence of significant interactions at either the between-subjects (socially prescribed perfectionism x between-person interpersonal stress) or within-subjects levels (socially prescribed perfectionism x within-person interpersonal stress). To further evaluate the specificity of socially prescribed perfectionism, self-oriented perfectionism was substituted into the same model. The parameter estimates for the substituted model are displayed in Table 3. Similar to the previous model, within-person interpersonal stress and neuroticism remained significant positive predictors of depressive affect. After accounting for within-subjects, between-subjects effects, and time, there were no significant interactions at either the within-subjects (self-oriented perfectionism x within-person interpersonal stress) or between-subjects levels (self-oriented perfectionism x between-person interpersonal stress).

We used a mixed multilevel model to test the congruency of self-oriented perfectionism and achievement stressors to predict depressive affect (see Table 4). The fixed effects indicated

that within-person achievement stress significantly and positively predicted depressive affect. Neuroticism significantly and positively predicted depressive affect. Time significantly and negatively predicted depressive affect. After accounting for between-subjects, within-person effects, and time, there was no evidence of a significant interaction at the within-subjects level (self-oriented perfectionism x within-person achievement stress) or between-subjects level (self-oriented perfectionism x between-person achievement stress). When socially prescribed perfectionism was substituted into the model to test for specificity of the congruency hypothesis (see Table 5), there was no change in the model. Within-person achievement stress and neuroticism remained significant positive predictors of depressive affect, and there was no evidence of other effects including the interactions at the within-subjects level (socially prescribed perfectionism x within-person achievement stress) and between-subjects level (socially prescribed perfectionism x between-person achievement stress).

Chapter 5. Summary of Study 1 Results and Discussion

In study 1, we aimed to test Hewitt and Flett's (1993) specific vulnerability hypothesis using an intensive longitudinal study design (e.g., daily diary design). The model proposes that experiences with stressors are exacerbated by congruent dimensions of perfectionism, resulting in greater maladjustment compared to noncongruent dimensions of perfectionism. Based on the specific vulnerability hypothesis, we expected that there would be a significant cross-level interaction between socially prescribed perfectionism (between-person factor) and daily interpersonal stress (within-person factor) that would predict daily fluctuations in depressive affect. Further, we predicted that there would be a significant cross-level interaction between self-oriented perfectionism (between-person factor) and daily achievement stress (within-person factor) that would predict daily fluctuations in depressive affect. We tested the specificity of

these hypothesized models by substituting the noncongruent perfectionism dimensions into the predicted models. Incremental validity of the dimensions of perfectionism in each of the models was also evaluated by controlling for neuroticism.

Overall, our predictions for the specific vulnerability hypothesis were not supported. There was no evidence to support a significant interaction between socially prescribed perfectionism and interpersonal stress to predict daily depressive affect. This suggests that the relationship between socially prescribed perfectionism and daily depressive affect was not exacerbated by daily interpersonal stress occurring across individuals or within individuals. When self-oriented perfectionism was substituted into the model, there was no significant interaction between self-oriented perfectionism and daily interpersonal stress to predict daily depressive affect, as was expected. Similarly, there was no evidence of a significant interaction between self-oriented perfectionism and daily achievement stress to predict daily depressive affect. This finding shows that the relationship between self-oriented perfectionism and daily depressive affect was not exacerbated by fluctuations in daily achievement stress across individuals or within individuals. When socially prescribed perfectionism was substituted, there was no significant interaction observed, as was expected.

Consistent with past literature, the findings in study 1 indicated that daily stressors (i.e., interpersonal, achievement related) experienced by students were associated with greater daily depressive affect (Aselton, 2012; Cadaret & Bennett, 2019; Eisenberg et al., 2007; Hirsch et al., 2019; Lester, 2014; Linden et al., 2022). This finding advances past cross-sectional study findings (e.g., Hirsch et al., 2019) by showing that within individuals, daily stressors contribute to the development and maintenance of depressive symptoms over a short period of time (i.e., 7 days). The current study's use of a daily diary design paired with the use of an open-ended

question format addressed major methodological gaps in the literature. The use of an open-ended question to gather information about the stressors offered the opportunity for greater breadth of stressors to be captured that are likely more representative of real-world experiences unique to each individual undergraduate student. Evidence of within-person effects for stress suggests that when examining stress in students, it is beneficial to use intensive longitudinal designs with repeated assessments to reliably assess stressors as they naturally occur in the daily lives of undergraduate students and fully capture their impact on wellbeing.

Neuroticism is described in the literature as a personality trait characterized by a predisposition to experience more negative emotions (Smith et al., 2016). Neuroticism is consistently associated with different mental health concerns, including depression (Lahey, 2009). Conceptually, neuroticism is often described as a high order personality trait that may be channeled onto lower-order traits, such as perfectionism. Empirical evidence suggests there is overlap between dimensions of perfectionism and neuroticism (e.g., Graham et al., 2010; Sherry et al., 2013; Smith et al., 2016). Therefore, researchers have outlined the importance of determining whether perfectionism predicts depressive symptoms beyond neuroticism (Smith et al., 2016). Consistent with the literature, in the current study neuroticism was positively associated with perfectionism dimensions (e.g., socially prescribed perfectionism and self-oriented perfectionism) and depressive affect. The multilevel models from study 1 suggest that when within-subjects and between-subjects effects were accounted for, self-oriented perfectionism and socially prescribed perfectionism did not predict depressive affect beyond the effects of neuroticism. Similar to past research, the current study showed that across undergraduate students, neuroticism predicted greater depressive affect. While past studies showed that self-oriented perfectionism and socially prescribed perfectionism predicted

maladjustment beyond neuroticism (e.g., Mackinnon et al., 2012; Smith et al., 2016; Smith, Speth, et al., 2017), the multilevel models in the current study did not show support for the incremental validity of self-oriented perfectionism or socially prescribed perfectionism in predicting depressive affect in university students. The findings support the notion that neuroticism and perfectionism are likely closely intertwined, and that depressive affect observed in university students may stem from the overarching personality trait of neuroticism (Smith, Sherry, Vidovic, et al., 2019).

Although time trends were not a primary focus for study 1, we unexpectedly found that there was a linear trend over time, suggesting that depressive affect improved for the undergraduate students over 7 days. The significant effect for time may be explained by a confounding variable that was not measured in the current study. Given that undergraduate students were expected to write about their stressors in detail and reflect on their affect, it is possible that the completion of the diary entries resulted in a process of narrative self-reflection and thus, improvements in affect over time (Marin & Rotondo, 2017). In Ratner and colleagues' (2023) longitudinal study of college students from freshman year to senior year (i.e., 3 years), they found that self-reflection was a protective factor and associated with improvements in depressive symptoms over time. Perhaps the process of completing the daily diary encouraged greater awareness of stressors and affect and adaptive self-reflection which may have influenced their affect over time. Further research is needed to specifically assess growth trajectories of student affect using repeated measurements in shorter time intervals (i.e., 7 days) to fully understand linear trends of affect in post-secondary students (Ratner et al., 2023).

While the lack of support for the specific vulnerability hypothesis was unexpected, evidence for the specific vulnerability hypothesis has been reported as inconsistent, particularly

in nonclinical samples (Blankstein et al., 2007; Hewitt et al., 2022; Sherry et al., 2003).

Blankstein and colleagues (2007) unexpectedly found that socially prescribed perfectionism interacted with academic hassles and self-oriented perfectionism interacted with social hassles to predict suicidal ideation in students. Sherry and colleagues (2003) found that socially prescribed perfectionism interacted with both interpersonal hassles and achievement hassles to predict depressive symptoms, while there was no support for self-oriented perfectionism in their sample of university students. The unexpected study findings may suggest that the specific vulnerability hypothesis is more applicable in clinical samples that display more severe levels of perfectionism and depression (Hewitt et al., 2022). There is also a broader age range displayed in clinical samples; for example, mean ages and standard deviations of 36.5 ($SD = 10.6$; Hewitt & Flett, 1993) years, 41.5 ($SD = 10.7$; Békés et al., 2015) years, and 46.1 ($SD = 13.3$; Hewitt et al., 1996) years, compared to 22.5 ($SD = 6.5$) years in the current study sample of undergraduate students. Given that depressive symptoms may intensify over time, there may be more severe levels of depressive symptoms that results in more consistent support for the specific vulnerability hypothesis in clinical samples (Hewitt et al., 2022; Smith et al., 2019).

It is worth noting that the inconsistent findings in the literature may also suggest the need for more comprehensive and integrative models for the perfectionism-maladjustment relationship (Blankstein et al., 2007). For example, the expanded perfectionism social disconnection model which was based on the original diathesis-stress model, reflects a more comprehensive conceptualization of perfectionism that suggests relational elements (e.g., perceived social disconnection, interpersonal sensitivity) may be particularly relevant in understanding the link between all dimensions of perfectionism and depressive affect (e.g., Hewitt et al., 2017; Hewitt et al., 2022). For instance, when Smith and colleagues (2020) tested stress as a mediator for the

perfectionism-depression relationship, they found that self-oriented perfectionism (as a part of higher order perfectionistic strivings) conferred vulnerability for depression through perceived social disconnection and not stress. Therefore, the relationship between dimensions of perfectionism, stress, and depression may be further complicated by other interpersonal mediating mechanisms (e.g., social disconnection). Given the relevance of interpersonal contexts in the perfectionism-maladjustment relationship, study 2 focused on the impact of perfectionistic expectations reported by those in the targets' social network (i.e., influencers) and interpersonal difficulties (e.g., support, conflict) on maladjustment in undergraduate targets.

Chapter 6. Study 2 Method

Purpose

The first objective of study 2 was to examine the impact of the proposed perfectionistic climate outlined by Hill and Grugan (2020), as reported by influencers, on target undergraduate students' maladjustment. We predicted that perfectionistic climate reported by influencers would be associated with greater daily maladjustment (i.e., greater depressive symptoms, lower positive affect, greater negative affect, greater stress) in targets', due to targets' heightened socially prescribed perfectionism. The second objective of study 2 was to expand on the perfectionism social disconnection model (Blankstein et al., 2007; Chen et al., 2015; Chen et al., 2012; Roxborough et al., 2012; Sherry et al., 2008; Smith et al., 2020; Smith et al., 2018; Smith, Sherry, Mushquash, et al., 2017) and investigate intrapersonal and interpersonal factors that predict maladjustment in targets. We expected that influencers' other-oriented perfectionism and targets' socially prescribed perfectionism and self-oriented perfectionism would be associated with greater daily depressive symptoms through poorer daily social self-esteem and poorer daily reports of relationship qualities (i.e., lower support, higher conflict). The incremental validity of

the proposed vulnerability factors was evaluated by adding neuroticism into the models as a covariate. Further, influencers' socially desirable response tendencies were controlled for across proposed models by including it as a covariate.

Participants

The undergraduate student sample used for study 1 was also used in study 2 and is described in greater detail in Chapter 3. Given that a multi-source design was used for study 2, we refer to the undergraduate students as “targets”. We asked targets to provide contact information for at least five influencers (i.e., an adult they had known for at least 3 months) to be contacted for study 2. Targets were asked to identify their influencers from a predetermined set of categories (e.g., caregiver 1, caregiver 2, sibling, friend, and romantic partner) to reduce potential selection bias (see Klonsky et al., 2002; Smith et al., 2019). If targets could not fill all of the predetermined categories, they were asked to use an “other” category which allowed them to select influencers of their choice for up to three people. The eligibility criteria required influencers to be an adult (18 years of age or greater), speak and read fluently in English, and have access to the internet. A sample of 720 influencers completed an online survey during October 2021 to December 2022. In relation to the targets, most of the sample consisted of friends (39.4%), while 15.7% were mothers, 11.1% were fathers, 11.1% were romantic partners, and 10% were sisters. The mean age of the sample was 33.49 years ($SD = 15.60$), ranging from 18 to 80 years of age. The majority of the sample identified as Caucasian or White (60.1%), and the remainder identified as Asian (15.7%), Black or African (8.3%), Indigenous (4.3%), multi-ethnic (3.3%), or other ethnicities (3.1%). In terms education level, 35.6% completed high school, 22.2% completed a Bachelor's degree, 21.7% completed a college degree, and 13.3% completed a graduate or professional degree. The sample comprised of mostly adults employed

full-time (48.5%), while the remainder of the sample were employed part-time (24.3%), unemployed (15.4%), or retired (4.9%).

Procedure

The recruitment procedure is outlined in detail in Chapter 3, and herein we describe any additional procedures relevant for study 2. During the informed consent process with the targets, consent was obtained to contact influencers for study 2. During the initial orientation visit, participants were asked to identify their five influencers. There were 1429 eligible influencers whom the targets identified during their orientation session to be contacted to participate in study 2. We first contacted eligible influencers via telephone to confirm their email address. If influencers were not able to be reached by phone, the email address provided by the target undergraduate student was used to send further information. Influencers were emailed a link to an online version of the information letter and consent form. After reading the consent form, influencers were asked to click a box indicating they read the online form and consented to participate in study 2. If an influencer consented, they proceeded with completing a set of questionnaires online using SurveyMonkey. Upon completion of study 2, influencers were entered into a draw to win one of fifty \$20 Chapters gift certificates. On average, approximately 2.69 influencers completed surveys per each target undergraduate student. This is consistent with completion rates seen in past studies that used a similar study design (Smith et al., 2019; Smith et al., 2017).

Study 2 Baseline Measures for Targets

Self-Oriented Perfectionism and Socially Prescribed Perfectionism

The short-form of the MPS (Hewitt & Flett, 1991; Hewitt et al., 2008; Stoeber, 2018; see Appendix A) administered in study 1 was used as a measure of self-oriented perfectionism and socially prescribed perfectionism for study 2.

Neuroticism

The BFI-N (Benet-Martinez & John, 1998; see Appendix B) administered in study 1 was used in study 2 to measure neuroticism.

Study 2 Baseline Measures for Influencers

Other-Oriented Perfectionism

We used the other-oriented perfectionism subscale from the short-form MPS (Hewitt & Flett, 1991; Hewitt et al., 2008; Stoeber, 2018; see Appendix D) to measure other-oriented perfectionism. The subscale contains five items rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The ratings for each item were summed to obtain total subscale scores, with higher subscale scores indicating greater expectations of others to be perfect (i.e., other-oriented perfectionism). A sample item from the other-oriented perfectionism subscale includes, “Everything that others do must be of top-notch quality”. Researchers have indicated that the short-form version of the MPS reflects similar psychometric properties of the full scale MPS (Hewitt et al., 2008; Stoeber, 2018). Cronbach’s alpha values reported for other-oriented perfectionism range from .70 to .84 (Hewitt et al., 2008; Stoeber, 2018). Similarly, the Cronbach’s alpha value for the other-oriented perfectionism subscale for study 2 was .79.

Perfectionistic Climate

Given that Hill and Grugan (2020) proposed specific elements of a perfectionistic climate that may increase the risk for adverse consequences, we used a modified version of the Perfectionistic Climate Questionnaire – Sport (Grugan et al., 2021; see Appendix E) to measure

overall perfectionistic climate in the social network of the targets. The scale includes five components of behaviour including, expectations, criticism, control, conditional regard, and anxiousness (Grugan et al., 2021). Grugan and colleagues (2021) provided evidence for validity of the scale with negative and non-significant relationships between the subscales and other scales that measured empowering qualities in athletes. For scale reliability, ω estimates for each subscale were reported by Grugan and colleagues (2021) in an acceptable range (95% CI range = .77 to .89). Further, inter-item correlations ($r = .37$ to $.70$) and corrected item-total correlations were within suitable limits ($r = .51$ to $.74$; Grugan et al., 2021). Items were modified to allow influencers to indicate their own level of perfectionistic climate (e.g., “The coach expects performances to be perfect at all times” was modified to “I expect performances to be perfect at all times”). Influencers rated their level of agreement or disagreement with each statement on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). The items were summed to generate a total scale score, with higher scores indicating greater perfectionistic climate. The modified version of the Perfectionistic Climate Questionnaire – Sport was significantly and positively correlated with influencers’ other-oriented perfectionism ($r = .59, p < .001$), suggesting support for concurrent validity. The Cronbach’s alpha for the revised Perfectionistic Climate Questionnaire used in study 2 was .93.

Social Desirability

We explored the possible impact of influencers’ social desirability response tendencies using a short-form version of Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960; see Appendix F) developed by Reynolds (1982). The short form consists of 13 true-false items that describe culturally-appropriate behaviours with little incidence of occurrence to detect potential social desirability bias. Higher scores on the scale indicate greater impression

management. The short form and standard measures of social desirability are moderately to very strongly correlated (Loo & Loewen, 2004; Reynolds, 1982). The scale is reliable with internal consistency estimates of .66 (Loo & Loewen, 2004), .72 (Vanstone & Hicks, 2019), and .76 (Reynolds, 1982). The Cronbach's alpha in the current study was .74.

Study 2 Daily Diary Measures for Targets

A more detailed description of the format of the daily diary measures is included in Chapter 3, and herein we describe the daily diary measures relevant for study 2.

Depressive Symptoms

We measured depressive symptoms using modified items from the depression subscale of the Depression Anxiety Stress Scales (DASS; Antony et al., 1998; see Appendix G). Exploratory and confirmatory factor analyses show that the individual items converge upon a depression factor (Antony et al., 1998; Lovibond & Lovibond, 1995). Validity of the depression scale was demonstrated by positive correlations with other measures of depression (Lovibond & Lovibond, 1995). The internal consistency for the depression subscale ranges from .90 to .93 in undergraduate student samples (Li et al., 2017; Lovibond & Lovibond, 1995; Starr et al., 2017). The four highest loading items based on Lovibond and Lovibond's (1995) factor analysis of the 14-item subscale in a university student sample were used for study 2. A sample item includes, "I felt I had nothing to look forward to". The items were rated on a 4-point Likert scale (0 = *did not apply to me at all* to 3 = *applied to me very much, or most of the time*) and summed to create a total subscale score (Lovibond & Lovibond, 1995). Higher scores on this scale were indicative of greater depressive symptoms. The Cronbach's alpha in the current study for the depression subscale was .87.

Positive and Negative Affect

We used items from the Positive and Negative Affect Schedule Short Form to assess daily positive and negative affect (Thompson, 2007; see Appendix H). Exploratory principal component analysis confirmed that the items included had the largest factor loadings for positive and negative affect. The Cronbach's alpha for positive affect was .80 and for negative affect was .74 (Thompson, 2007). There is evidence for adequate test-retest reliability, with a test-retest coefficient of .84 for both of the subscales over 2 months (Thompson, 2007). Validity of the scale was also supported through associations in expected directions between the subscales and measures of well-being and happiness. The four items with the highest loadings on each factor (positive and negative affect) based on Thompson's (2007) factor analysis of the 10-item short form were selected for study 2. Targets were asked to indicate how they felt in response to affect-based adjectives (e.g., upset, hostile, ashamed), based on a 5-point Likert scale that ranges from 1 (*very slightly or not at all*) to 5 (*extremely*). The items were summed to produce a total score for each subscale. Higher scores on each scale are indicative of greater positive and negative affect. Consistent with past reports, the Cronbach's alpha values in the current study for positive affect and negative affect were .82 and .78, respectively.

Stress

We measured stress using modified items from the stress subscale of the DASS (Antony et al., 1998; see Appendix I). Exploratory and confirmatory factor analyses confirm that the items converge upon a stress factor (Antony et al., 1998; Lovibond & Lovibond, 1995). The stress scale is significantly positively correlated with measures of depression and anxiety (see Lovibond & Lovibond, 1995). The internal consistency estimates for the stress subscale reported in the literature are excellent (.90 to .91; Antony et al., 1998; Lovibond & Lovibond, 1995). The four highest loading items based on Lovibond and Lovibond's (1995) factor analysis of the 14-

item subscale in a university student sample were used for study 2. The scale instructions were modified for targets to rate their stress since their last diary entry. A sample item includes, “I found myself agitated”. The items were rated on a 4-point Likert scale ($0 = \text{did not apply to me at all}$ to $3 = \text{applied to me very much, or most of the time}$) and summed to create a total subscale score (Lovibond & Lovibond, 1995). Higher scores on the subscale indicate greater stress. The Cronbach’s alpha in the current study for the stress subscale was .81.

Difficulties in Social Self-Esteem

We used the 4-item State Self-Esteem Scale Short Form (Heatherton & Polivy, 1991; Sherry & Hall, 2009; see Appendix J) to evaluate daily difficulties in social self-esteem. The short form is strongly correlated with the original 7-item subscale ($r = .77$; Sherry & Hall, 2009). Targets responded to the items (e.g., “I was worried about looking like a fool”) using a 5-point scale from 1 (*not at all*) to 5 (*extremely*). The scores were summed to create a total score, with higher scores indicating greater difficulties with social self-esteem. The short form has shown good psychometric properties (see Mackinnon et al., 2011; Sherry & Hall, 2009). For example, Sherry and Hall (2009) found a significant correlation between the short form and another measure of social self-esteem and an internal consistency estimate of .77. In the current study, the Cronbach’s alpha was .92.

Conflict and Support

As a measure of relationship difficulties (i.e., relationship conflict, relationship support), targets were asked to indicate whether they experienced any conflict or support throughout interactions with their influencers. The respondents answered with “yes” or “no” to two questions, including “did you and this person disagree and quarrel with each other?” and “did

you turn to this person for support?”. As such, two categorical variables were created for conflict (0 = *no*, 1 = *yes*) and support (0 = *no*, 1 = *yes*).

Study 2 Data Analytic Strategy

To test the third hypothesis (see Figure 3), that a perfectionistic climate (Level 2, between-person factor) would be associated with greater daily maladjustment (i.e., greater depressive symptoms, lower positive affect, greater negative affect, greater stress) due to heightened targets’ socially prescribed perfectionism (Level 2, between-person factor), we used multilevel path analyses. Path analysis expands on multiple regression analysis, as it allows for the evaluation of more complicated relations between study variables (Streiner, 2005). Major strengths of path analysis include the ability to test multiple dependent variables, observe variables as both independent and dependent variables, and specify and compare various hypothesized sequences (i.e., pathways) of variables that contribute to study outcomes (Albert et al., 2019; Stage et al., 2004; Streiner, 2005). Specifically, we used path analysis to test targets’ socially prescribed perfectionism as a significant between-person mediator of the relationship between perfectionistic climate (between-person predictor) and targets’ maladjustment.

We used path analysis to test the fourth hypothesis that influencers’ other-oriented perfectionism (between-person factor) and targets’ socially prescribed perfectionism and self-oriented perfectionism (between-person factors) would be associated with greater daily depressive symptoms through poorer daily social self-esteem and poorer daily reports of relationship qualities (i.e., lower support, higher conflict; within-person factors). Specifically, we used path analysis to test a mediation model with targets’ social self-esteem and reported conflict and support as within-person mediators (Level 1) of the relationship between influencers’ other-oriented perfectionism (between-person predictor, Level 2), targets’ socially prescribed

perfectionism and self-oriented perfectionism (between-person predictors, Level 2), and daily depressive symptoms. Across the two mediation models, the significance of direct and indirect effects were assessed using the 95% confidence interval. If an indirect effect does not contain 0 within its lower and upper bounds, this suggests that there is mediation (Shrout & Bolger, 2002). The incremental validity of perfectionism was also evaluated by adding neuroticism into the models as a covariate (Graham et al., 2010; Sherry et al., 2013; Smith et al., 2016). Further, influencers' socially desirable response tendencies were controlled for by adding influencers' social desirability as a covariate to the models.

Chapter 7. Study 2 Results

Data Cleaning and Preparation

The data cleaning process for the baseline target undergraduate student data (e.g., targets' self-oriented perfectionism, targets' socially prescribed perfectionism, and targets' neuroticism) is outlined in detail in Chapter 4. The following includes a summary of the data cleaning and preparation process for the influencer data and relevant target daily diary data for study 2. For each of the influencer baseline measures (i.e., other-oriented perfectionism, perfectionistic climate, social desirability) individual scores were initially calculated for each influencer. Thereafter, the influencers' scores were aggregated for each target, resulting in average scores across the measures. For the relevant influencer variables (e.g., perfectionistic climate, other-oriented perfectionism), the amount of missing data were minimal (0.6-4.3% across scale items). A non-significant Little's MCAR test, $\chi^2(21, N = 716) = 14.59, p = .84$, showed that the data were missing completely at random for measures of influencers' perfectionistic climate and influencers' other-oriented perfectionism (Little, 1988; Osborne, 2013). The overall summary of missing values and missing value patterns showed that minimal data were missing and there

were no distinct patterns of missing data (Tabachnick & Fidell, 2019). Multiple imputation was used to generate estimated values for missing data (Tabachnick & Fidell, 2019).

There were no univariate outliers noted outside of the z score range ($\pm 3.29, p < .001$; Tabachnick & Fidell, 2019) for influencers' other-oriented perfectionism. Although there were three univariate outliers outside of the z score range ($\pm 3.29, p < .001$; Tabachnick & Fidell, 2019) for influencers' perfectionistic climate, they were not removed at this stage of data cleaning as a few univariate outliers are expected with larger sample sizes (Tabachnick & Fidell, 2019). Given the significant impact that multivariate outliers can have on analyses, the probability estimates for Mahalanobis distance were assessed on the chi-square distribution to check for multivariate outliers (Tabachnick & Fidell, 2019). There were three cases with a probability estimate below .001 that were of concern and removed from the dataset, as recommended by Tabachnick and Fidell (2019). This resulted in the removal of two of the univariate outliers outlined above.

We tested for assumptions of normality, non-multicollinearity, linearity, and homoscedasticity. Skewness and kurtosis values proved to stay below 1 and frequency histograms and P-P plots suggested that the data had minimal skewness or kurtosis for influencers' other-oriented perfectionism (Osborne, 2013; Tabachnick & Fidell, 2019). For influencers' perfectionistic climate, there appeared to be a positive kurtosis of 1.01, however, the impact of positive kurtosis (i.e., underestimated variance) diminishes in samples greater than 100 (Tabachnick & Fidell, 2019). Skewness of influencers' perfectionistic climate stayed below 1 and review of frequency histograms and P-P plots suggested that the data had minimal skewness. An examination of a correlation matrix revealed that none of the correlations were extremely high (e.g., .90 and above) and therefore multicollinearity was not a concern (Tabachnick &

Fidell, 2019). Visual inspection of bivariate scatterplots and residual scatterplots indicated that the linearity and homoscedasticity assumptions were met (Tabachnick & Fidell, 2019).

The relevant study 2 variables from the daily diary dataset were screened for missing data. Missing data were minimal (1.1%-2.1% across scale items). Maximum likelihood estimation was used across the analyses to handle missing diary data. As mentioned previously, the daily diary data were reviewed for accuracy. A more detailed description of this process can be found in Chapter 4.

Descriptive Statistics for Hypothesis 3

The means, standard deviations, and bivariate correlations for the variables used to test hypothesis 3 are summarized in Table 6. The scale means and standard deviations for the current study are consistent with research using similar samples (Etherson et al., 2022; Etherson et al., in press; Graham et al., 2010; Hewitt et al., 2008; McGrath et al., 2012; Nealis et al., 2015; Sherry et al., 2013). Targets' socially prescribed perfectionism was significantly and positively correlated with outcome measures (e.g., negative affect, stress, and depressive symptoms) except for positive affect. Influencers' perfectionistic climate was significantly and negatively correlated with negative affect and stress, but not significantly related with any other outcome variables. Targets' neuroticism was significantly correlated with all outcome measures in expected directions. All outcome measures were significantly and positively correlated, with the exception of positive affect and depressive symptoms. There was no significant correlation between targets' socially prescribed perfectionism and influencers' report of perfectionistic climate. Targets' neuroticism was significantly and negatively correlated with influencers' report of perfectionistic climate.

Given the unexpected non-significant correlation between influencers' report of perfectionistic climate and targets' socially prescribed perfectionism, we explored the relationship between influencers' social desirability and influencers' perfectionistic climate and found influencers' social desirability was significantly and negatively correlated with influencers' perfectionistic climate. This means that influencers that responded in a more desirable way also endorsed fewer features of perfectionistic climate.

Path Analyses for Hypothesis 3

In the first path analysis (see Figure 5), we looked at the relationships between influencers' report of perfectionistic climate, targets' socially prescribed perfectionism, and daily stress. As expected, targets' socially prescribed perfectionism significantly predicted targets' daily stress ($B = .05$, [95% CI, .01, .08], $p = .01$, $SE = .02$). Targets' neuroticism was included to test for incremental validity, and significantly predicted targets' socially prescribed perfectionism ($B = .27$, [95% CI, .12, .41], $p < .001$, $SE = .07$) and daily stress ($B = .13$, [95% CI, .09, .16], $p < .001$, $SE = .02$). Unexpectedly, influencers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .02$, [95% CI, -.07, .10], $p = .73$, $SE = .04$) or daily stress ($B = -.01$ [95% CI, -.03, .01], $p = .43$, $SE = .01$). Further, there was no significant indirect effect ($B = .001$, [95% CI, -.003, .005], $p = .73$, $SE = .002$), suggesting that socially prescribed perfectionism did not significantly mediate the relationship between influencers' report of perfectionistic climate and targets' daily stress. When influencers' social desirability was added as a covariate, the model remained the same (see Figure 6). Targets' socially prescribed perfectionism significantly predicted targets' daily stress ($B = .05$, [95% CI, .01, .08], $p = .01$, $SE = .02$). Targets' neuroticism significantly predicted targets' socially prescribed perfectionism ($B = .27$, [95% CI, .13, .41], $p < .001$, $SE = .07$) and daily stress ($B =$

.13, [95% CI, .09, .16], $p < .001$, $SE = .02$). Influencers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .02$, [95% CI, -.06, .11], $p = .59$, $SE = .04$) or daily stress ($B = -.01$, [95% CI, -.03, .01], $p = .37$, $SE = .01$). Influencers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = .11$, [95% CI, -.27, .49], $p = .56$, $SE = .19$) or daily stress ($B = -.04$, [95% CI, -.15, .06], $p = .39$, $SE = .05$). Further, the indirect effect was not significant ($B = .001$, [95% CI, -.003, .005], $p = .59$, $SE = .98$).

In the second path analysis (see Figure 7), we assessed the relationships between influencers' report of perfectionistic climate, targets' socially prescribed perfectionism and daily depressive symptoms. As we expected, targets' socially prescribed perfectionism significantly predicted targets' daily depressive symptoms ($B = .04$, [95% CI, .004, .07], $p = .03$, $SE = .02$). Targets' neuroticism was included to test for incremental validity, and it significantly predicted targets' socially prescribed perfectionism ($B = .27$, [95% CI, .12, .41], $p < .001$, $SE = .07$) and daily stress ($B = .12$, [95% CI, .08, .15], $p < .001$, $SE = .02$). Unexpectedly, influencers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .02$, [95% CI, -.07, .10], $p = .73$, $SE = .04$) or daily depressive symptoms ($B = .005$, [95% CI, -.02, .03], $p = .63$, $SE = .01$). Further, the indirect effect was not significant ($B = .001$, [95% CI, -.003, .004], $p = .73$, $SE = .002$), suggesting that targets' socially prescribed perfectionism did not significantly mediate the relationship between influencers' report of perfectionistic climate and targets' daily symptoms of depression. When influencers' social desirability was added as a covariate, the model remained the same (see Figure 8). Targets' socially prescribed perfectionism significantly predicted targets' daily depressive symptoms ($B = .04$, [95% CI, .004, .07], $p = .03$, $SE = .04$). Targets' neuroticism significantly predicted targets' socially

prescribed perfectionism ($B = .27$, [95% CI, .13, .41], $p < .001$, $SE = .07$) and daily depressive symptoms ($B = .12$, [95% CI, .08, .16], $p < .001$, $SE = .02$). Influencers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .02$, [95% CI, -.06, .11], $p = .59$, $SE = .04$) or daily depressive symptoms ($B = .01$, [95% CI, -.02, .03], $p = .62$, $SE = .01$). Influencers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = .11$, [95% CI, -.27, .49], $p = .56$, $SE = .19$) or daily depressive symptoms ($B = -.01$, [95% CI, -.11, .10], $p = .90$, $SE = .05$). Further, the indirect effect was not significant ($B = .001$, [95% CI, -.002, .004], $p = .60$, $SE = .002$).

In the third path analysis (see Figure 9), we assessed the relationships between influencers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily negative affect. As we expected, targets' socially prescribed perfectionism significantly predicted targets' daily negative affect ($B = .07$, [95% CI, .03, .11], $p = .001$, $SE = .02$). Targets' neuroticism was included to test for incremental validity, and significantly predicted targets' socially prescribed perfectionism ($B = .27$, [95% CI, .12, .41], $p < .001$, $SE = .07$) and targets' daily negative affect ($B = .17$, [95% CI, .12, .21], $p < .001$, $SE = .02$). Unexpectedly, influencers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .02$, [95% CI, -.07, .10], $p = .73$, $SE = .04$) or targets' daily negative affect ($B = -.02$, [95% CI, -.05, .01], $p = .15$, $SE = .01$). Further, the indirect effect was not significant ($B = .001$, [95% CI, -.005, .01], $p = .73$, $SE = .003$), suggesting that targets' socially prescribed perfectionism did not significantly mediate the relationship between influencers' report of perfectionistic climate and targets' daily negative affect. When influencers' social desirability was added as a covariate, the model remained the same (see Figure 10). Targets' socially prescribed perfectionism significantly predicted targets' daily negative affect (B

= .07, [95% CI, .03, .11], $p = .001$, $SE = .02$). Targets' neuroticism significantly predicted targets' socially prescribed perfectionism ($B = .27$, [95% CI, .13, .41], $p < .001$, $SE = .07$) and daily negative affect ($B = .17$, [95% CI, .12, .21], $p < .001$, $SE = .02$). Influencers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .02$, [95% CI, -.06, .11], $p = .59$, $SE = .04$) or daily negative affect ($B = -.02$, [95% CI, -.05, .01], $p = .15$, $SE = .01$). Influencers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = .11$, [95% CI, -.27, .49], $p = .56$, $SE = .19$) or daily negative affect ($B = .001$, [95% CI, -.12, .12], $p = .98$, $SE = .06$). Further, the indirect effect was not significant ($B = .002$, [95% CI, -.004, .01], $p = .60$, $SE = .002$).

In the fourth path analysis (see Figure 11), we looked at the relationships between influencers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily positive affect. Unexpectedly, targets' socially prescribed perfectionism did not significantly predict targets' daily positive affect ($B = .03$, [95% CI, -.03, .08], $p = .33$, $SE = .03$). Targets' neuroticism was included to test for incremental validity, and it significantly predicted targets' socially prescribed perfectionism ($B = .27$, [95% CI, .12, .41], $p < .001$, $SE = .07$) and daily positive affect ($B = -.09$, [95% CI, -.14, -.03], $p = .004$, $SE = .03$). Unexpectedly, influencers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .02$, [95% CI, -.07, .10], $p = .73$, $SE = .04$) or targets' positive affect ($B = -.01$, [95% CI, -.04, .03], $p = .73$, $SE = .02$). Further, there was no significant indirect effect ($B = < .001$, [95% CI, -.002, .003], $p = .74$, $SE = .001$), suggesting that targets' socially prescribed perfectionism did not significantly mediate the relationship between influencers' report of perfectionistic climate and targets' positive affect. When influencers' social desirability was added as a covariate, the initial model remained the same (see Figure 12). Targets' socially

prescribed perfectionism did not significantly predict targets' daily positive affect ($B = .02$, [95% CI, $-.03, .08$], $p = .36$, $SE = .03$). Targets' neuroticism significantly predicted targets' socially prescribed perfectionism ($B = .27$, [95% CI, $.13, .41$], $p < .001$, $SE = .07$) and daily positive affect ($B = -.09$, [95% CI, $-.15, -.03$], $p = .005$, $SE = .03$). Influencers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .02$, [95% CI, $-.06, .11$], $p = .59$, $SE = .04$) or daily positive affect ($B = -.004$, [95% CI, $-.04, .03$], $p = .83$, $SE = .02$). Influencers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = .11$, [95% CI, $-.27, .49$], $p = .56$, $SE = .19$) or daily positive affect ($B = .02$, [95% CI, $-.14, .17$], $p = .84$, $SE = .08$). Further, the indirect effect was not significant ($B = .001$, [95% CI, $-.002, .003$], $p = .64$, $SE = .001$).

Exploratory Analyses for Hypothesis 3

Given that a large proportion of the influencer sample was unexpectedly represented by friends of the target participants, exploratory analyses were conducted to rerun the path analyses in a subset of the overall sample (e.g., mothers only, fathers only) to evaluate if there were any discrepancies based on relationship type with influencers. Mothers ($N = 113$) and fathers ($N = 80$) were selected as they had larger sample sizes compared to the other relationships reported (e.g., romantic partner, sibling). In addition, the literature suggests that caregivers play a critical role in the development of perfectionism given their dominant role throughout child development and therefore they may have a larger influence on target participants overall (Hewitt et al., 2017; Hill & Grugan, 2020; Vieth & Trull, 1999). The means, standard deviations, and bivariate correlations for the variables of interest for hypothesis 3 are summarized in Table 7 for mothers and Table 8 for fathers. The means and standard deviations for both samples were similar to those reflected by the overall sample of influencers. The bivariate correlations in Table 7

indicated that mothers' report of perfectionistic climate was significantly and positively correlated with targets' socially prescribed perfectionism, neuroticism, and depressive symptoms. Mothers' social desirability was negatively correlated with mothers' perfectionistic climate. This means that mothers that responded in a socially desirable way, also endorsed fewer features of perfectionistic climate. We added mothers' social desirability as a covariate to the exploratory models to control for potential confounding effects. The bivariate correlations in Table 8 indicated that fathers' report of perfectionistic climate was significantly and negatively correlated with targets' neuroticism, negative affect, and depressive symptoms. Fathers' social desirability was negatively correlated with fathers' perfectionistic climate. This means that fathers that responded in a socially desirable way, also endorsed fewer features of perfectionistic climate. We added fathers' social desirability as a covariate to the exploratory models to control for potential confounding effects.

Path Analyses for Mothers

In the first exploratory path analysis (see Figure 13), we looked at the relationships between mothers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily stress. Targets' socially prescribed perfectionism significantly predicted targets' daily stress ($B = .07$, [95% CI, .03, .12], $p = .003$, $SE = .02$). Targets' neuroticism was included to test for incremental validity, and significantly predicted targets' socially prescribed perfectionism ($B = .25$, [95% CI, .03, .47], $p = .03$, $SE = .11$) and daily stress ($B = .10$, [95% CI, .05, .16], $p < .001$, $SE = .03$). Mothers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, -.04, .12], $p = .35$, $SE = .04$) or targets' daily stress ($B = -.01$, [95% CI, -.03, .01], $p = .43$, $SE = .01$). There was no significant indirect effect ($B = .003$, [95% CI, -.003, .01], $p = .37$, $SE = .003$), suggesting that targets'

socially prescribed perfectionism did not mediate the relationship between mothers' report of perfectionistic climate and targets' daily stress. When mothers' social desirability was added as a covariate, the model remained the same (see Figure 14). Targets' socially prescribed perfectionism significantly predicted targets' daily stress ($B = .07$, [95% CI, .03, .12], $p = .002$, $SE = .03$). Targets' neuroticism significantly predicted targets' socially prescribed perfectionism ($B = .25$, [95% CI, .03, .47], $p = .03$, $SE = .11$) and daily stress ($B = .10$, [95% CI, .05, .16], $p < .001$, $SE = .03$). Mothers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, -.05, .12], $p = .42$, $SE = .04$) or daily stress ($B = -.01$, [95% CI, -.03, .01], $p = .52$, $SE = .01$). Mothers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = -.26$, [95% CI, -.87, .55], $p = .41$, $SE = .31$) or daily stress ($B = .002$, [95% CI, -.15, .15], $p = .98$, $SE = .08$). Further, the indirect effect was not significant ($B = .003$, [95% CI, -.004, .01], $p = .44$, $SE = .003$).

In the second exploratory path analysis (see Figure 15), we evaluated the relationships between mothers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily depressive symptoms. Targets' socially prescribed perfectionism did not significantly predict targets' daily depressive symptoms ($B = .03$, [95% CI, -.02, .07], $p = .23$, $SE = .02$). Targets' neuroticism was included to test for incremental validity, and significantly predicted targets' socially prescribed perfectionism ($B = .25$, [95% CI, .03, .47], $p = .03$, $SE = .11$) and targets' daily depressive symptoms ($B = .09$, [95% CI, .04, .14], $p = .001$, $SE = .03$). Mothers' report perfectionistic climate did not predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, -.04, .12], $p = .35$, $SE = .04$) or targets' daily depressive symptoms ($B = .01$, [95% CI, -.01, .03], $p = .29$, $SE = .01$). There was no significant indirect effect ($B = .001$, [95% CI, -.002, .004], $p = .46$, $SE = .001$), suggesting the relationship between mothers' perfectionistic

climate and targets' daily symptoms of depression was not mediated by targets' socially prescribed perfectionism. When mothers' social desirability was added as a covariate, the model remained the same (see Figure 16). Targets' socially prescribed perfectionism did not significantly predict targets' daily depressive symptoms ($B = .03$, [95% CI, $-.02, .07$], $p = .22$, $SE = .02$). Targets' neuroticism significantly predicted targets' socially prescribed perfectionism ($B = .25$, [95% CI, $.03, .47$], $p = .03$, $SE = .11$) and daily depressive symptoms ($B = .09$, [95% CI, $.04, .14$], $p = .001$, $SE = .03$). Mothers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, $-.05, .47$], $p = .42$, $SE = .04$) or daily depressive symptoms ($B = .01$, [95% CI, $-.01, .03$], $p = .26$, $SE = .01$). Mothers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = -.26$, [95% CI, $-.87, .35$], $p = .41$, $SE = .31$) or daily depressive symptoms ($B = -.002$, [95% CI, $-.15, .14$], $p = .97$, $SE = .07$). Further, the indirect effect was not significant ($B = .001$, [95% CI, $-.002, .004$], $p = .50$, $SE = .001$).

In the third exploratory path analysis (see Figure 17), we looked at the relationships between mothers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily negative affect. Targets' socially prescribed perfectionism significantly predicted targets' daily negative affect ($B = .10$, [95% CI, $.05, .16$], $p < .001$, $SE = .03$). Targets' neuroticism was included to test for incremental validity, and significantly predicted targets' socially prescribed perfectionism ($B = .25$, [95% CI, $.03, .47$], $p = .03$, $SE = .11$) and daily negative affect ($B = .14$, [95% CI, $.07, .20$], $p < .001$, $SE = .03$). Mothers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, $-.04, .12$], $p = .35$, $SE = .04$) or targets' daily depressive symptoms ($B = -.002$, [95% CI, $-.03, .02$], $p = .88$, $SE = .01$). There was no significant indirect effect ($B = .004$, [95% CI, $-.005, .01$],

$p = .36$, $SE = .005$, suggesting targets' socially prescribed perfectionism did not significantly mediate the relationship between mothers' report of perfectionistic climate and targets' negative affect. When mothers' social desirability was added as a covariate, the model remained the same (see Figure 18). Targets' socially prescribed perfectionism significantly predicted targets' daily negative affect ($B = .11$, [95% CI, .05, .16], $p < .001$, $SE = .03$). Targets' neuroticism significantly predicted targets' socially prescribed perfectionism ($B = .25$, [95% CI, .03, .47], $p = .03$, $SE = .11$) and daily negative affect ($B = .14$, [95% CI, .07, .20], $p < .001$, $SE = .03$). Mothers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, -.05, .12], $p = .42$, $SE = .04$) or daily negative affect ($B < .001$, [95% CI, -.03, .03], $p = .99$, $SE = .01$). Mothers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = -.26$, [95% CI, -.87, .35], $p = .41$, $SE = .31$) or daily negative affect ($B = .04$, [95% CI, -.10, .19], $p = .63$, $SE = .09$). Further, the indirect effect was not significant ($B = .004$, [95% CI, -.13, .22], $p = .43$, $SE = .01$).

In the fourth exploratory path analysis (see Figure 19), we looked at the relationships between mothers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily positive affect. Targets' socially prescribed perfectionism did not significantly predict targets' daily positive affect ($B = .06$, [95% CI, -.01, .12], $p = .10$, $SE = .03$). Targets' neuroticism was included to test for incremental validity, and did significantly predict targets' socially prescribed perfectionism ($B = .25$, [95% CI, .03, .47], $p = .03$, $SE = .11$), although it did not significantly predict targets' daily positive affect ($B = -.07$, [95% CI, -.15, .01], $p = .07$, $SE = .04$). Mothers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, -.04, .12], $p = .35$, $SE = .04$) or positive affect ($B = -.01$, [95% CI, -.04, .02], $p = .59$, $SE = .02$). A non-significant indirect effect ($B = .002$, [95% CI,

-.003, .01], $p = .41$, $SE = .003$) indicated that socially prescribed perfectionism did not significantly mediate the relationship between mothers' report of perfectionistic climate and targets' positive affect. When mothers' social desirability was added as a covariate, the model remained the same (see Figure 20). Targets' socially prescribed perfectionism did not significantly predict targets' daily positive affect ($B = .05$, [95% CI, -.01, .12], $p = .11$, $SE = .04$). Targets' neuroticism did significantly predict targets' socially prescribed perfectionism ($B = .25$, [95% CI, .03, .47], $p = .03$, $SE = .11$), and did not significantly predict targets' daily positive affect ($B = -.07$, [95% CI, -.15, .01], $p = .07$, $SE = .04$). Mothers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, -.05, .12], $p = .42$, $SE = .04$) or daily positive affect ($B = -.01$, [95% CI, -.04, .02], $p = .52$, $SE = .01$). Mothers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = -.26$, [95% CI, -.87, .47], $p = .41$, $SE = .31$) or daily positive affect ($B = -.09$, [95% CI, -.30, .13], $p = .43$, $SE = .11$). Further, the indirect effect was not significant ($B = .002$, [95% CI, -.003, .01], $p = .47$, $SE = .003$).

Path Analyses for Fathers

In the fifth exploratory path analysis (see Figure 21), we evaluated relations between fathers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily stress. Targets' socially prescribed perfectionism did not significantly predict targets' daily stress ($B = .06$, [95% CI, -.002, .12], $p = .06$, $SE = .03$). Targets' neuroticism was included to test for incremental validity, and did not significantly predict targets' socially prescribed perfectionism ($B = .20$, [95% CI, -.06, .46], $p = .14$, $SE = .13$), however, it did significantly predict targets' daily stress ($B = .10$, [95% CI, .03, .17], $p = .01$, $SE = .04$). Fathers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism (B

= .01, [95% CI, -.09, .11], $p = .85$, $SE = .05$) or targets' daily stress ($B = -.003$, [95% CI, -.03, .02], $p = .82$, $SE = .01$). There was no significant indirect effect ($B = .001$, [95% CI, -.005, .01], $p = .85$, $SE = .003$), suggesting targets' socially prescribed perfectionism did not mediate the relationship between fathers' report of perfectionistic climate and targets' daily stress. When fathers' social desirability was added as a covariate, the model remained the same (see Figure 22). Targets' socially prescribed perfectionism did not significantly predict targets' daily stress ($B = .06$, [95% CI, -.002, .12], $p = .06$, $SE = .03$). Targets' neuroticism did not significantly predict targets' socially prescribed perfectionism ($B = .20$, [95% CI, -.06, .46], $p = .14$, $SE = .13$), however, it did significantly predict daily stress ($B = .10$, [95% CI, .03, .17], $p = .01$, $SE = .04$). Fathers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .01$, [95% CI, -.09, .11], $p = .85$, $SE = .05$) or daily stress ($B = -.003$, [95% CI, -.03, .02], $p = .82$, $SE = .01$). Fathers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, -.76, .84], $p = .92$, $SE = .41$) or daily stress ($B = -.002$, [95% CI, -.21, .21], $p = .99$, $SE = .11$). Further, the indirect effect was not significant ($B = .001$, [95% CI, -.005, .01], $p = .85$, $SE = .003$).

In the sixth exploratory path analysis (see Figure 23), we looked at relationships between fathers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily depressive symptoms. Targets' socially prescribed perfectionism did not significantly predict targets' daily depressive symptoms ($B = .05$, [95% CI, -.01, .10], $p = .13$, $SE = .03$). Targets' neuroticism was included to test for incremental validity, and did not significantly predict targets' socially prescribed perfectionism ($B = .20$, [95% CI, -.06, .46], $p = .14$, $SE = .13$), although it significantly predicted targets' daily depressive symptoms ($B = .09$, [95% CI, .02, .16], $p = .01$, $SE = .03$). Fathers' report of perfectionistic climate did not significantly

predict targets' socially prescribed perfectionism ($B = .01$, [95% CI, $-.09$, $.11$], $p = .85$, $SE = .05$) or targets' daily depressive symptoms ($B = -.01$, [95% CI, $-.03$, $.02$], $p = .57$, $SE = .01$). There was no significant indirect effect ($B = <.001$, [95% CI, $-.004$, $.005$], $p = .85$, $SE = .002$), suggesting targets' socially prescribed perfectionism did not significantly mediate the relationship between fathers' report of perfectionistic climate and targets' depressive symptoms. When fathers' social desirability was added as a covariate, the model remained the same (see Figure 24). Targets' socially prescribed perfectionism did not significantly predict targets' daily depressive symptoms ($B = .05$, [95% CI, $-.01$, $.10$], $p = .13$, $SE = .03$). Targets' neuroticism did not significantly predict targets' socially prescribed perfectionism ($B = .20$, [95% CI, $-.06$, $.46$], $p = .14$, $SE = .13$), although it significantly predicted targets' daily depressive symptoms ($B = .09$, [95% CI, $.02$, $.16$], $p = .01$, $SE = .03$). Fathers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .01$, [95% CI, $-.09$, $.11$], $p = .85$, $SE = .05$) or daily depressive symptoms ($B = -.01$, [95% CI, $-.03$, $.02$], $p = .55$, $SE = .01$). Fathers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, $-.76$, $.84$], $p = .92$, $SE = .41$) or daily depressive symptoms ($B = -.06$, [95% CI, $-.26$, $.14$], $p = .55$, $SE = .10$). There was no significant indirect effect ($B = <.001$, [95% CI, $-.004$, $.005$], $p = .85$, $SE = .002$),

In the seventh exploratory path analysis (see Figure 25), we looked at relationships between fathers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily negative affect. Targets' socially prescribed perfectionism significantly predicted targets' negative affect ($B = .07$, [95% CI, $.01$, $.13$], $p = .03$, $SE = .03$). Targets' neuroticism was included to test for incremental validity, and did not significantly predict targets' socially prescribed perfectionism ($B = .20$, [95% CI, $-.06$, $.46$], $p = .14$, $SE = .13$), although it

significantly predicted targets' daily negative affect ($B = .14$, [95% CI, .07, .21], $p < .001$, $SE = .04$). Fathers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .01$, [95% CI, -.09, .11], $p = .85$, $SE = .05$) or targets' daily negative affect ($B = -.01$, [95% CI, -.04, .02], $p = .58$, $SE = .01$). There was no significant indirect effect ($B = <.001$, [95% CI, -.01, .01], $p = .85$, $SE = .004$), suggesting targets' socially prescribed perfectionism did not mediate the relationship between fathers' report of perfectionistic climate and targets' negative affect. When fathers' social desirability was added as a covariate, the model remained the same (see Figure 26). Targets' socially prescribed perfectionism significantly predicted targets' negative affect ($B = .07$, [95% CI, .01, .13], $p = .03$, $SE = .03$). Targets' neuroticism did not significantly predict targets' socially prescribed perfectionism ($B = .20$, [95% CI, -.06, .46], $p = .14$, $SE = .13$), although it significantly predicted targets' daily negative affect ($B = .14$, [95% CI, .07, .21], $p < .001$, $SE = .04$). Fathers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .01$, [95% CI, -.09, .11], $p = .85$, $SE = .05$) or targets' daily negative affect ($B = -.01$, [95% CI, -.04, .02], $p = .59$, $SE = .01$). Fathers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, -.76, .84], $p = .92$, $SE = .41$) or daily negative affect ($B = .03$, [95% CI, -.19, .25], $p = .78$, $SE = .11$). There was no significant indirect effect ($B = .001$, [95% CI, -.01, .01], $p = .85$, $SE = .004$).

The eighth exploratory path analysis (see Figure 27) looked at relationships between fathers' report of perfectionistic climate, targets' socially prescribed perfectionism, and targets' daily positive affect. Targets' socially prescribed perfectionism did not significantly predict targets' positive affect ($B = -.01$, [95% CI, -.10, .08], $p = .82$, $SE = .05$). Targets' neuroticism was included to test for incremental validity, and it did not significantly predict targets' socially

prescribed perfectionism ($B = .20$, [95% CI, $-.06$, $.46$], $p = .14$, $SE = .13$) or targets' daily positive affect ($B = -.07$, [95% CI, $-.17$, $.04$], $p = .21$, $SE = .05$). Fathers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .01$, [95% CI, $-.09$, $.11$], $p = .85$, $SE = .05$) or targets' daily positive affect ($B = .01$, [95% CI, $-.03$, $.05$], $p = .78$, $SE = .02$). There was no significant indirect effect ($B = <.001$, (95% CI, $-.001$, $.001$), $p = .88$, $SE = .001$), suggesting that targets' socially prescribed perfectionism did not significantly mediate the relationship between fathers' report of perfectionistic climate and targets' positive affect. When fathers' social desirability was added as a covariate, the model remained the same (see Figure 28). Targets' socially prescribed perfectionism did not significantly predict targets' positive affect ($B = -.01$, [95% CI, $-.10$, $.08$], $p = .82$, $SE = .05$). Targets' neuroticism did not significantly predict targets' socially prescribed perfectionism ($B = .20$, [95% CI, $-.06$, $.46$], $p = .14$, $SE = .13$) or targets' daily positive affect ($B = -.06$, [95% CI, $-.17$, $.04$], $p = .21$, $SE = .05$). Fathers' report of perfectionistic climate did not significantly predict targets' socially prescribed perfectionism ($B = .01$, [95% CI, $-.09$, $.11$], $p = .85$, $SE = .05$) or targets' daily positive affect ($B = .01$, [95% CI, $-.04$, $.05$], $p = .81$, $SE = .02$). Fathers' social desirability did not significantly predict targets' socially prescribed perfectionism ($B = .04$, [95% CI, $-.76$, $.84$], $p = .92$, $SE = .41$) or daily positive affect ($B = -.08$, [95% CI, $-.38$, $.23$], $p = .61$, $SE = .16$). There was no significant indirect effect ($B = <.001$, (95% CI, $-.002$, $.001$), $p = .88$, $SE = .001$),

Descriptive Statistics for Hypothesis 4

The means, standard deviations, and bivariate correlations for the relevant variables for hypothesis 4 are summarized in Table 9. The means were consistent with similar samples documented in the literature (Etherson et al., 2022; Etherson et al., in press; Graham et al., 2010; Hewitt et al., 2008; McGrath et al., 2012; Nealis et al., 2015; Sherry et al., 2013). In terms of

relations between the study predictors, influencers' other-oriented perfectionism, targets' self-oriented perfectionism, and targets' socially prescribed perfectionism were significantly and positively correlated. Targets' neuroticism was significantly and positively correlated with targets' self-oriented perfectionism and targets' socially prescribed perfectionism, and significantly negatively correlated with influencers' other-oriented perfectionism. We explored the role of influencers' socially desirable response tendencies and found there was no significant correlation between influencers' social desirability and influencers' report of other-oriented perfectionism, although there were significant correlations between influencers' social desirability and targets' neuroticism, difficulties with social self-esteem, support, conflict, and depressive symptoms.

The correlations for the mediating variables showed that difficulties with social self-esteem was positively correlated with all of the target undergraduate student variables (i.e., self-oriented perfectionism, socially prescribed perfectionism, and neuroticism), and not significantly correlated with influencers' other-oriented perfectionism. Targets' conflict was positively correlated with targets' neuroticism and social self-esteem issues. Targets' support was negatively correlated with targets' socially prescribed perfectionism and positively correlated with targets' social self-esteem problems. Targets' conflict and support were significantly and positively correlated. The main outcome variable (i.e., depressive symptoms) was positively correlated with all predicting and mediating variables.

Path Analysis for Hypothesis 4

We used path analysis (see model in Figure 29) to look at the relations between influencers' other-oriented perfectionism, targets' self-oriented perfectionism, targets' socially prescribed perfectionism, targets' neuroticism, targets' social self-esteem difficulties, targets'

conflict, targets' support, and targets' depressive symptoms. As expected, targets' socially prescribed perfectionism significantly predicted difficulties with social self-esteem ($B = .10$, [95% CI, .04, .17], $p = .003$, $SE = .03$). Further, targets' social-self-esteem issues significantly predicted depressive symptoms ($B = .22$, [95% CI, .21, .24], $p < .001$, $SE = .01$). As expected, there was a significant indirect effect ($B = .02$, [95% CI, .01, .04], $p = .003$, $SE = .01$) suggesting that socially prescribed perfectionism predicted depressive symptoms through difficulties with social self-esteem. All other hypothesized indirect effects were not significant. Targets' neuroticism significantly predicted targets' social self-esteem issues ($B = .20$, [95% CI, .13, .26], $p < .001$, $SE = .03$). There was another significant indirect effect ($B = .04$, [95% CI, .03, .06], $p < .001$, $SE = .01$), suggesting that neuroticism predicted greater depressive symptoms through difficulties with social self-esteem. Significant direct effects for targets' social self-esteem issues ($B = .22$, [95% CI, .21, .24], $p < .001$, $SE = .01$) and targets' conflict ($B = .37$, [95% CI, .26, .48], $p < .001$, $SE = .06$) suggested they significantly predicted targets' daily depressive symptoms. All other paths in the model were not significant. When influencers' social desirability was added, the model remained the same (see Figure 30). That is, targets' socially prescribed perfectionism significantly predicted difficulties with social self-esteem ($B = .10$, [95% CI, .03, .17], $p = .004$, $SE = .03$). Further, targets' daily social-self-esteem issues significantly predicted depressive symptoms ($B = .22$, [95% CI, .21, .24], $p < .001$, $SE = .01$). There was a significant indirect effect ($B = .02$, [95% CI, .01, .04], $p = .004$, $SE = .01$) suggesting that socially prescribed perfectionism predicted depressive symptoms through difficulties with social self-esteem. Targets' neuroticism significantly predicted targets' social self-esteem issues ($B = .20$, [95% CI, .12, .26], $p < .001$, $SE = .04$). There was another significant indirect effect ($B = .04$, [95% CI, .03, .06], $p < .001$, $SE = .01$), suggesting that neuroticism predicted greater depressive symptoms through difficulties with

social self-esteem. Influencers' social desirability significantly predicted targets' daily support ($B = .07$, [95% CI, .02, .13], $p = .01$, $SE = .03$). There were significant direct effects for targets' social self-esteem ($B = .22$, [95% CI, .21, .24], $p < .001$, $SE = .01$) and targets' conflict ($B = .37$, [95% CI, .26, .48], $p < .001$, $SE = .06$). All other paths in the model were not significant.

Exploratory Analyses for Hypothesis 4

As mentioned previously, there were a larger proportion of friends in the influencer sample than was expected. As such, we conducted exploratory analyses to run the model for hypothesis 4 in a subset of the data (i.e., mothers and fathers independently) to explore whether there were any differences in the findings based on relationship type. Mothers ($N = 113$) and fathers ($N = 80$) were selected for the exploratory analyses. The means, standard deviations, and bivariate correlations for the relevant variables for hypothesis 4 for mothers are summarized in Table 10. There were more significant correlations observed with the mother sample compared to the influencer sample. Of note, mothers' other-oriented perfectionism seemed to play a greater role as it was positively correlated with targets' social self-esteem issues, conflict, and support. Targets' conflict and support were positively correlated with predicting variables including targets' self-oriented perfectionism and socially prescribed perfectionism. Mothers' social desirability was significantly and negatively correlated with mothers' other-oriented perfectionism. This means that mothers that responded in a socially desirable way, also endorsed fewer features of other-oriented perfectionism. We added mothers' social desirability to the exploratory model to control for potential confounding effects. The means, standard deviations, and bivariate correlations for fathers are summarized in Table 11. The bivariate correlations for fathers seemed to be more consistent with the bivariate correlations observed for the influencer sample. However, fathers' other-oriented perfectionism was significantly correlated with fewer

variables. The correlational findings indicated that fathers' other-oriented perfectionism was significantly and positively correlated with targets' self-oriented perfectionism and targets' conflict, and was negatively correlated with targets' depressive symptoms. Fathers' social desirability was significantly and positively correlated with fathers' other-oriented perfectionism. This means that fathers that responded in a socially desirable way endorsed greater other-oriented perfectionism. We added fathers social desirability to the exploratory model to control for potential confounding effects.

Path Analyses for Mothers

We used path analysis (see model in Figure 31) to look at the relations between mothers' other-oriented perfectionism, targets' self-oriented perfectionism, targets' socially prescribed perfectionism, targets' neuroticism, targets' social self-esteem issues, targets' conflict, targets' support, and targets' depressive symptoms. The model indicated that mothers' other-oriented perfectionism significantly predicted targets' relationship support ($B = .02$, [95% CI, .001, .04], $p = .04$, $SE = .01$). Targets' neuroticism significantly predicted targets' social self-esteem issues ($B = .16$, [95% CI, .05, .26], $p = .004$, $SE = .05$). There was a significant indirect effect ($B = .04$, [95% CI, .01, .06], $p = .004$, $SE = .01$) which indicated that neuroticism predicted targets' depressive symptoms through issues with social self-esteem. Significant direct effects showed that targets' social self-esteem issues ($B = .22$, [95% CI, .19, .25], $p < .001$, $SE = .02$) and targets' relationship support ($B = .11$, [95% CI, .004, .22], $p = .04$, $SE = .05$) significantly predicted targets' depressive symptoms. All other paths in the model were not significant. When mothers' social desirability was added as a covariate, the model remained the same (see Figure 32). Mothers' other-oriented perfectionism significantly predicted targets' relationship support ($B = .02$, [95% CI, .002, .04], $p = .03$, $SE = .04$). Targets' neuroticism significantly predicted targets'

social self-esteem issues ($B = .16$, [95% CI, .05, .26], $p = .003$, $SE = .05$). There was a significant indirect effect ($B = .04$, [95% CI, .01, .06], $p = .004$, $SE = .01$) which indicated that neuroticism predicted targets' depressive symptoms through issues with social self-esteem. There were significant direct effects for targets' social self-esteem difficulties ($B = .22$, [95% CI, .19, .25], $p < .001$, $SE = .02$) and targets' relationship support ($B = .11$, [95% CI, .005, .22], $p = .04$, $SE = .05$). All other paths in the model were not significant.

Path Analyses with Fathers

We used path analyses (see model in Figure 33) to look at relations between fathers' other-oriented perfectionism, targets' self-oriented perfectionism, targets' socially prescribed perfectionism, targets' neuroticism, targets' social self-esteem issues, targets' conflict, targets' support, and targets' depressive symptoms. The path model indicated that targets' socially prescribed perfectionism ($B = .17$, [95% CI, .05, .30], $p = .01$, $SE = .06$) and neuroticism ($B = .19$, [95% CI, .07, .31], $p = .003$, $SE = .06$) significantly predicted targets' social self-esteem issues. The significant indirect effects showed that targets' socially prescribed perfectionism predicted depressive symptoms through targets' social self-esteem issues ($B = .05$, [95% CI, .02, .09], $p = .01$, $SE = .02$) and neuroticism predicted depressive symptoms through social self-esteem issues ($B = .06$, [95% CI, .02, .09], $p = .003$, $SE = .02$). Targets' social self-esteem issues ($B = .30$, [95% CI, .27, .34], $p < .001$, $SE = .03$), support ($B = .16$, [95% CI, .02, .29], $p = .02$, $SE = .07$), and conflict ($B = .31$, [95% CI, .01, .60], $p = .04$, $SE = .15$) significantly predicted targets' daily depressive symptoms. All other paths were not significant in this model. When fathers social desirability was added as a covariate, the model remained the same (Figure 34). Targets' socially prescribed perfectionism ($B = .17$, [95% CI, .05, .30], $p = .01$, $SE = .06$) and neuroticism ($B = .19$, [95% CI, .07, .31], $p = .003$, $SE = .06$) significantly predicted targets'

social self-esteem issues. The significant indirect effects showed that targets' socially prescribed perfectionism predicted depressive symptoms through targets' social self-esteem issues ($B = .05$, [95% CI, .02, .09], $p = .01$, $SE = .02$) and neuroticism predicted depressive symptoms through social self-esteem issues ($B = .06$, [95% CI, .02, .09], $p = .003$, $SE = .02$). Targets' social self-esteem issues ($B = .30$, [95% CI, .27, .34], $p < .001$, $SE = .02$), support ($B = .16$, [95% CI, .03, .29], $p = .02$, $SE = .07$), and conflict ($B = .31$, [95% CI, .01, .60], $p = .04$, $SE = .15$) significantly predicted targets' daily depressive symptoms. All other paths were not significant in this model.

Chapter 8. Summary of Study 2 Results and Discussion

The aim of study 2 was to evaluate relationships between dimensions of perfectionism and maladjustment outcomes in university students, with a special consideration for interpersonal contexts. A multi-source intensive longitudinal design was used to evaluate outside sources (i.e., influencers' expectations for perfection) and inside sources (i.e., targets' internal expectations for perfection, perceived pressures from others to be perfect, sense of rejection from others, perceived relationship issues) contributing to targets' maladjustment. First, we looked at relations between influencers' report of perfectionistic climate and targets' maladjustment (i.e., greater depressive symptoms, lower positive affect, greater negative affect, greater stress) and whether targets' socially prescribed perfectionism mediated these relationships. Below is a summary of these findings.

Across the path analyses, there were no significant indirect effects, suggesting that targets' socially prescribed perfectionism did not significantly mediate the relationship between influencers' report of perfectionistic climate and undergraduate students' maladjustment outcomes. It is important to note that influencers' report of perfectionistic climate and undergraduate students' socially prescribed perfectionism were not significantly associated. This

was unexpected, as past literature (e.g., Smith et al., 2017) and the current study showed that influencers' other-oriented perfectionism was positively correlated with targets' socially prescribed perfectionism. We explored whether socially desirable responding could explain this unexpected finding and found that there was a significant negative correlation between influencers' report of perfectionistic climate and influencers' social desirability such that influencers that responded in a more socially desirable way seemed to also endorse perfectionistic climate to a lesser extent. This finding is consistent with past studies, such as Hewitt and Flett's (1991) study that showed a negative relationship between other-oriented perfectionism (i.e., expectations for other to be perfect) and social desirability. In the current study, we found that after controlling for socially desirable responding, the study findings remained the same.

Previous studies suggest the relationships between influencers' perfectionistic expectations and targets' perception of such demands may not be consistent, and rather dependent on the type of relationship between targets and influencers (Mushquash et al., 2013; Smith et al., 2019; Vieth & Trull, 1999). For example, Smith and colleagues (2019) found that mothers' and siblings' other-oriented perfectionism was significantly correlated with targets' socially prescribed perfectionism, although other-oriented perfectionism reported by fathers, partners, and peers were not significantly correlated with targets' socially prescribed perfectionism. Smith and colleagues (2019) acknowledged a methodological limitation of their study, specifically that they allowed the students to freely choose their influencers. They noted that participants may have chosen influencers based on personal preference (e.g., individuals perceived as less demanding) which may have confounded their study results. The current study addressed this limitation by encouraging students to select influencers from a set of categories to

reduce selection biases. Although we used this strategy to prevent selection biases, it is still possible that the sample of influencers in the current study, which were unexpectedly largely represented by friends, were selected as less demanding than others in one's social network and perhaps this partially explains the lack of relationship between influencers' perfectionistic climate and undergraduate students' socially prescribed perfectionism. In the current study, we found that when targets were asked to report on their perception of the perfectionistic climate that existed within their set of influencers, there was a positive association between targets' report of perfectionistic climate and influencers' report of perfectionistic climate. However, when targets' were asked to report on their perception of perfectionistic standards from others (i.e., socially prescribed perfectionism) more broadly (i.e., including influencers and others), there was no association between influencers' report of perfectionistic climate and targets' report of perceived demands from others. This finding further suggests that targets may have neglected to include influencers that were more demanding in their lives and more closely aligned with their true perception of demands from others.

Consistent with our hypothesis, dispositional socially prescribed perfectionism reported by undergraduate students significantly predicted various maladjustment outcomes occurring on a daily basis, including stress, depressive symptoms, and negative affect. This is consistent with literature that acknowledges the destructiveness of socially prescribed perfectionism (e.g., Flett et al., 2022). These findings indicate that perceived social pressures to be perfect continue to be problematic for undergraduate students, as evidenced by greater daily stress, daily depressive symptoms, and daily negative affect. Given that the current study used an intensive longitudinal design, the findings bolster previous study results as they suggest that with the use of reliable and

ecologically valid measures of daily maladjustment, the relationship between socially prescribed perfectionism and maladjustment remains true in undergraduate students.

Given the overlap between neuroticism and perfectionism that is well documented in the literature, neuroticism was included in all of the models to determine the incremental validity of the model predictors. Consistent with past literature (Smith et al., 2016), targets presenting with greater neuroticism were more likely to perceive expectations from others to be perfect and reported greater daily stress, depressive symptoms, and negative affect, and lower daily positive affect. This finding supports the notion that neuroticism and perfectionism dimensions are closely intertwined and further suggests the importance of controlling for neuroticism when studying the relationship between perfectionism and maladjustment in undergraduate students.

We explored the original path models in subsamples of influencers based on their relationship with targets (e.g., mothers, fathers). Correlational analyses showed a significant positive correlation between mothers' report of perfectionistic climate and targets' socially prescribed perfectionism which differed from correlational findings for influencers as a group. Although the correlational finding suggested that mothers' expectations and criticism were associated with undergraduate students' perceived pressures to be perfect, the exploratory path analyses did not support the proposed mediation. The models for the sample of mothers produced similar findings to the full sample of influencers. A notable difference observed showed that targets' socially prescribed perfectionism was no longer a significant predictor of targets' depressive symptoms when mothers' report of perfectionistic climate was included. In addition, in the model predicting positive affect, targets' neuroticism was no longer a significant predictor.

The exploratory analyses with fathers indicated a set of different findings. The correlational matrix indicated that fathers' report of perfectionistic climate was negatively correlated with targets' socially prescribed perfectionism, which would suggest that fathers' expectations and criticism may be associated with lower socially prescribed perfectionism in undergraduate students. The findings of the models with fathers differed from the influencer and mother samples, with not as many significant direct effects, suggesting that in the context of fathers' reported perfectionistic climate, targets' socially prescribed perfectionism seemed to play less of a role in predicting maladjustment outcomes compared to the perfectionistic climate ratings made by other samples (e.g., influencers, mothers).

Across the exploratory analyses, there were discrepancies in the models across the subsamples which may suggest that different relationships have varying influence on targets' socially prescribed perfectionism and maladjustment outcomes. Past literature suggests that mothers are often viewed as the primary caregiver, and if they were viewed as such in the current study, this means they may have spent the most time with the undergraduate students and had a larger influence (Vieth & Trull, 1999). In the perfectionism literature, it seems that mothers' expectations for perfection are more consistently associated with perfectionism and maladjustment (e.g., depression) in their offspring compared to other relationships (Cooke & Kearney, 2014; Smith et al., 2017; Smith et al., 2019). Our exploratory results further suggest that mothers' report of demands for perfection, criticism, and controlling nature may be more closely linked to perfectionism and maladjustment in undergraduate students. However, it is important to note that these analyses were exploratory in nature, with smaller sample sizes, and therefore should be interpreted with caution.

Our secondary purpose of study 2 was to examine interpersonal mediating mechanisms that explain the relationship between perfectionism (reported by influencers and targets) and targets' daily depressive symptoms. Based on the perfectionism social disconnection model (Blankstein et al., 2007; Chen et al., 2015; Chen et al., 2012; Roxborough et al., 2012; Sherry et al., 2008; Smith et al., 2020; Smith et al., 2018; Smith, Sherry, Mushquash, et al., 2017), we expected that influencers' other-oriented perfectionism (between-person factor) and targets' socially prescribed perfectionism and self-oriented perfectionism (between-person factors) would be associated with greater daily depressive symptoms through poorer daily social self-esteem and poorer daily reports of relationship qualities (i.e., lower support, higher conflict; within-person factors). The hypothesized model was partially supported. Targets' higher in socially prescribed perfectionism experienced greater depressive symptoms through greater social self-esteem issues on a daily basis. This finding supports the theoretical basis of the perfectionism social disconnection model, primarily that individuals that believe their acceptance by others relies on achieving perfect outcomes may be more likely to feel rejection from others or lower social self-esteem that contributes to depressed mood (Hewitt et al., 2006; Hewitt et al., 2017).

The findings are consistent with past empirical evidence, such as Smith, Sherry, Mushquash and colleagues' (2017) study of mother-daughter dyads that showed daughters' socially prescribed perfectionism was associated with depressive symptoms through poorer social self-esteem. We replicated this finding in a broad sample of university students. While Smith, Sherry, Mushquash and colleagues (2017) found support for the role of mothers' other-oriented perfectionism and daughters' self-oriented perfectionism in their model, the current study did not support the role of other-oriented perfectionism in one's social network as a whole or undergraduate students' self-oriented perfectionism. Our nonsignificant findings suggest that

perhaps there are unique relationships that occur between mother-daughter dyads that explain depressive symptoms. Smith, Sherry, Mushquash and colleagues (2017) suggest that daughters higher in socially prescribed perfectionism and self-oriented perfectionism strive for others' approval, perceive greater social rejection, and pursue achievement to an extent where close relationships may suffer. In addition, a sense of connection with others may be especially difficult for daughters with mothers that are higher in other-oriented perfectionism (Smith, Sherry, Mushquash, et al., 2017). The current study findings suggest that these pathways may not be as prominent across the entire student population and within the context of the broad social network. Future studies may benefit from a similar design used by Smith and colleagues (2019), where the influence of others was compared across relationships (e.g., mothers, siblings, peers). Future research may consider similar direct comparisons based on relationships to determine the degree of influence of others within the perfectionism social disconnection model.

Consistent with the previous models tested in the current study, neuroticism was a significant predictor in the model for hypothesis 4. Results showed that targets' daily social self-esteem mediated the relationship between neuroticism and daily depressive symptoms, suggesting that those with a heightened propensity for negative emotions seemed to experience greater depressive symptoms through a sense of rejection from others. This finding shows that neuroticism plays a distinct role in models such as the perfectionism social disconnection model, and further suggests the importance of controlling for neuroticism in such models to truly determine incremental validity of perfectionism constructs.

Consistent with past research showing support for the relationship between negative social experiences (e.g., conflict) and depressive symptoms in university students (e.g., Harper, Eddington, & Silvia, 2020; Mackinnon et al., 2012), we found that targets' daily conflict with

their influencers was associated with greater daily depressive symptoms. However, unexpectedly, targets' reported conflict with influencers was also associated with greater support from influencers. In the perfectionism social disconnection model, poor social support received and greater conflict or negative social interactions have been highlighted as key mechanisms explaining the relationship between perfectionism and depression (Harper, Eddington, & Silvia, 2020; Mackinnon et al., 2012; Sherry et al., 2008). However, upon further evaluation, we realized that the original questions posed to target participants regarding relationship support and conflict focused on the presence or absence of support or conflict across relationships, which may have limited our understanding of the quality of support received or conflict experienced across relationships. It is possible that conflict and support co-occurred within relationships (Julien et al., 2003) and across the relationships in an individual's social network (Aeby et al., 2021; Sapin et al., 2016), however it is unclear whether the support or conflict experienced were viewed as positive or negative experiences. For instance, Julien and colleagues (2003) suggest that there may be positive or negative behaviours in response to conflict and support in romantic relationships. The perfectionism social disconnection literature suggests that it is especially negative social interactions (e.g., rejection, criticism linked to sadness and depressive symptoms) and poorer perceived social support (e.g., lack of alliance, attachment, guidance) that mediate the socially prescribed perfectionism-maladjustment relationship (Harper, Eddington, & Silvia, 2020; Mackinnon et al., 2012; Sherry et al., 2008) and it is unclear if we fully captured those qualities in our conflict and support questions in the current study, which may partially explain the unexpected findings. Future studies of the perfectionism social disconnection model may consider incorporating scales that measure qualities of social support and conflict (see Mackinnon et al., 2012; Sherry et al., 2008).

Similar to the exploratory analyses for hypothesis 3, we observed some differences in the model findings based on relationship type in the exploratory analyses for hypothesis 4. For instance, mothers' other-oriented perfectionism seemed to be more closely associated with targets' variables, while fathers' other-oriented perfectionism was less closely associated with targets' variables. When we controlled for the influence of mothers' and fathers' social desirability, the exploratory models remained the same. In the literature, the impact of mothers' expectations for perfection and controlling nature on their child is well documented, while fathers' other-oriented perfectionism seems to be less impactful (Cook & Kearney, 2014; Smith, Sherry, Gautreau, et al., 2017). Cook and Kearney (2014) showed maternal other-oriented perfectionism was associated with child socially prescribed perfectionism, while paternal perfectionism was not. Similarly, Smith, Sherry, Mushquash and colleagues (2017) showed that mothers other-oriented perfectionism was related to greater depressive symptoms in daughters. In Smith and colleagues' (2019) multi-source study, when they looked at whose other-oriented perfectionism was most relevant in the socially prescribed perfectionism-depression relationship, they found that mothers and siblings emerged as most relevant relationships for target participants. Consistent with some past research, the exploratory analyses showed that mothers may be more relevant when evaluating the perfectionism social disconnection model as well. The close association between mothers' other-oriented perfectionism and target variables in the current study may support the notion that the undergraduate students had greater exposure to their mothers than fathers or perhaps they viewed their mothers as their primary caregiver, which would mean that mothers may have had a larger impact on their lives (Vieth & Trull, 1999). The discrepancies in the observed relationships further emphasizes the notion that there may be differences observed based on the nature of the relationship for undergraduate students. Given

the exploratory nature of these analyses, it will be important for future research to evaluate the perfectionism social disconnection model based on relationship type using larger sample sizes.

Chapter 9. General Discussion

The current program of research used a multi-source intensive longitudinal design to study the relationship between perfectionism and maladjustment outcomes with consideration for intrapersonal and interpersonal contexts. In study 1, we focused on intrapersonal vulnerability factors for maladjustment outcomes in undergraduate students. More specifically, we tested Hewitt and Flett's (1991) specific vulnerability hypothesis that outlines that for individuals higher in self-oriented perfectionism, maladjustment occurs as a response to difficulties with congruent stressors (e.g., achievement). Similarly, Hewitt and Flett assert that for individuals higher in socially prescribed perfectionism, maladjustment may be observed due to difficulties with congruent stressors (e.g., interpersonal). In study 1, the specific vulnerability hypothesis was not supported, and there was no evidence that specificity was observed for relationships between self-oriented perfectionism and achievement stressors or socially prescribed perfectionism and interpersonal stressors in predicting depressive affect in the sample of undergraduate students.

In study 1, we used daily diaries to allow for naturalistic observation and real-life descriptions of daily stress experienced by undergraduate students. With this advanced form of daily measurement of stress, we found that there was a significant association between daily stressors and depressive affect in undergraduate students, which is consistent with past research suggesting a link between stress and maladjustment in post-secondary students (Andrews & Wilding, 2004; Hirsch et al., 2019; Lester, 2014). While past studies showed the relationship between stress and maladjustment at specific moments in time, the current study supports our

understanding of the relationship by showcasing the dynamic and natural experiences of stress over the course of each day and recalled more accurately, closer to the actual moment in time that it occurs. Our finding suggests that on days that students experienced stressors, they were more likely to experience greater depressive affect.

Beginning in March 2020, the COVID-19 pandemic brought about significant changes for post-secondary students such as school closures, academic disruptions and uncertainty, and restrictions on social gatherings (Jacobs et al., 2023; Zhu et al., 2021). These drastic changes may have added to students' stress in the current study as they participated in the study following the COVID-19 pandemic lockdown. Although the study data was collected when classes returned to campus and in-person delivery, the time period was still marked by waves of uncertainty and changes in policies that impacted educational and social settings. For instance, students were expected to wear masks to school and complete daily screeners for symptoms of illness related to COVID-19. During this period, there were times that greater restrictions were placed on social gatherings, with greater emphasis on physical distancing which may have negatively impacted students. Therefore, daily stressors and daily depressive affect may have been heightened by disruptions at school and social settings experienced by the undergraduate students.

While our main focus for study 1 was to examine dispositional perfectionism as a vulnerability factor for an indicator of maladjustment in undergraduate students, many researchers highlight the need to evaluate dispositional perfectionism with consideration for interpersonal contexts (Curran & Hill, 2022; Flett et al., 2022; Hewitt et al., 2006; Hewitt et al., 2017; Smith, Sherry, et al., 2017; Smith, Sherry, Ge, et al., 2021). As such, in study 2 we aimed to investigate the role of influencers' report of perfectionistic expectations on perfectionistic

tendencies and maladjustment outcomes in targets. First, we assessed whether influencers' report of perfectionistic climate predicted maladjustment outcomes in targets through targets' socially prescribed perfectionism. Influencers' report of perfectionistic climate (e.g., perfectionistic expectations and criticism, controlling behaviour, anxiousness) did not predict undergraduate students' socially prescribed perfectionism or undergraduate students' daily maladjustment outcomes. We suspect this unexpected finding was partially explained by selection bias on behalf of targets, as they may have selected influencers based on a preference for those perceived as less demanding. Therefore, targets' perception of broad social demands to be perfect may not be consistent with the report of influencers selected specifically to participate in the study.

Although the influence of perfectionistic demands and expectations as reported by the social network were not supported, the present findings did show that the *perception* of perfectionistic demands and expectations remains an issue for university students. In study 2, socially prescribed perfectionism was a consistent vulnerability factor for daily maladjustment (e.g., stress, depressive symptoms, negative affect) in the targets which aligns with literature emphasizing the destructiveness of socially prescribed perfectionism (e.g., Flett et al., 2022). Curran and Hill (2019) outlined that the levels of perfectionism are increasing over time, with socially prescribed perfectionism seeing the largest increase. With our findings, this suggests that post-secondary students continue to perceive a mounting pressure to be perfect which is associated with greater distress and psychopathology (Curran & Hill, 2019; Flett et al., 2022).

In our investigation of the contributions of interpersonal contexts to the perfectionism-maladjustment relationship in targets, we also looked at interpersonal factors as mediators of relations between perfectionism reported by influencers, perfectionism reported by targets, and depressive symptoms reported by targets. Our mediation model was based on the perfectionism

social disconnection model which suggests that dispositional perfectionism (e.g., socially prescribed perfectionism, self-oriented perfectionism) is associated with depression through interpersonal issues (e.g., lack of support, greater conflict) and social self-esteem issues (e.g., perceived social rejection). We expanded on the social disconnection model by including the ratings of influencers' perfectionistic expectations. We found partial support for the model which showed that undergraduate students' dispositional socially prescribed perfectionism was associated with greater daily depressive symptoms through daily social self-esteem issues. The study showed support for an interpersonal mechanism that impacts students higher in socially prescribed perfectionism on a daily basis over the span of a week. We also found that targets with greater daily relationship conflict experienced greater daily depressive symptoms. Using a daily diary design helped show that interpersonal (e.g., social self-esteem issues, relationship conflict) and intrapersonal (e.g., socially prescribed perfectionism, neuroticism) vulnerability factors coexist on a daily basis for undergraduate students.

The current studies converged upon support for the close relationship between dimensions of perfectionism and neuroticism, as neuroticism was an independent predictor of various maladjustment outcomes for targets. The study findings highlight the distinct role that neuroticism plays within multilevel models of perfectionism and maladjustment (accounting for within-person and between-person effects). We found partial support for the incremental predictive utility of perfectionism, above and beyond neuroticism. Some of our models showed that socially prescribed perfectionism uniquely predicted undergraduate students' depressive symptoms, negative affect, and perceived stress, which is consistent with past research (e.g., Smith et al., 2016). While our other models indicated a lack of support for the incremental validity of socially prescribed perfectionism predicting daily stressors and self-oriented

perfectionism predicting daily stressors and depressive symptoms. Altogether, our findings suggest that consistent with past literature, neuroticism is a robust predictor of maladjustment in undergraduate students, and there likely is shared variance between neuroticism and socially prescribed perfectionism and self-oriented perfectionism. The findings also suggest there may be instances where the effects of socially prescribed perfectionism and self-oriented perfectionism are less substantial compared to neuroticism when predicting maladjustment. In Smith and colleagues' (2016) meta-analysis of longitudinal perfectionism-depression effects, they found that socially prescribed perfectionism and self-oriented perfectionism had small effect sizes after controlling for neuroticism. In another study of the incremental validity of perfectionism predicting anxiety, depression, and stress, Smith and colleagues (2017) found that self-oriented perfectionism and socially prescribed perfectionism did not add incrementally beyond neuroticism, although other dimensions of perfectionism (e.g., concerns over mistakes and doubts about actions) did add incrementally beyond neuroticism. Consistent with past literature (e.g., Graham et al., 2010; Sherry et al., 2013; Smith et al., 2016), we agree that neuroticism should be included in future models to accurately understand instances of unique predictive utility of perfectionism for maladjustment outcomes in undergraduate students.

Strengths, Limitations, and Future Research

While the current program of research advanced study methods in perfectionism research, there are limitations and important considerations for future research. Consistent with past studies that used a similar design to recruit members of a social network (e.g., Smith, Speth, et al., 2017; Smith et al., 2019), the sample of influencers consisted mostly of friends. This may reflect the developmental stage of the undergraduate students which is marked by greater individuation from parents and greater desire to be in contact with friends (Arnett, 2015; Rogers

et al., 2018). Given the potential influence of mothers in the current study, the influence of caregivers in the development of perfectionism in children documented in the literature (Hewitt et al., 2017), and the documented increase in perceived parental expectations and parental criticism for college students over the past 30 years (Curran & Hill, 2022), future research may consider recruitment methods aimed at more equal representation of all relationship types (e.g., Smith et al., 2019).

While the current program of research examined the impact of personality at two different levels including the individual level and interpersonal level, less is known about perfectionism at the third level, which is the societal and institutional level (Flett et al., 2022). Curran and Hill (2019) commented on the impact of the social and economic conditions in North America, including the emergence of neoliberalism which emphasizes competitiveness, individualism, and unrealistic ideals of perfectionism (Ostry et al., 2016). In the eating disorder literature, perfectionism is conceptualized as a social norm in Western societies (e.g., perfect physical appearance; Bouguettaya, Klas, et al., 2019; Bouguettaya, Moulding, et al., 2019). Further research is needed to study perfectionism across social groups and/or cultural groups to better understand the impact of broader social influences (Flett et al., 2022). The current research was limited by a homogenous (i.e., predominantly White and female) undergraduate student sample and it is unclear whether the findings will generalize to more diverse undergraduate student populations. The issue of lack of heterogeneity of samples when studying perfectionism continues to be a concern and there is ongoing need for cross-cultural perfectionism research with more diverse samples (Flett et al., 2022).

The current program of research used advanced methods to capture the daily lives of undergraduate students. For instance, we used open-ended descriptive daily diary questions

about stressors experienced in the present moment, rather than a constricted list of stressors at a single point in time. This approach allowed us to capture real-world stressors as they naturally occurred for undergraduate students. A well-known limitation of intensive longitudinal design is the risk of response burden for participants that can decrease compliance with daily surveys (Bolger & Laurenceau, 2013). To prevent issues with response burden and noncompliance, we aimed to keep the length of the daily survey to 10 minutes. We realize that by limiting the length of the survey this limited the amount of information we could collect, and future research may consider other factors to assess using intensive longitudinal designs. For example, researchers in the field suggest that perfectionism should be evaluated at both the within- and between-person levels (Flett et al., 2022). Kehayes and Mackinnon (2019) conducted a daily diary study and found evidence to suggest that socially prescribed perfectionism has both trait-like stability and state-like variability. For the current study, we focused on the unidirectional relationship between perfectionism and maladjustment based on theoretical models (e.g., Hewitt & Flett, 1993; Hewitt et al., 1996; Hewitt et al., 2017; Hewitt et al., 2006; Sherry et al., 2003; Smith, Sherry, McLarnon, et al., 2018) which may have also limited our ability to consider alternative relationships (e.g., bidirectional) that may exist. Further, perfectionism assessed repeatedly would allow for tests of potential reciprocal relationships (Smith et al., 2018; Smith, Sherry, Ray et al., 2021). Future research should consider looking at dimensions of perfectionism using repeated daily measurements (e.g., asking participants to complete daily questionnaires to measure daily perfectionistic tendencies prior to and after reporting on depressive symptoms) to fill this gap (Coyne & Whiffen, 1995).

With regard to the measures we used, to our knowledge, this was the first research study to use a modified version of the perfectionistic climate questionnaire with a student sample, from

the perspective of influencers. Initial results offer support for the modified scale's internal consistency and mixed results for concurrent validity in an influencer sample. Future research should investigate the reliability and validity of this measure in the educational domain and determine its usefulness from varying perspectives (self-report and informant report). As described in more detail above, we are unsure whether the yes/no questions used to measure relationship support and relationship conflict fully captured the quality of the experiences which are relevant to the perfectionism social disconnection model. Future research should consider ways to evaluate relationship support and conflict that address the quality of the experiences while also reducing participant burden during daily surveys.

In the study of vulnerability factors for maladjustment outcomes such as depressive symptoms, researchers propose needing to consider social and contextual factors (e.g., chronic stressors, attachment style) that may impact personality and/or development of depressive symptoms (Coyne & Whiffen, 1995). The current study was able to evaluate the impact of daily stressors for undergraduate students, however, there may be additional factors for future research to consider. For instance, attachment problems (see Chen et al., 2015; Hewitt et al., 2017; Lafontaine et al., 2021; Neumeisterr & Finch, 2006), extreme need for belonging (see Chen et al., 2015; Flett, 2020; Hewitt et al., 2017), and mattering to others (see Etherson et al., 2020; Etherson, in press; Flett, 2018; Mohammed et al., 2023) might contribute to the perfectionism-maladjustment relationship. Future research should consider expanding on original models (e.g., perfectionism social disconnection model; Hewitt et al., 2017) and investigate more comprehensive models with consideration for additional contributing factors and through the use of repeated measures (e.g., daily diary design) to account for within-subjects and between-subjects effects.

Implications

Research Implications

The multi-source intensive longitudinal design of the current program of research helped to address major methodological and statistical gaps in the perfectionism-maladjustment literature that remains limited by a lack of longitudinal studies (Smith et al., 2018). Our successful implementation of the daily diary design suggests it is a feasible approach for perfectionism-maladjustment research. We were able to obtain natural observation of fluctuations in daily processes and associations (e.g., stress and depression, socially prescribed perfectionism and depression) through this method which means that future research should continue to capture the daily nuances of these constructs.

Having multiple informants in our study allowed us to assess multiple perspectives on study constructs of interest, rather than relying on a single source. We noticed that self and observer ratings for perfectionism did not align. Through exploratory analyses, we observed some potential difference in study results based on the relationship (e.g., mothers versus fathers) suggesting it is essential to continue gathering information to evaluate the perspectives of others (e.g., informants) and across relationship types to gain a comprehensive understanding of the perfectionism-maladjustment relationship.

In terms of statistical implications, multilevel modelling allows us to assess constructs across individuals and within individuals which offers a more holistic understanding of the effects of psychosocial constructs. Across all of the statistical models, neuroticism remained a significant independent predictor of maladjustment outcomes in undergraduate students, further emphasizing the importance of including it in statistical models with perfectionism to confirm the predictive utility of perfectionism beyond any overlap with neuroticism.

Clinical Implications

Research examining vulnerability factors for maladjustment in university students is essential to advance prevention and intervention efforts (Smith, Sherry, Ray et al., 2021). Much of the perfectionism-maladjustment literature has focused on the role of the individual and therefore interventions have been tailored accordingly. For example, researchers have advised that the perfectionistic thoughts that exist within the individual should be targeted for intervention (Chang & Rand, 2000). It has been proposed that perfectionistic students may benefit from finding ways to reduce the need to be perfect for others (Chang & Rand, 2000; Flett et al., 2022). Further, it has been outlined in the literature that it may be helpful for individuals to identify triggers of perfectionism and examine unhelpful standards and rigid beliefs (Klibert et al., 2014; Shafran et al., 2001). A recent meta-analysis suggested that focusing on an individual's perfectionistic cognitions may be beneficial for some individuals presenting with perfectionistic attitudes, while it may not be efficacious for stable traits of perfectionism (Smith, Hewitt, Sherry, Flett, Kealy, Tasca, Ge, & Kristen, 2023; Smith, Hewitt, Sherry, Flett, Kealy, Tasca, Ge, Ying et al., 2023).

Hewitt and colleagues (2017) suggest that the relational basis for perfectionism should be incorporated into intervention when working with individuals high in perfectionism. They suggest an intervention framework that supports individuals in attaining their relational needs (e.g., belonging, acceptance, not being rejected or abandoned) in an adaptive way (Hewitt, 2020; Hewitt et al., 2017; Hewitt et al., 2023). While it may be helpful to support individuals in addressing their individual needs in adaptive ways, based on the current program of research we found that for university students higher in socially prescribed perfectionism, their beliefs about pressures from their social environment were problematic (e.g., greater depressive symptoms,

stress, and negative affect). Therefore, targets for prevention and intervention may involve components of the environment that are perceived to be highly perfectionistic, such as family, school, work environments (Flett et al., 2022).

Institutional Implications

In the current study, the undergraduate students were impacted by daily stressors (interpersonal and achievement), as well as interpersonal difficulties (e.g., social self-esteem issues, relationship conflict) that explained greater daily depressive affect and depressive symptoms. Consistent with past research, these study findings suggest that finding ways to address post-secondary students' stressors and interpersonal challenges would likely be beneficial to bolster their mental health (Linden et al., 2022). In a survey of post-secondary students in Ontario, Canada, students reported the need for greater mental health awareness, education, and resources (Moghimi et al., 2023). The students also indicated inadequate coping strategies and an interest in learning strategies to support mental health, specifically, interpersonal skills to enhance social connections, skills to increase self-awareness and self-regulation, and strategies to implement lifestyle changes (Moghimi et al., 2023). Post-secondary institutions may consider incorporating mental health supports in their curriculum (e.g., Glens et al., 2023) and the use of peer mentors in addition to counselors to increase knowledge on mental health, build coping strategies to support the emotional well-being of students, and support greater access to mental health resources available to students (Klibert et al., 2014; Moghimi et al., 2023).

In addition, post-secondary students in Moghimi and colleagues' (2023) survey commented on the need to bolster mental health earlier on in their education (i.e., high school) to better prepare them for post-secondary school. While we realize the focus of the current study

was on post-secondary students, it is important to consider implications beyond post-secondary school that may have an impact for this population. Mental health literacy can be emphasized for high school students and teachers, including strategies to maintain mental health, understanding symptoms of mental disorders and the treatment for mental disorders, decreasing stigma of mental illness, and supporting help-seeking behaviours. Kutcher and Wei (2020) suggest that mental health literacy can be incorporated into the high school curriculum (see Kutcher et al., 2016; Milin et al., 2016). Kutcher and Wei (2020) suggest that school-based health centres that offer multidisciplinary health services may be a helpful approach to address mental health needs for students while also supporting other health care needs.

Consistent with the notion of addressing mental health needs early on, Flett and colleagues (2022) suggest that prevention programming targeting perfectionism can be integrated in schools with children and adolescents. Their prevention framework for school children emphasizes lowering of standards, education on the costs of perfectionism, fostering growth mindset in response to failures, practicing self-acceptance and self-compassion, supporting stress management strategies, and parent engagement to model appropriate responses to failure. This approach can potentially help to reduce perfectionism in the school environment and family environment (Flett & Hewitt, 2014).

Throughout the transition to post-secondary school, educational resources and training may be helpful to prevent the adverse effects of other social environments (e.g., work, family) by supporting changes that move away from manipulative and controlling behaviours to allow young adults more freedom in their behaviour, resulting in healthier adjustment (Flett et al., 2022). Workplace settings may benefit from education on identifying perfectionistic pressures in order to reduce unrealistic pressures, normalizing feelings of pressure, and preventing feelings of

loneliness by having open discussions about perfectionism and associated costs (Flett et al., 2022). In the family environment, parents may benefit from training to support the lessening of pressures to be perfect that may be placed on their offspring (Flett et al., 2022).

Educator Implications. It is important to note, that in order to offer mental health literacy curriculum for high school students as described above, teachers must be properly trained to understand student mental health and learn classroom strategies to support early identification of mental health issues and access to appropriate services (Kutcher & Wei, 2020). In post-secondary institutions, up to 44.5% students report not feeling comfortable approaching faculty members or staff about accessing mental health supports (Moghimi et al., 2023). This suggests that it is also critical that faculty and staff at post-secondary institutions receive training to promote mental health awareness and support students in accessing mental health resources within institutions.

Conclusions

The current program of research used a multi-source intensive longitudinal design to examine external sources (i.e., influencers' expectations for perfection) and internal sources (i.e., internal expectations for perfection, perceived pressures from others to be perfect, sense of rejections from others, perceived relationship issues) that contribute to undergraduate students' maladjustment. Overall, it is evident that undergraduate students struggle with daily stressors that contribute to daily maladjustment, such as depressive affect. Further, findings consistently highlighted the destructiveness of socially prescribed perfectionism as it predicted greater stress, depressive symptoms, and negative affect in undergraduate students. Additionally, support for the perfectionism social disconnection model showed that interpersonal mediating mechanisms, such as low social self-esteem, explain the association between socially prescribed perfectionism

and depression. In our investigation of perfectionism from the inside and outside, we conclude that the internal sources of perfectionism are particularly problematic for undergraduate students, compared to the external sources of perfectionism examined in the current research. Prevention and intervention efforts with undergraduate students high in socially prescribed perfectionism should consider addressing problems that may occur at individual, interpersonal, and societal levels based on the *perception* of each individual to address the unique needs of post-secondary students.

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Table 1*Study 1 Variable Means, Standard Deviations, and Bivariate Correlations*

Variable	1	2	3	4
1. Self-Oriented Perfectionism	---	.53**	.16**	.11**
2. Socially Prescribed Perfectionism		---	.22**	.14**
3. Neuroticism			---	.29**
4. Depressive Affect				---
<i>M</i>	23.17	20.89	27.81	2.47
<i>SD</i>	6.62	6.54	5.71	3.20

*Note: ** $p < .01$.*

Note. *SE* = Standard Error; *SPP* = Socially Prescribed Perfectionism.

Table 3

Model 2: Parameter Estimates for Multilevel Model of Depression as a Function of Self-Oriented Perfectionism, Neuroticism, and Interpersonal Stress

Fixed Effects (intercept, slopes)	Estimate	(SE)	<i>t</i>	<i>p</i>	<i>CI</i> ₉₅	
					Lower	Upper
Intercept	2.65	.13	20.36	<.001	2.40	2.91
Time	-.05	.02	-3.09	.002	-.09	-.02
Within Interpersonal Stress	.33	.16	2.12	.03	.02	.65
SOP	.02	.02	1.11	.27	-.02	.06
Neuroticism	.15	.02	6.64	<.001	.11	.20
Within Interpersonal Stress x SOP	.04	.02	1.53	.13	-.01	.08
Between Interpersonal Stress	1.01	.57	1.78	.08	-.12	2.12
Between Interpersonal Stress x SOP	.002	.08	.02	.98	-.16	.16
Random Effects (co-variances)	Estimate	(SE)	<i>z</i>	<i>p</i>	<i>CI</i> ₉₅	
Level 2 (between-person)						
Intercept	3.02	.39	7.71	<.001	2.34	3.89
Within conflict	1.90	.52	3.63	<.001	1.11	3.30
Intercept and within conflict	-.57	.34	-1.66	.10	-1.24	.10
Level 1 (within-person)						
Residual	6.52	.25	26.04	<.001	6.04	7.03
Autocorrelation	.35	.03	12.90	<.001	.29	.40

Note. *SE* = Standard Error; SOP = Self-Oriented Perfectionism.

Table 4

Parameter Estimates for Multilevel Model of Depression as a Function of Self-Oriented Perfectionism, Neuroticism, and Achievement Stress

Fixed Effects (intercept, slopes)	Estimate	(SE)	<i>t</i>	<i>p</i>	<i>CI</i> ₉₅	
					Lower	Upper
Intercept	2.64	.13	20.24	<.001	2.40	2.89
Time	-.06	.02	-3.51	<.001	-.10	-.03
Within Achievement Stress	.37	.11	3.24	.001	.14	.59
SOP	.03	.02	1.36	.17	-.01	.07
Neuroticism	.16	.02	6.91	<.001	.11	.21
Within Achievement Stress x SOP	-.026	.02	-1.47	.14	-.06	.01
Between Achievement Stress	.47	.51	.93	.35	-.53	1.48
Between Achievement Stress x SOP	.09	.08	1.19	.24	-.06	.25
Random Effects (co-variances)	Estimate	(SE)	<i>z</i>	<i>p</i>	<i>CI</i> ₉₅	
Level 2 (between-person)						
Intercept	2.98	.39	7.62	<.001	2.30	3.85
Within conflict	.25	.26	.95	.34	.03	1.99
Intercept and within conflict	.26	.24	1.09	.27	-.21	.73
Level 1 (within-person)						
Residual	6.79	.26	26.61	<.001	6.30	7.30
Autocorrelation	.34	.03	12.83	<.001	.29	.39

Note. *SE* = Standard Error; SOP = Self-Oriented Perfectionism.

Table 5

Parameter Estimates for Multilevel Model of Depression as a Function of Socially Prescribed Perfectionism, Neuroticism, and Achievement Stress

Fixed Effects (intercept, slopes)	Estimate	(SE)	<i>t</i>	<i>p</i>	<i>CI</i> ₉₅	
					Lower	Upper
Intercept	2.64	.13	20.49	<.001	2.39	2.90
Time	-.06	.02	-3.54	<.001	-.10	-.03
Within Achievement Stress	.37	.11	3.24	.001	.14	.59
SPP	.03	.02	1.65	.10	-.006	.07
Neuroticism	.16	.02	6.70	<.001	.11	.20
Within Achievement Stress x SPP	-.01	.02	-.80	.42	-.05	.02
Between Achievement Stress	.53	.51	1.04	.30	-.47	1.53
Between Achievement Stress x SPP	.08	.08	.99	.32	-.07	.23
					<i>CI</i> ₉₅	
Random Effects (co-variances)	Estimate	(SE)	<i>z</i>	<i>p</i>	Lower	Upper
Level 2 (between-person)						
Intercept	2.97	.39	7.62	<.001	2.29	3.83
Within conflict	.28	.27	1.03	.30	.04	1.85
Intercept and within conflict	.24	.24	1.01	.31	-.23	.72
Level 1 (within-person)						
Residual	6.78	.26	26.62	<.001	6.30	7.30
Autocorrelation	.34	.03	12.79	<.001	.29	.39

Note. *SE* = Standard Error; *SPP* = Socially Prescribed Perfectionism.

Table 6*Means, Standard Deviations, and Bivariate Correlations for Variables of Hypothesis 3*

Variable	1	2	3	4	5	6	7	8
Influencers	---	-.16**	.02	-.05*	-.06**	-.01	.03	-.04*
1. Perfectionistic Climate								
2. Social Desirability		---	-.03	-.14**	-.03	.04	-.04*	-.06**
Target			---	.22**	.18**	.02	.15**	.18**
3. Socially Prescribed Perfectionism								
4. Neuroticism				---	.31**	-.13**	.29**	.31**
5. Negative Affect					---	.15**	.60**	.64**
6. Positive Affect						---	.003	.13**
7. Depressive Symptoms							---	.66**
8. Stress								---
<i>M</i>	49.95	6.50	20.89	27.81	3.01	4.59	1.48	2.08
<i>SD</i>	9.82	2.19	6.54	5.71	3.24	3.73	2.41	2.50

Note: * $p < .05$ ** $p < .01$.

Table 7*Means, Standard Deviations, and Bivariate Correlations for Variables of Hypothesis 3 –**Mothers*

Variable	1	2	3	4	5	6	7	8
Mothers	---	-.12**	.08**	.09**	.05	-.03	.11**	.01
1. Perfectionistic Climate								
2. Social Desirability		---	-.12**	.03	.01	-.07**	.01	-.01
Target			---	.22**	.26**	.10**	.14**	.24**
3. Socially Prescribed Perfectionism								
4. Neuroticism				---	.28**	-.09**	.23**	.26**
5. Negative Affect					---	.08**	.61**	.64**
6. Positive Affect						---	-.07*	.09**
7. Depressive Symptoms							---	.63**
8. Stress								---
<i>M</i>	44.52	6.16	20.23	28.73	3.15	4.20	1.47	2.32
<i>SD</i>	14.69	2.05	6.58	5.58	3.14	3.40	2.26	2.47

*Note: *p < .05 **p < .01.*

Table 8*Means, Standard Deviations, and Bivariate Correlations for Variables of Hypothesis 3 - Fathers*

Variable	1	2	3	4	5	6	7	8
Fathers	---	-.09*	.04	-.17**	-.08*	.05	-.07*	-.04
1. Perfectionistic Climate								
2. Social Desirability		---	-.04	.06	.01	-.06	-.02	.01
Target			---	.18**	.19**	-.04	.16**	.18**
3. Socially Prescribed Perfectionism								
4. Neuroticism				---	.28**	-.13**	.21**	.23**
5. Negative Affect					---	.02	.65**	.64**
6. Positive Affect						---	-.07*	.02
7. Depressive Symptoms							---	.67**
8. Stress								---
<i>M</i>	48.44	6.61	20.72	28.40	3.15	4.25	1.64	2.41
<i>SD</i>	15.22	1.90	6.70	5.92	3.13	3.70	2.50	2.67

Note: * $p < .05$ ** $p < .01$.

Table 9*Means, Standard Deviations, Bivariate Correlations of Variables for Hypothesis 4*

Variable	1	2	3	4	5	6	7	8	9
Influencers	---	.01	.12**	.10**	-.08**	.01	-.02	.01	.05**
1. Other-Oriented Perfectionism									
2. Social Desirability		---	.03	-.02	-.14**	-.07**	.04*	.12**	-.04*
Target			---	.53**	.16**	.14**	<.001	.02	.06**
3. Self-Oriented Perfectionism									
4. Socially Prescribed Perfectionism				---	.22**	.23**	.02	-.05**	.15**
5. Neuroticism					---	.29**	.04*	-.005	.29**
6. Social Self-Esteem						---	.14**	.16**	.57**
7. Conflict							---	.31**	.21**
8. Support								---	.15**
9. Depressive Symptoms									---
<i>M</i>	18.73	6.50	23.17	20.89	27.81	7.41	.23	.92	1.48
<i>SD</i>	4.68	2.19	6.63	6.54	5.71	4.27	.63	1.29	2.41

*Note: *p < .05 **p < .01.*

Table 10*Means, Standard Deviations, Bivariate Correlations of Variables for Hypothesis 4 - Mothers*

Variable	1	2	3	4	5	6	7	8	9
Mothers	---	-.06*	.12**	.06*	-.02	.14**	.10**	.14**	.12**
1. Other-Oriented Perfectionism									
2. Social Desirability		---	-.07*	-.12**	.03	-.08**	.05	.07*	.01
Target			---	.52**	.23**	.20**	.09**	.10**	.05
3. Self-Oriented Perfectionism									
4. Socially Prescribed Perfectionism				---	.22**	.23**	.10**	.06*	.14**
5. Neuroticism					---	.23**	.10**	.11**	.23**
6. Social Self-Esteem						---	.13**	.32**	.54**
7. Conflict							---	.21**	.08**
8. Support								---	.22**
9. Depressive Symptoms									---
<i>M</i>	17.94	6.16	22.85	20.24	28.73	7.56	.19	.76	1.47
<i>SD</i>	6.70	2.05	7.17	6.58	5.57	4.32	.49	1.06	2.26

*Note: *p < .05 **p < .01.*

Table 11*Means, Standard Deviations, Bivariate Correlations of Variables for Hypothesis 4 - Fathers*

Variable	1	2	3	4	5	6	7	8	9
Fathers	---	.12**	.15**	.06	-.05	.002	.08*	-.02	-.08*
1. Other-Oriented Perfectionism									
2. Social Desirability		---	-.06	-.04	.06	.02	.08*	.12**	-.02
Target			---	.52**	.22**	.05	.05	.02	-.02
3. Self-Oriented Perfectionism									
4. Socially Prescribed Perfectionism				---	.18**	.23**	.08*	.04	.16**
5. Neuroticism					---	.25**	.07	.13**	.21**
6. Social Self-Esteem						---	.14**	.29**	.63**
7. Conflict							---	.16**	.12**
8. Support								---	.24**
9. Depressive Symptoms									---
<i>M</i>	20.15	6.61	22.52	20.72	28.40	7.38	.17	.79	1.64
<i>SD</i>	5.76	1.90	6.63	6.70	5.92	4.26	.44	1.06	2.50

*Note: *p < .05 **p < .01.*

Figure 1

Conceptual Diagram of Proposed Moderation Model for Hypothesis 1

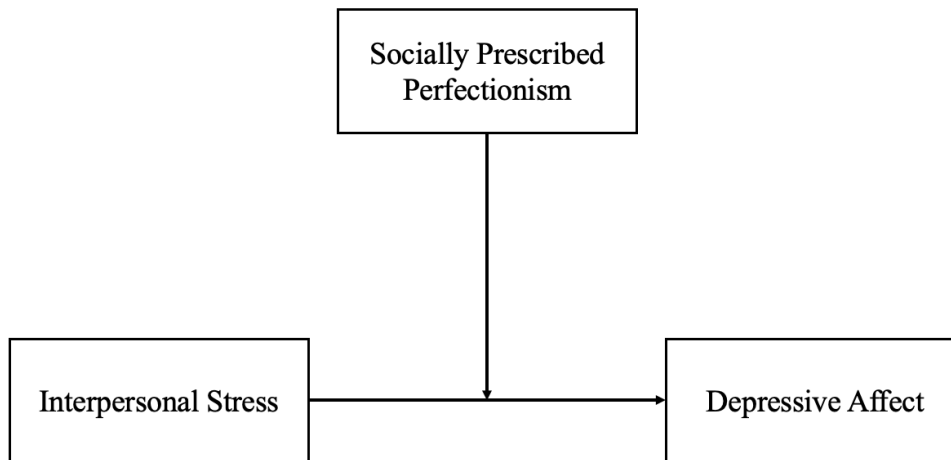


Figure 2

Conceptual Diagram of Proposed Moderation Model for Hypothesis 2

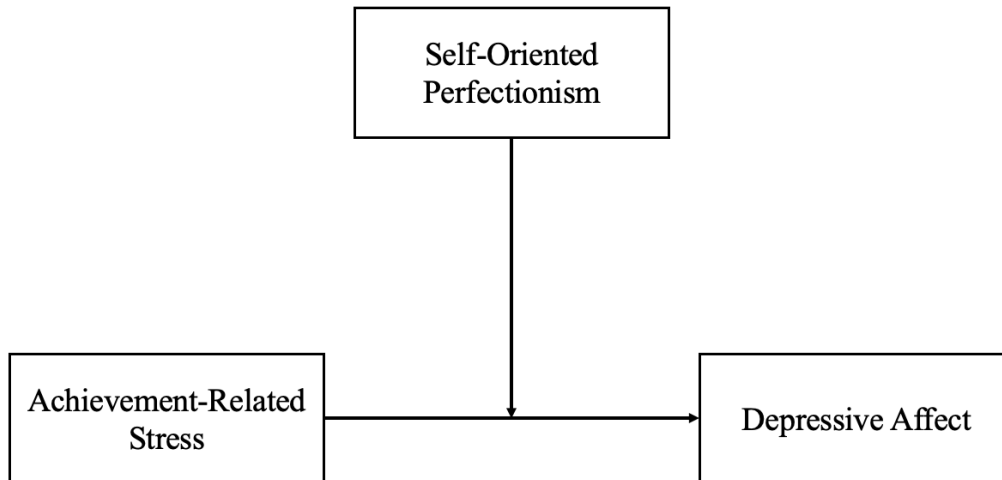
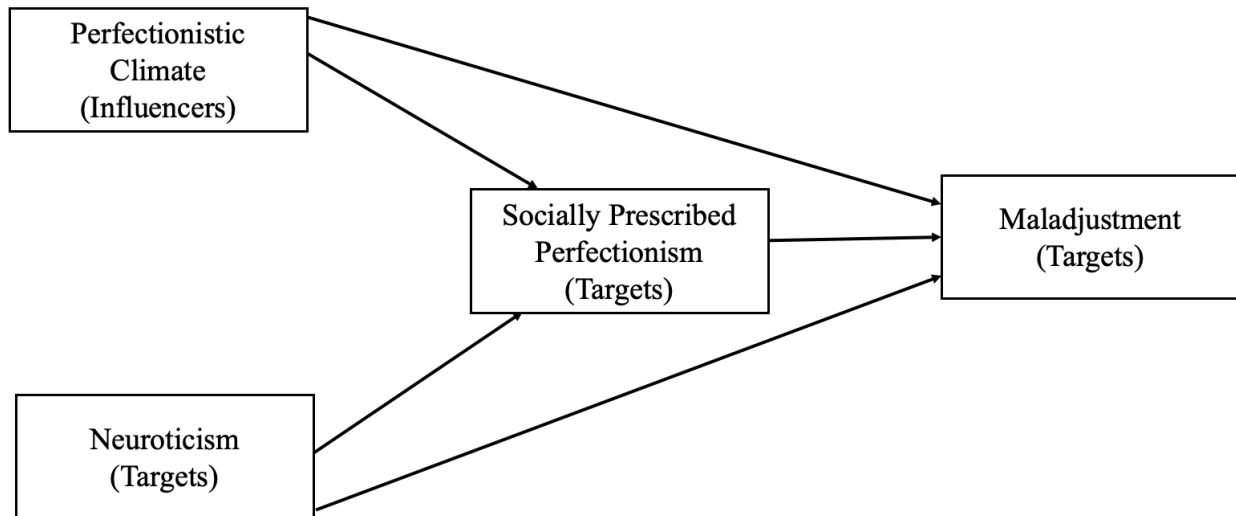


Figure 3

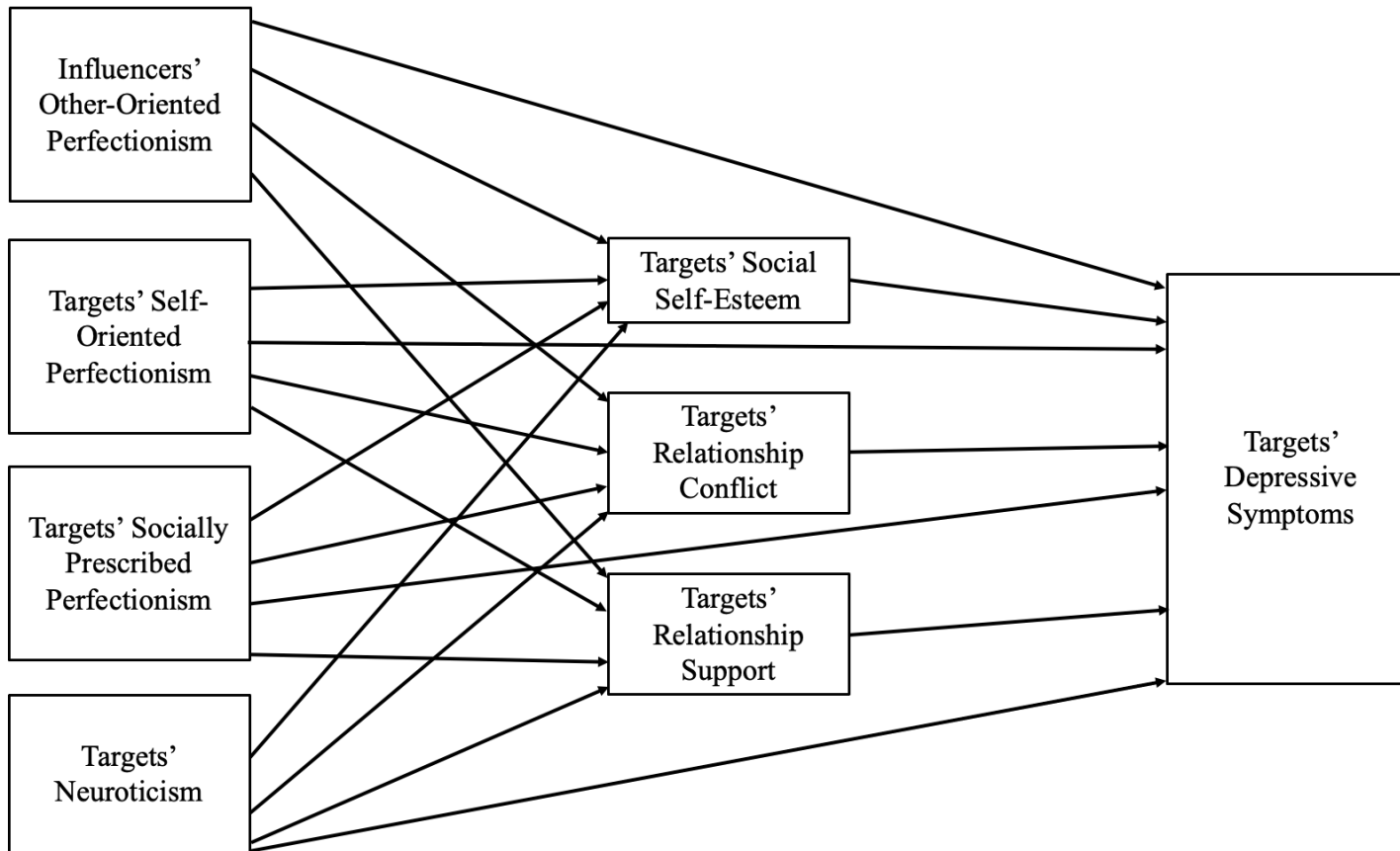
Proposed Mediation Model for Hypothesis 3



Note. Rectangles represent variables. Proposed paths are represented by black single-headed arrows.

Figure 4

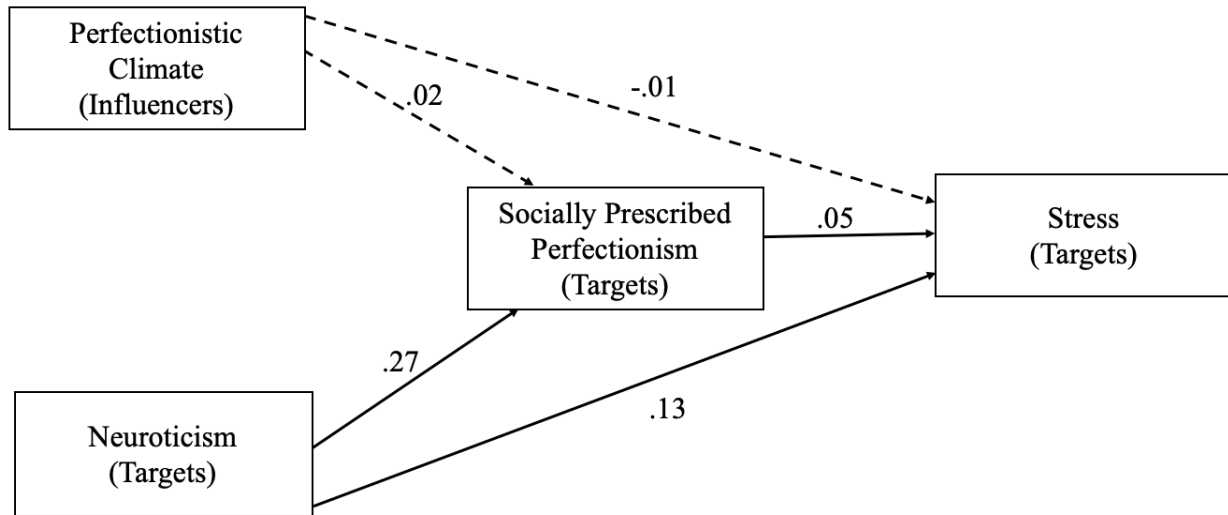
Proposed Mediation Model for Hypothesis 4



Note. Rectangles represent variables. Proposed paths are represented by black single-headed arrows.

Figure 5

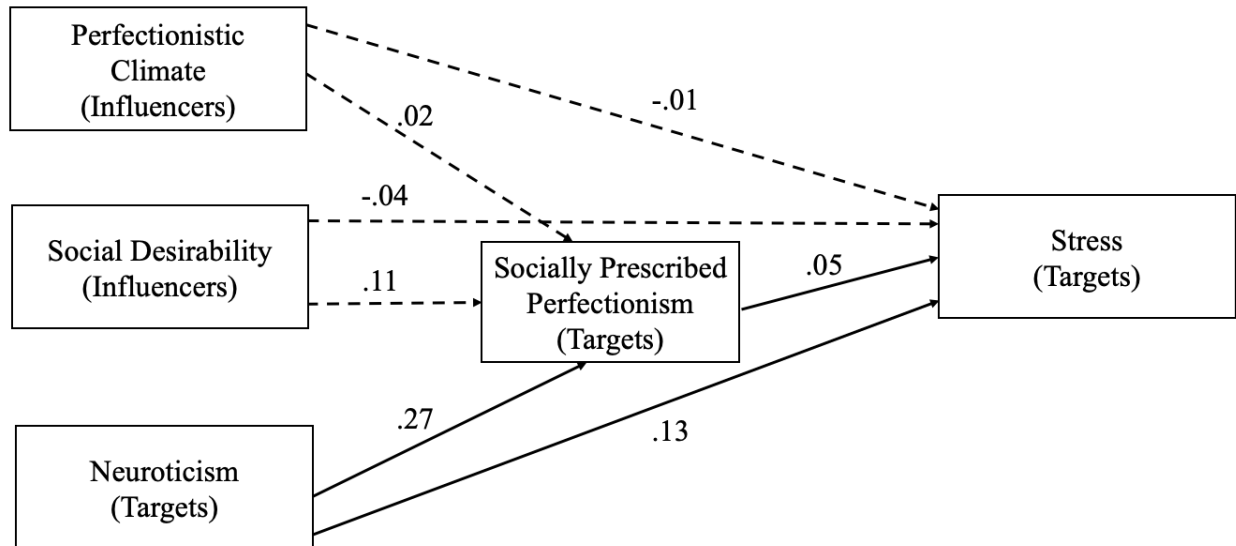
Path Diagram for Relations between Perfectionistic Climate, Socially Prescribed Perfectionism and Stress



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 6

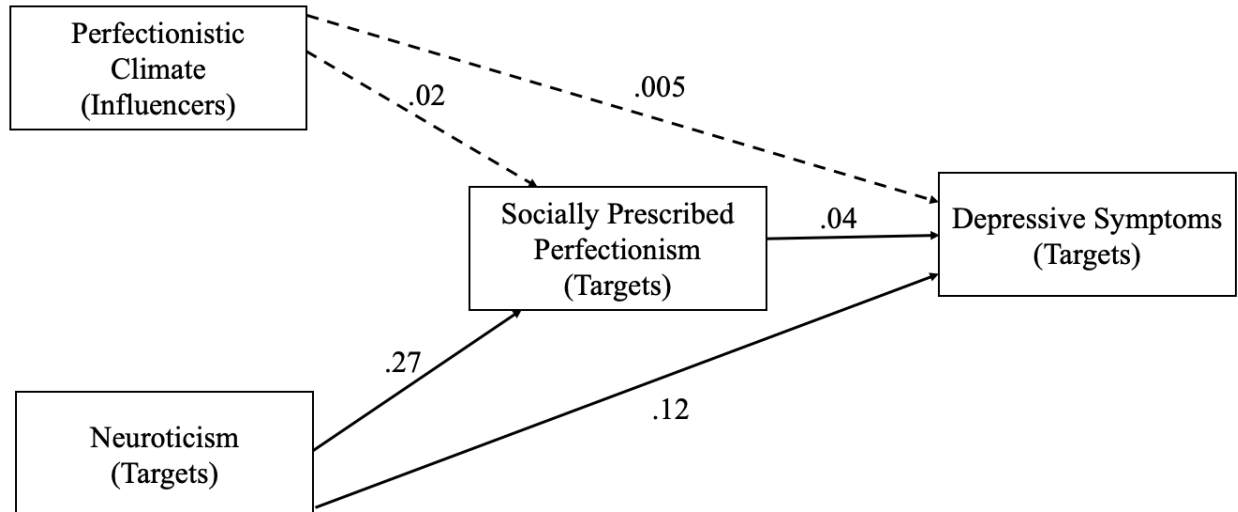
Path Diagram for Relations between Perfectionistic Climate, Socially Prescribed Perfectionism and Stress, with Influencers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 7

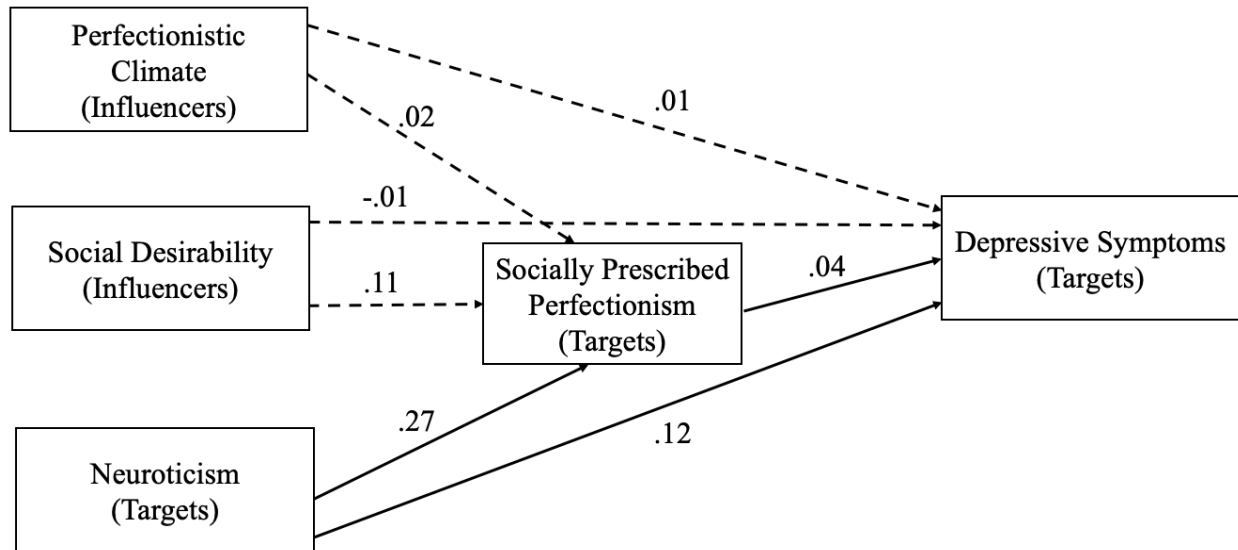
Path Diagram for Relations between Perfectionistic Climate, Socially Prescribed Perfectionism and Depressive Symptoms



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 8

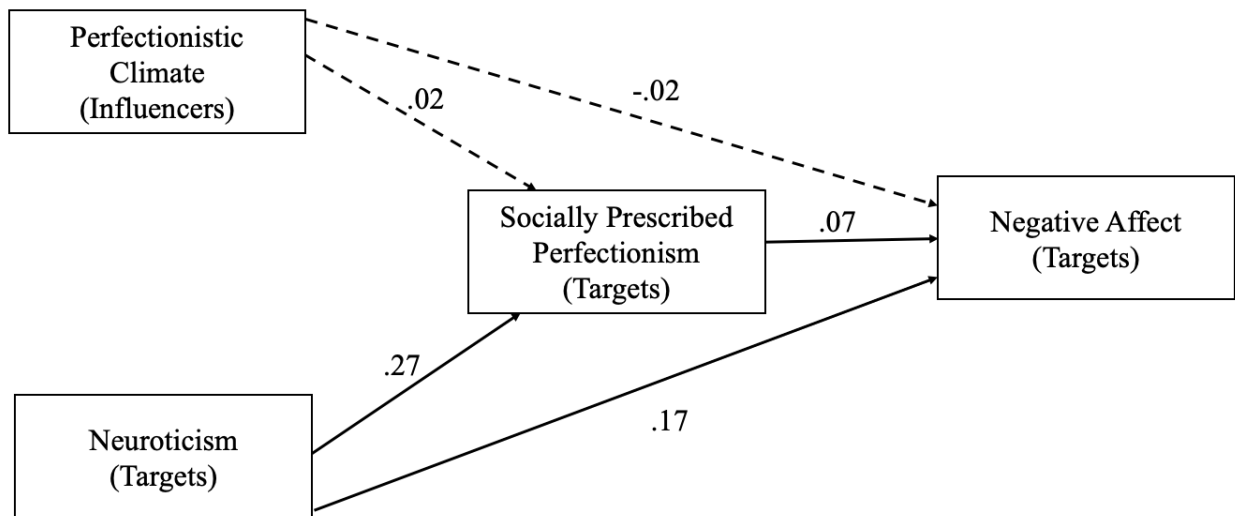
Path Diagram for Relations between Perfectionistic Climate, Socially Prescribed Perfectionism and Depressive Symptoms, with Influencers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 9

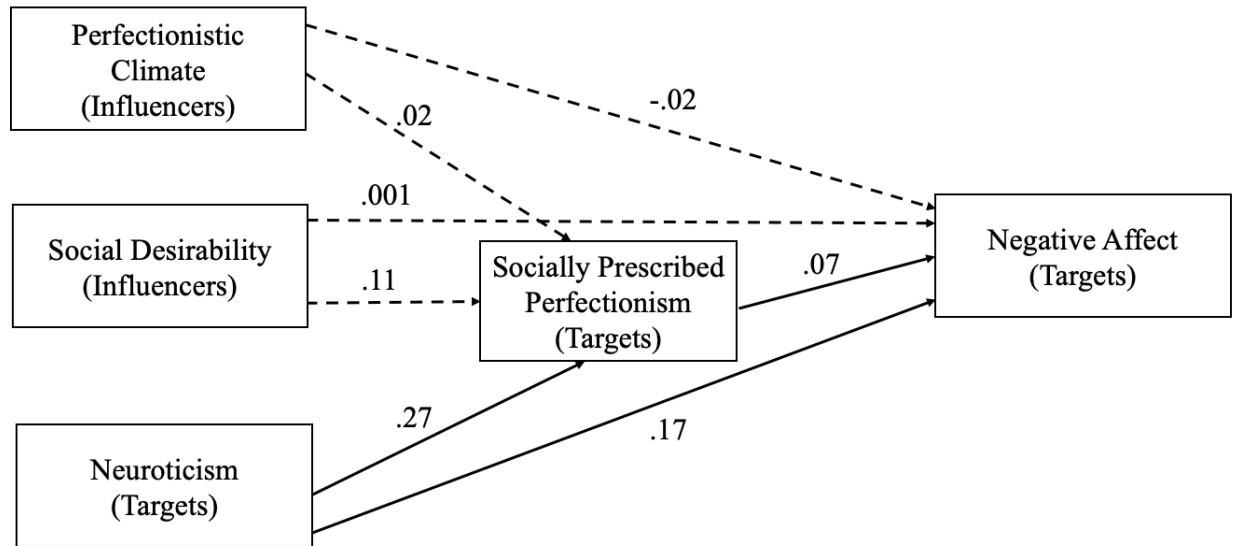
Path Diagram for Relations between Perfectionistic Climate, Socially Prescribed Perfectionism and Negative Affect



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 10

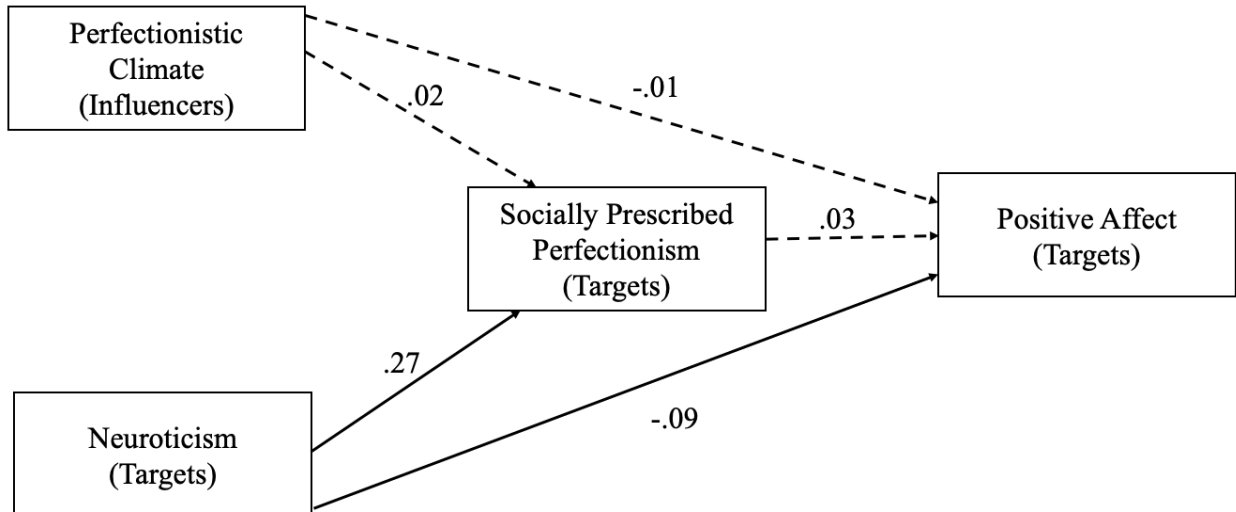
Path Diagram for Relations between Perfectionistic Climate, Socially Prescribed Perfectionism and Negative Affect, with Influencers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 11

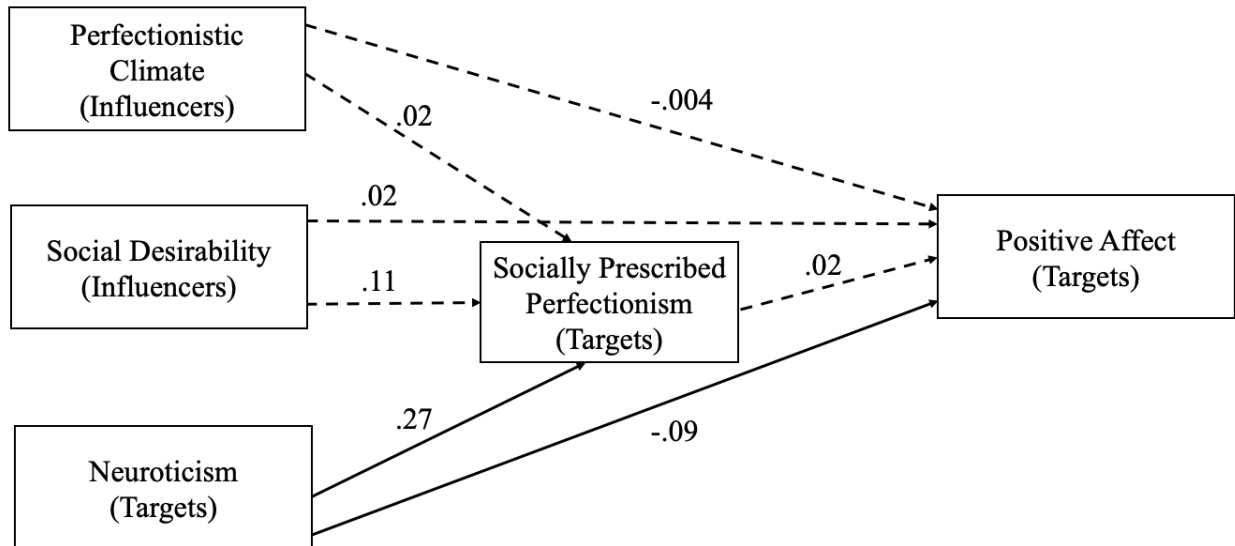
Path Diagram for Relations between Perfectionistic Climate, Socially Prescribed Perfectionism and Positive Affect



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 12

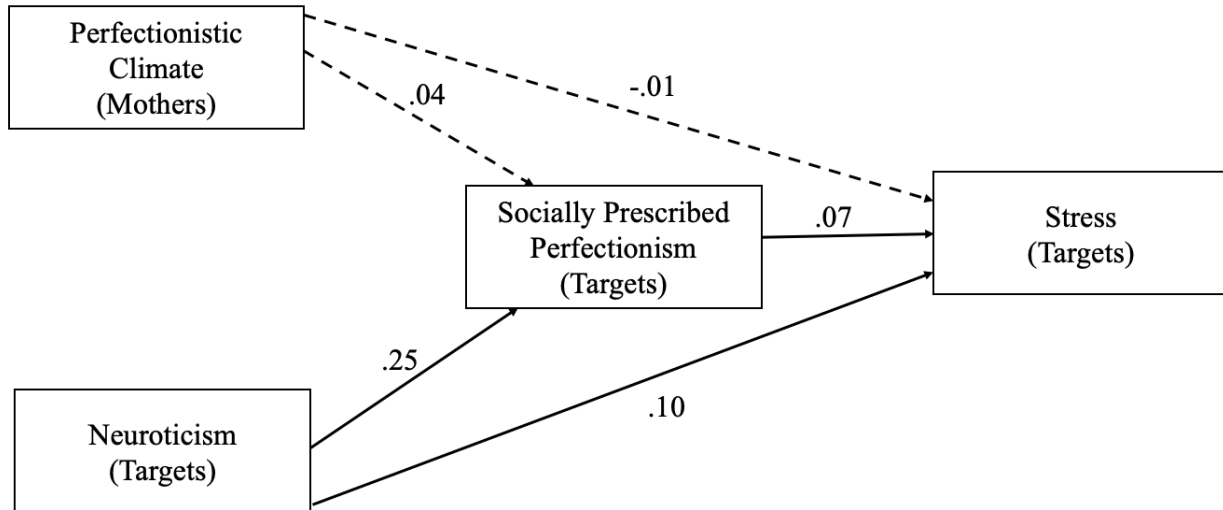
Path Diagram for Relations between Perfectionistic Climate, Socially Prescribed Perfectionism and Positive Affect, with Influencers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 13

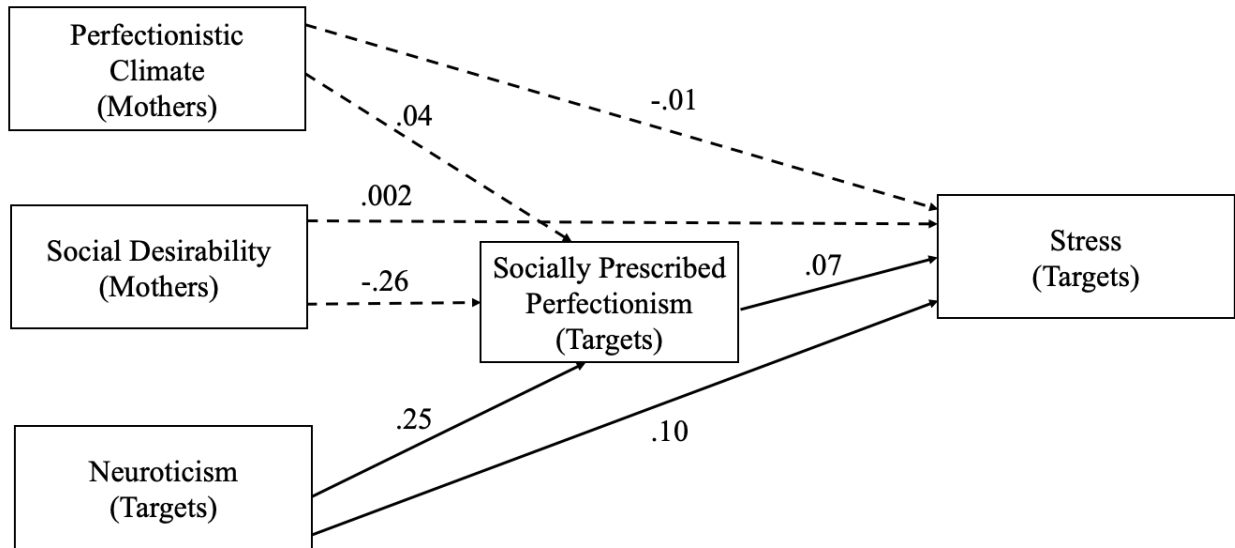
Path Diagram for Relations between Mothers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Stress



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 14

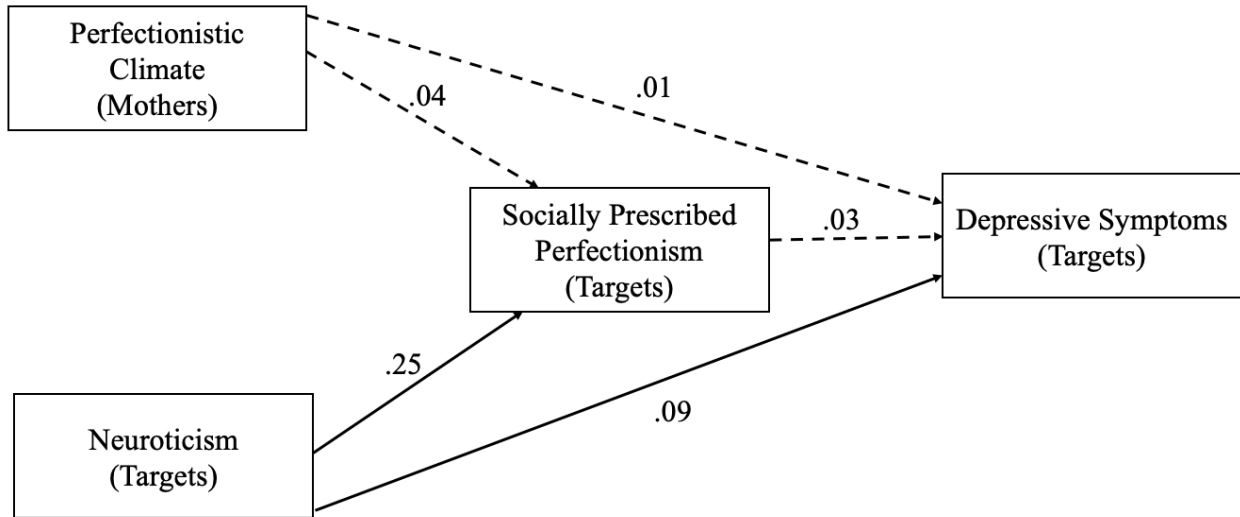
Path Diagram for Relations between Mothers' Perfectionistic Climate and Targets' Socially Prescribed Perfectionism and Stress, with Mothers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 15

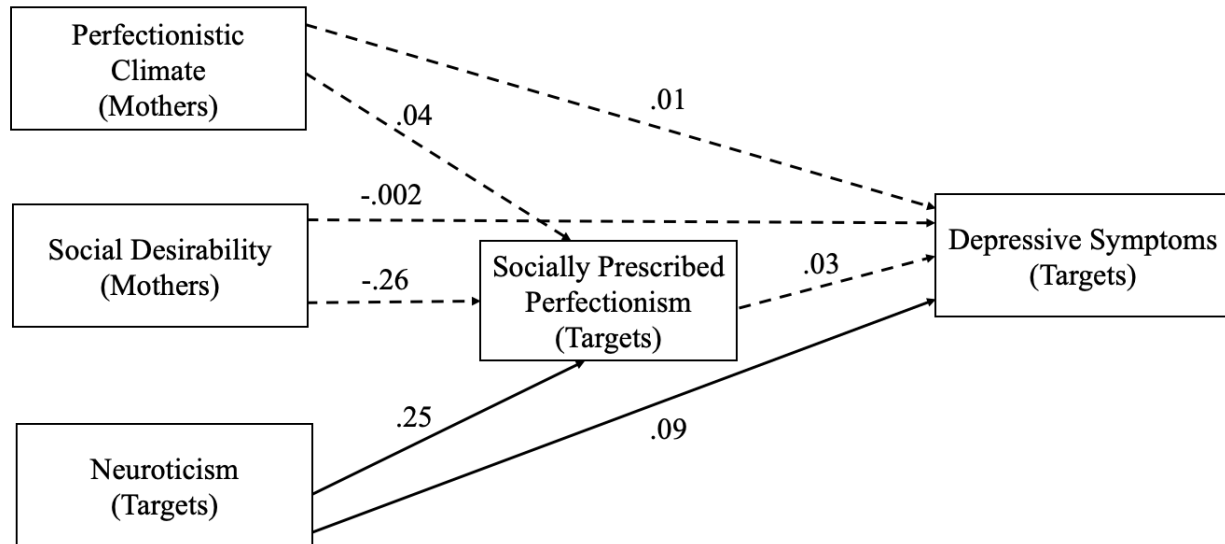
Path Diagram for Relations between Mothers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Depressive Symptoms



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 16

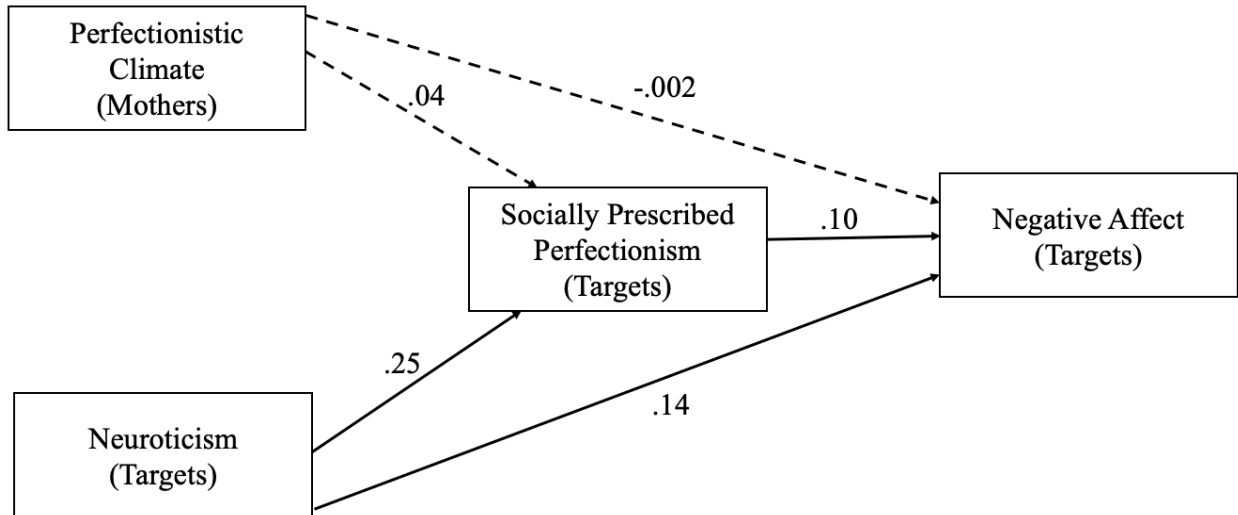
Path Diagram for Relations between Mothers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Depressive Symptoms, with Mothers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 17

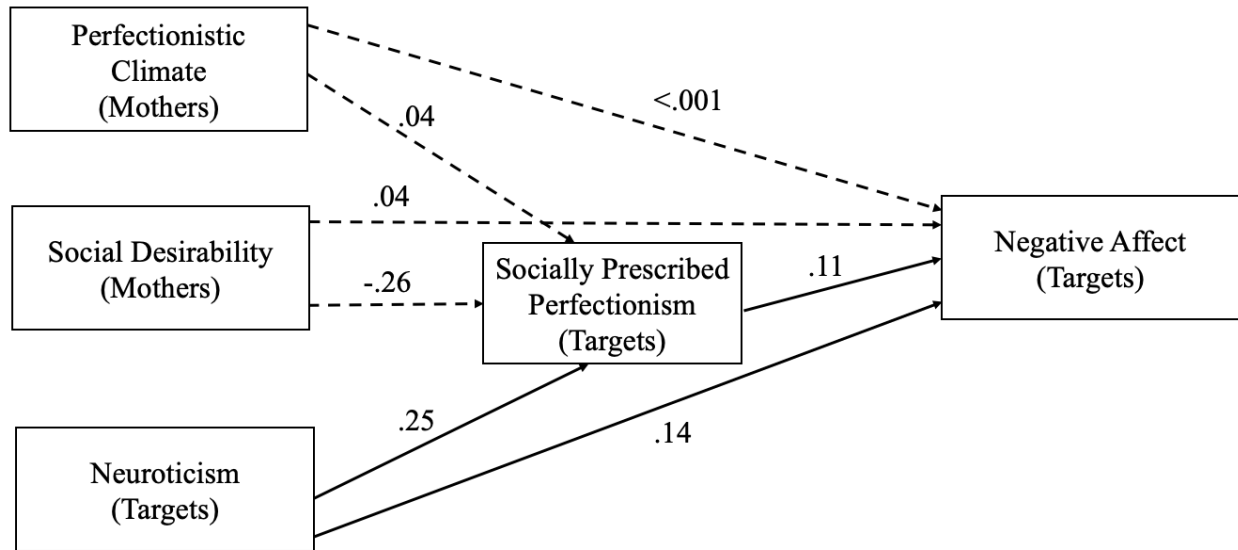
Path Diagram for Relations between Mothers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Negative Affect



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 18

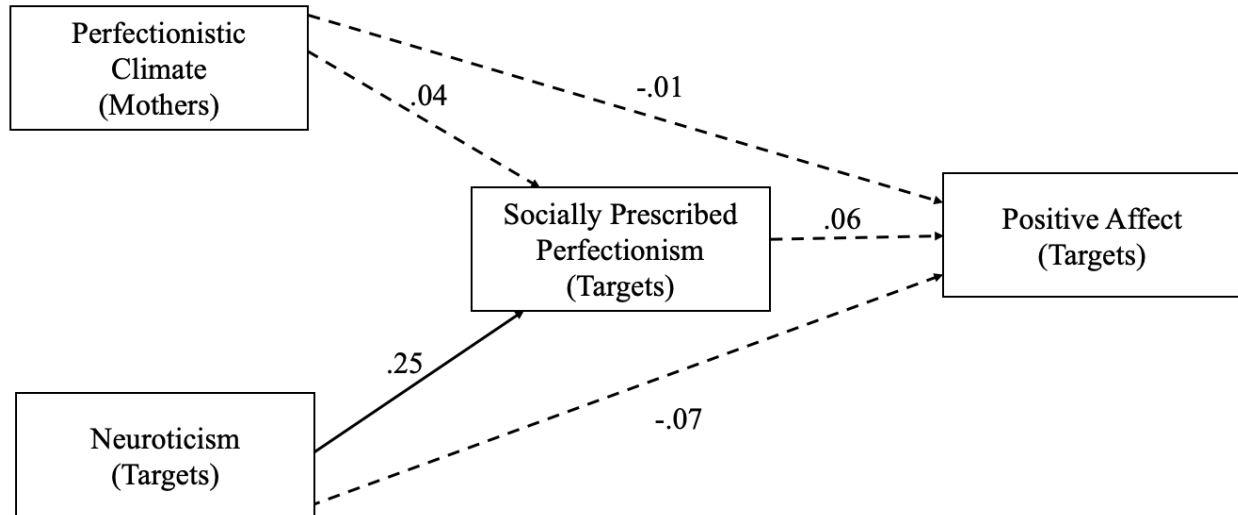
Path Diagram for Relations between Mothers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Negative Affect, with Mothers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 19

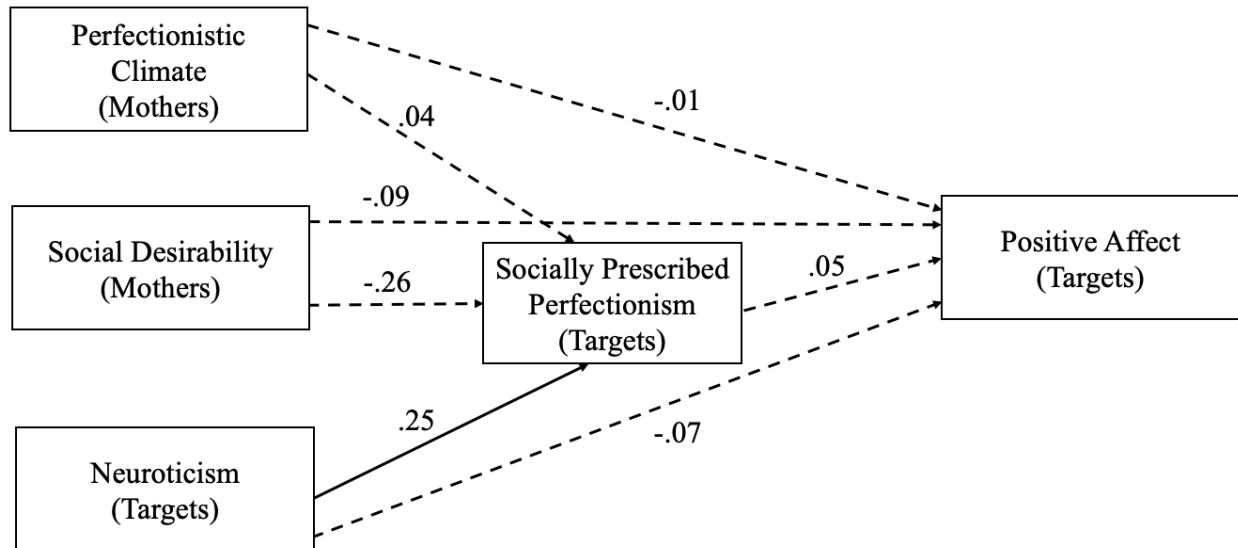
Path Diagram for Relations between Mothers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Positive Affect



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 20

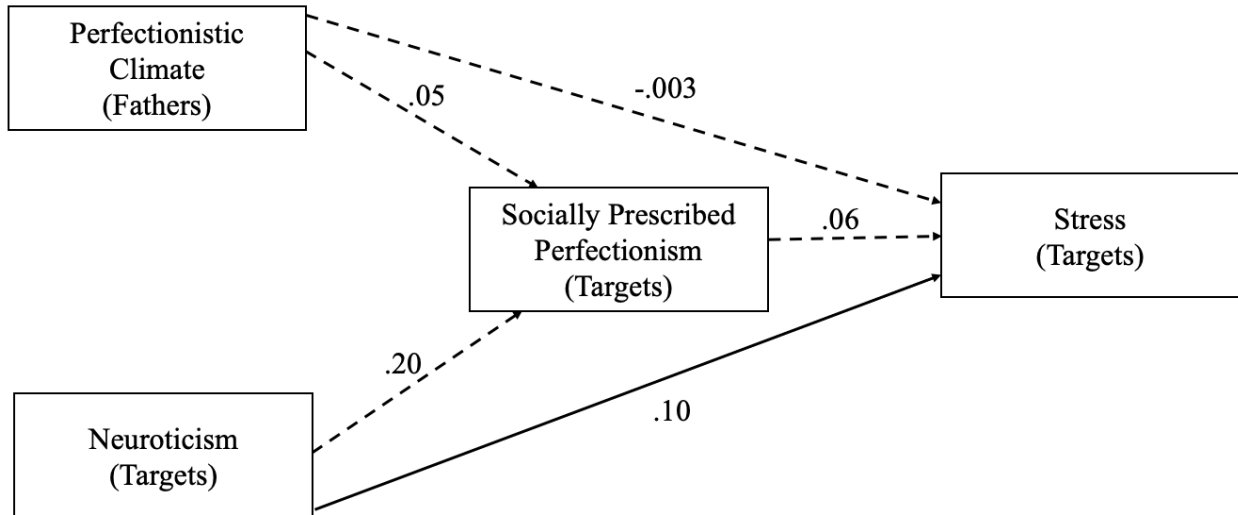
Path Diagram for Relations between Mothers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Positive Affect, with Mothers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 21

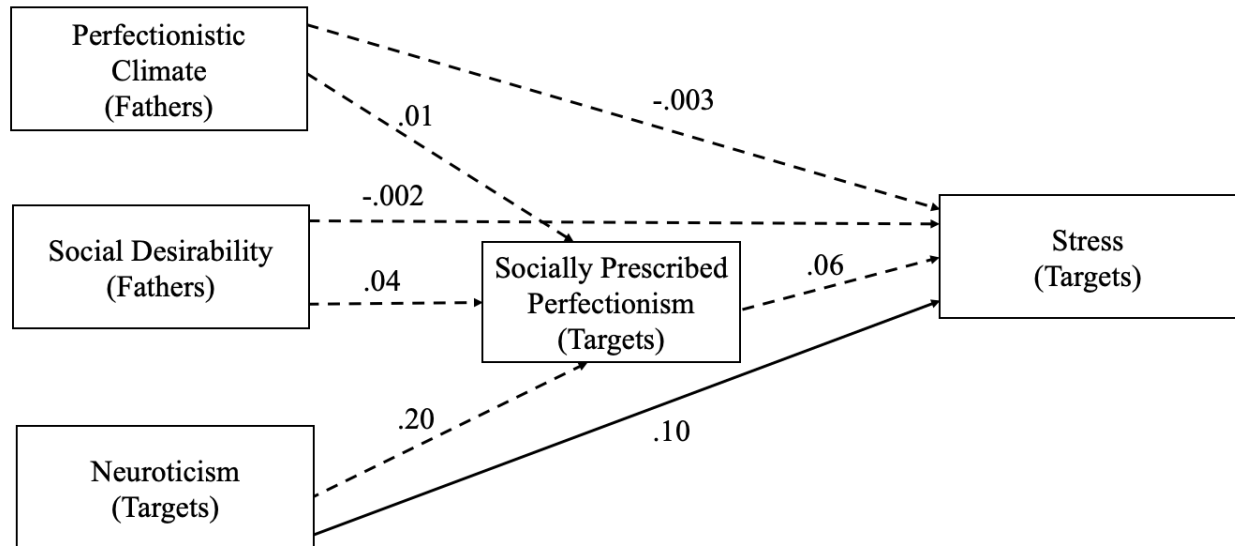
Path Diagram for Relations between Fathers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Stress



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 22

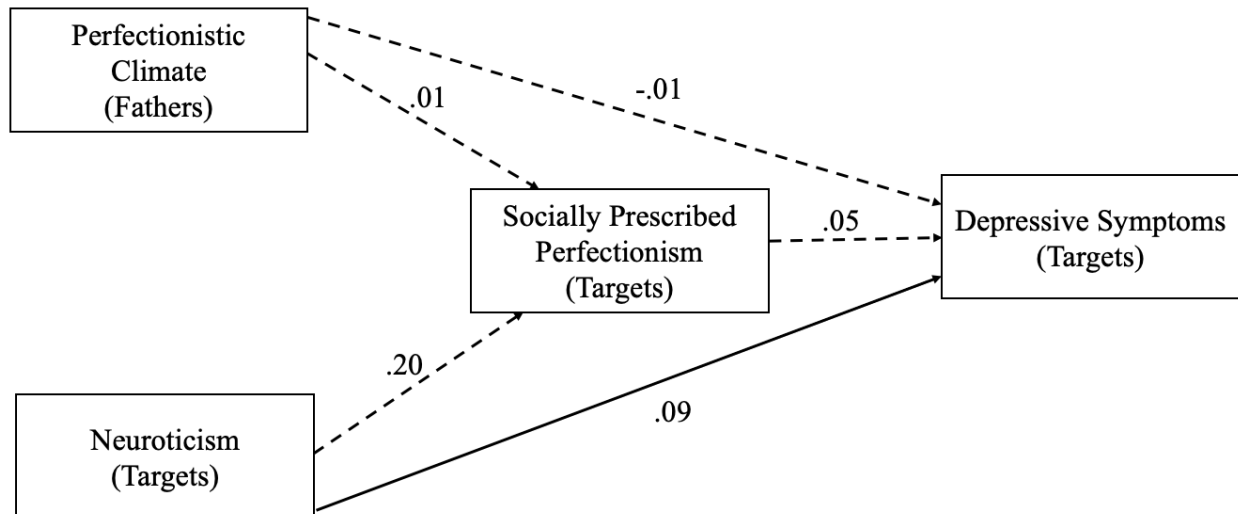
Path Diagram for Relations between Fathers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Stress, with Fathers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 23

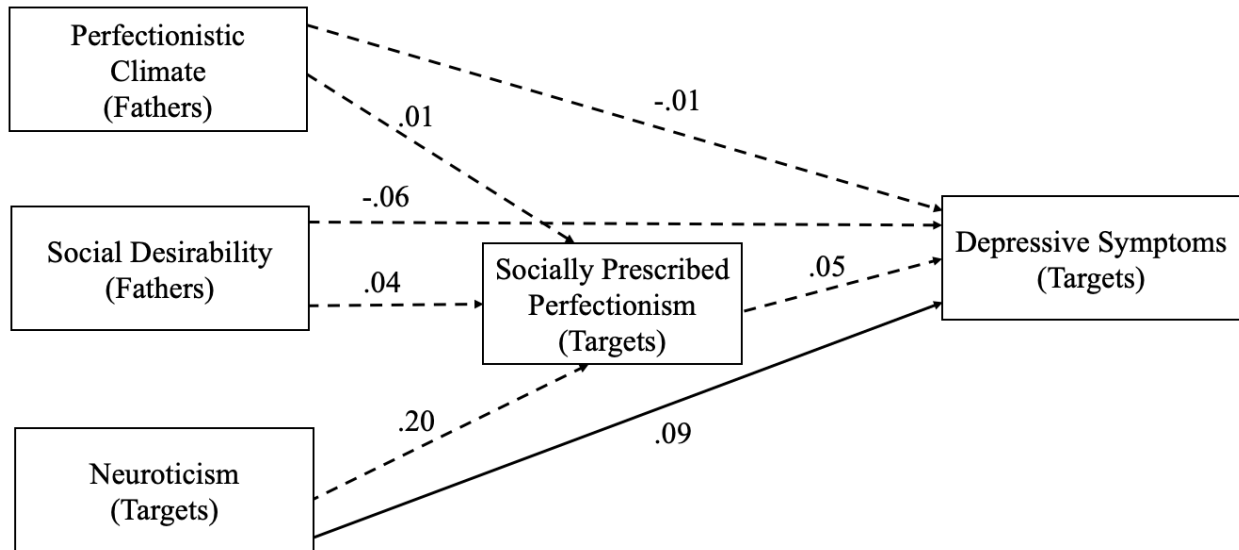
Path Diagram for Relations between Fathers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Depressive Symptoms



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 24

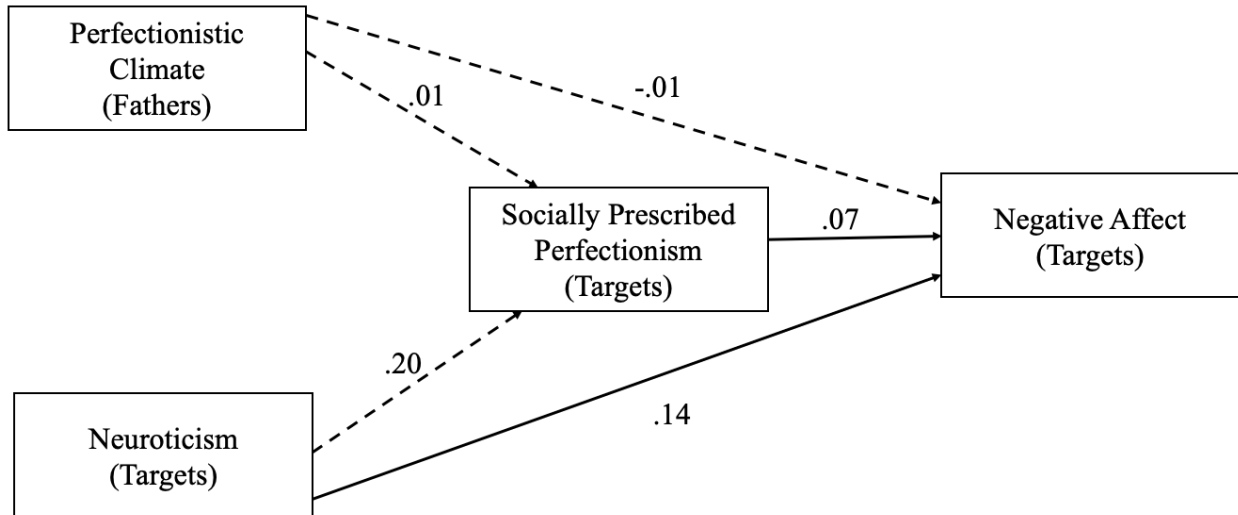
Path Diagram for Relations between Fathers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Depressive Symptoms, with Fathers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 25

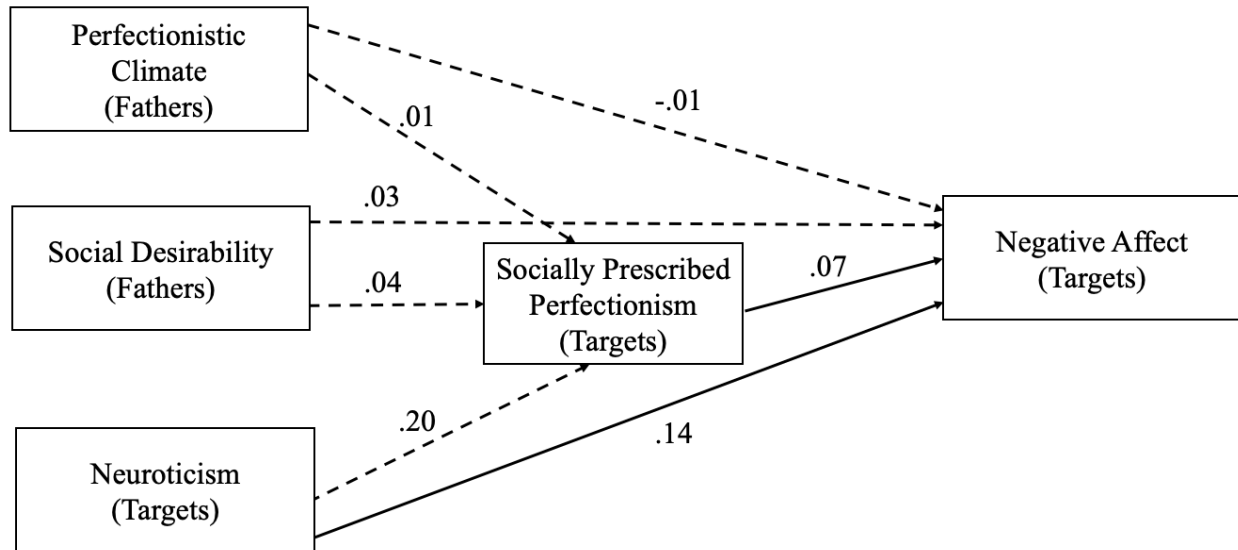
Path Diagram for Relations between Fathers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Negative Affect



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 26

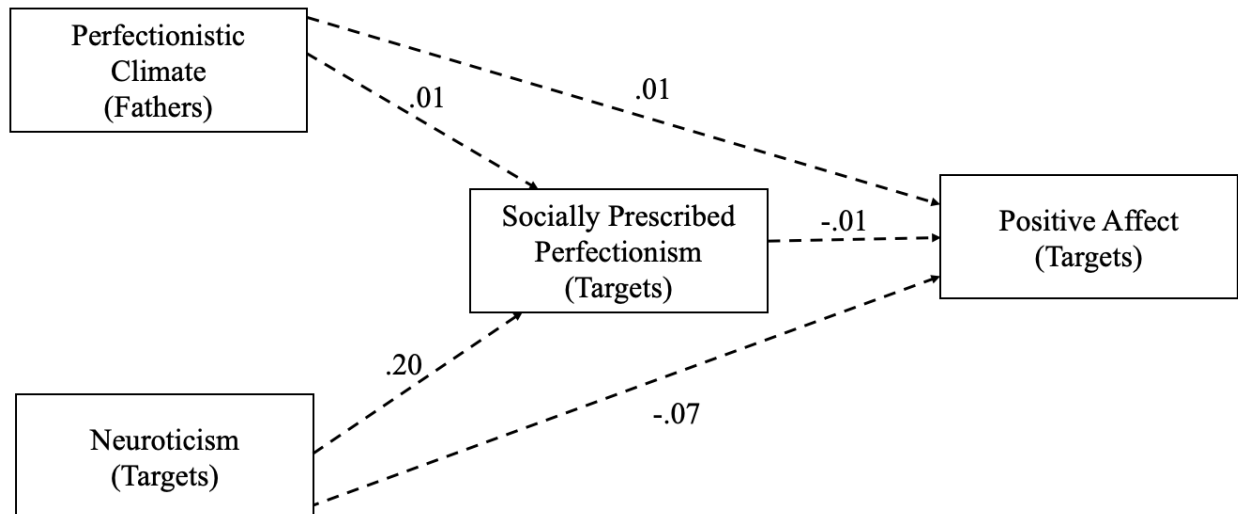
Path Diagram for Relations between Fathers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Negative Affect, with Fathers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 27

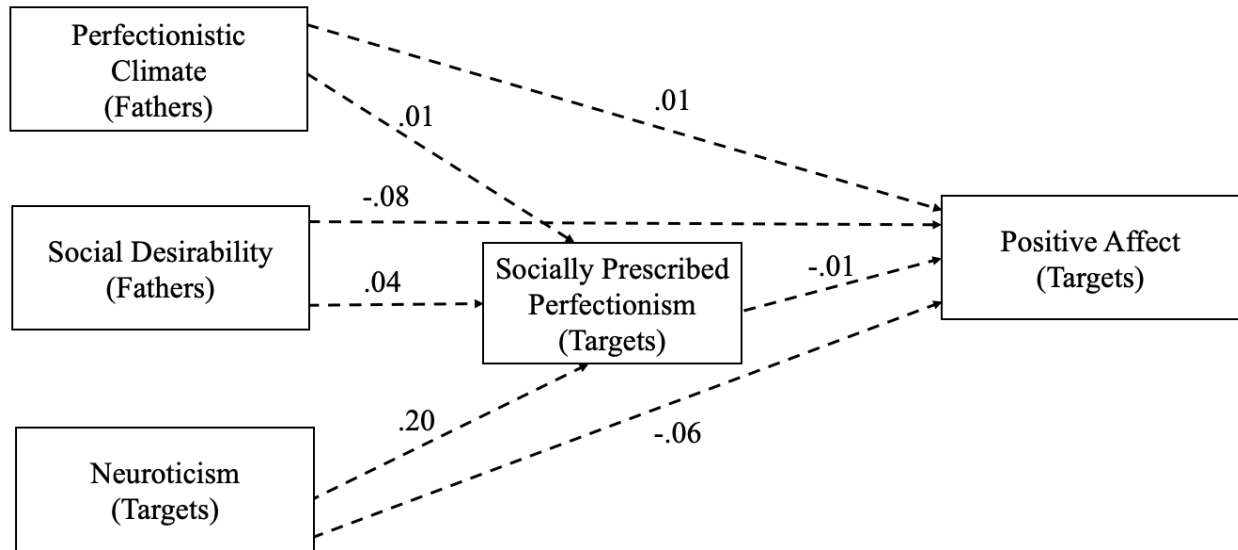
Path Diagram for Relations between Fathers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Positive Affect



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 28

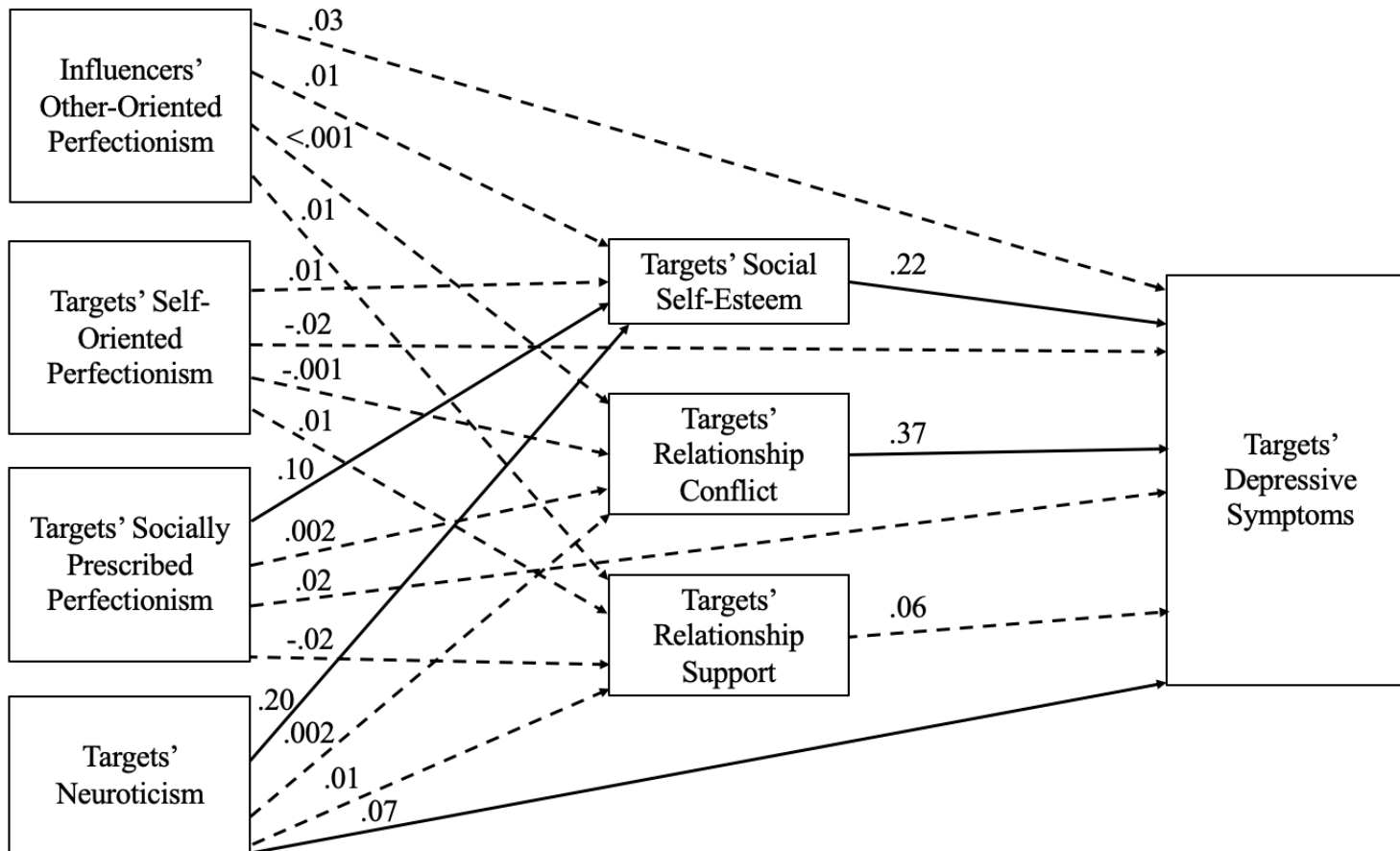
Path Diagram for Relations between Fathers' Perfectionistic Climate, and Targets' Socially Prescribed Perfectionism and Positive Affect, with Fathers' Social Desirability Included



Note. Rectangles represent variables. Unstandardized path coefficients are reported. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows.

Figure 29

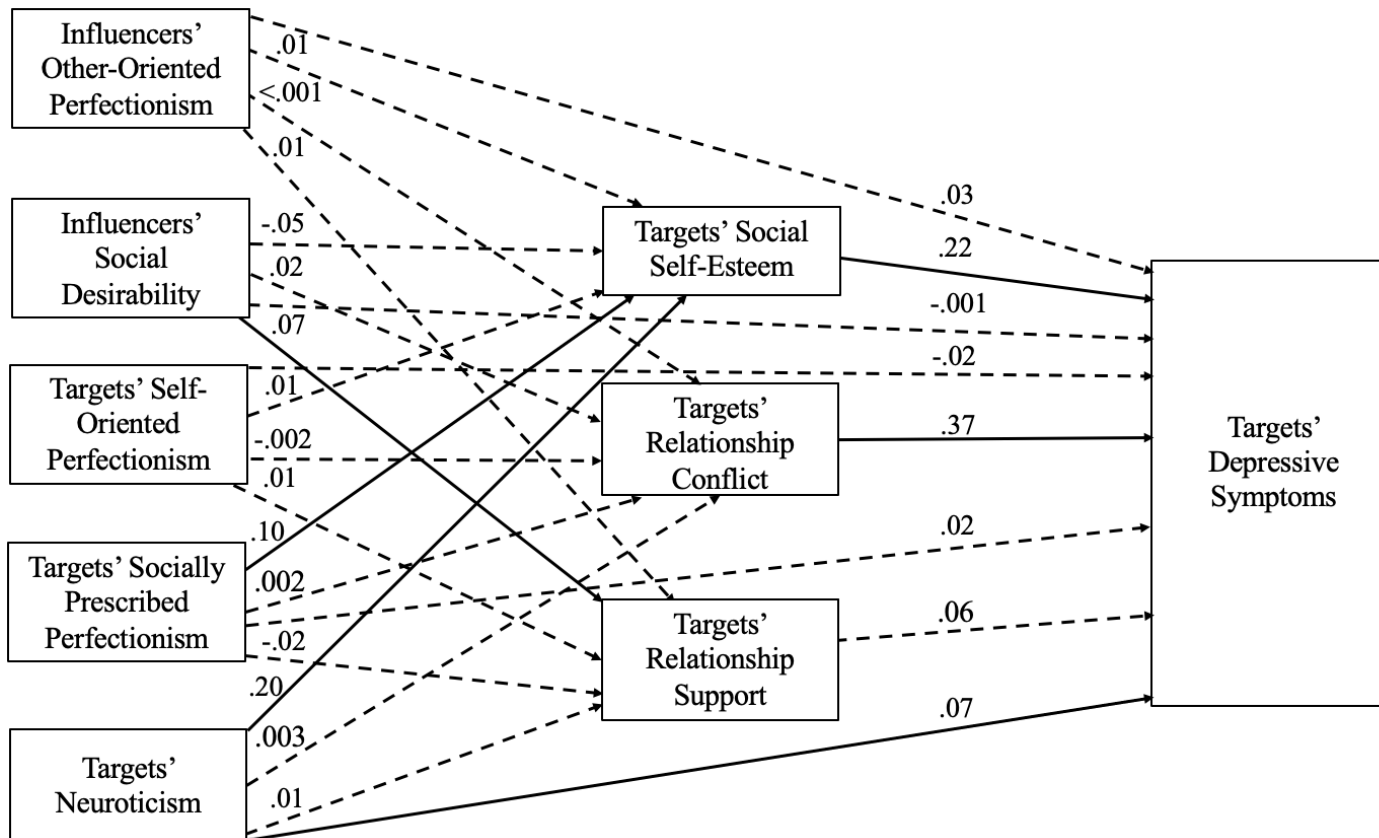
Path Diagram Indicating Relations Between Variables for Hypothesis 4



Note. Rectangles represent variables. Significant paths ($p < .05$) are indicated represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows. Unstandardized path coefficients are reported above the arrows.

Figure 30

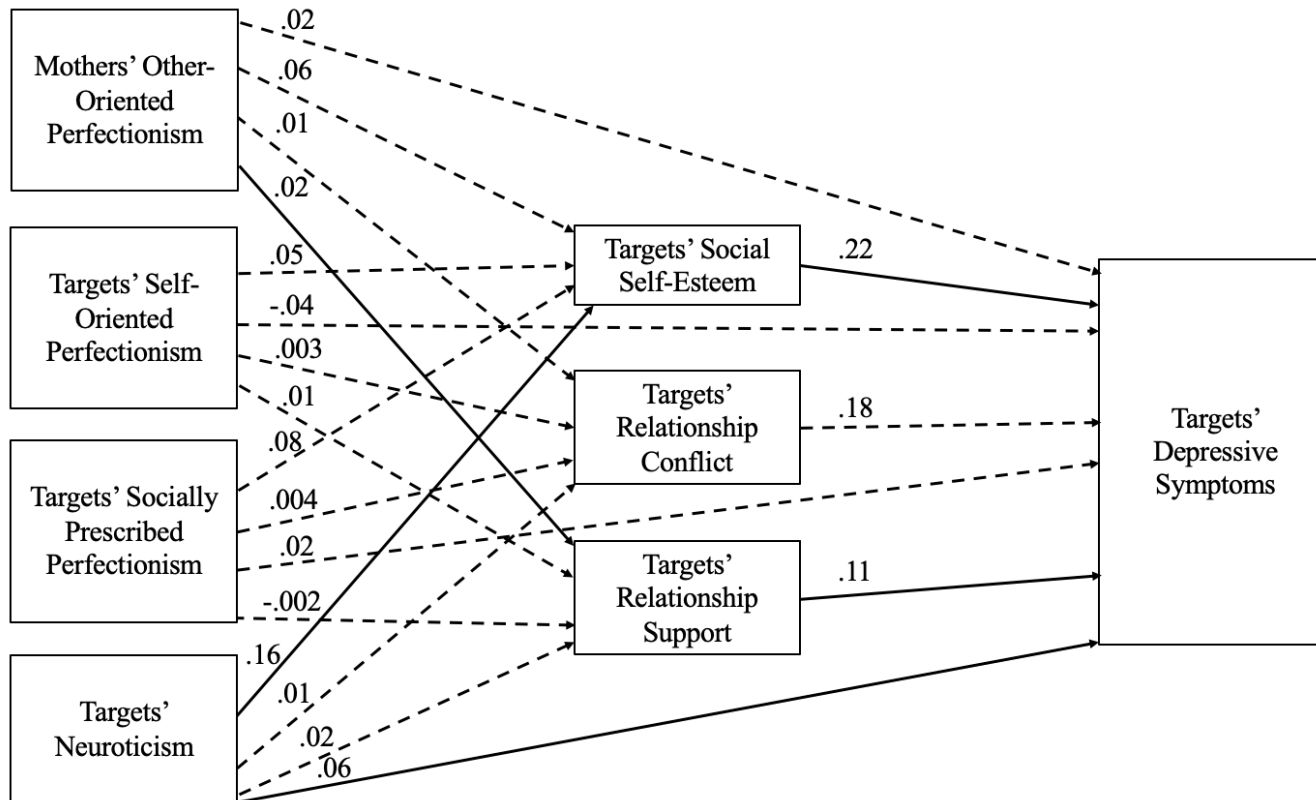
Path Diagram Indicating Relations Between Variables for Hypothesis 4 with Influencers' Social Desirability Included



Note. Rectangles represent variables. Significant paths ($p < .05$) are indicated represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows. Unstandardized path coefficients are reported above the arrows.

Figure 31

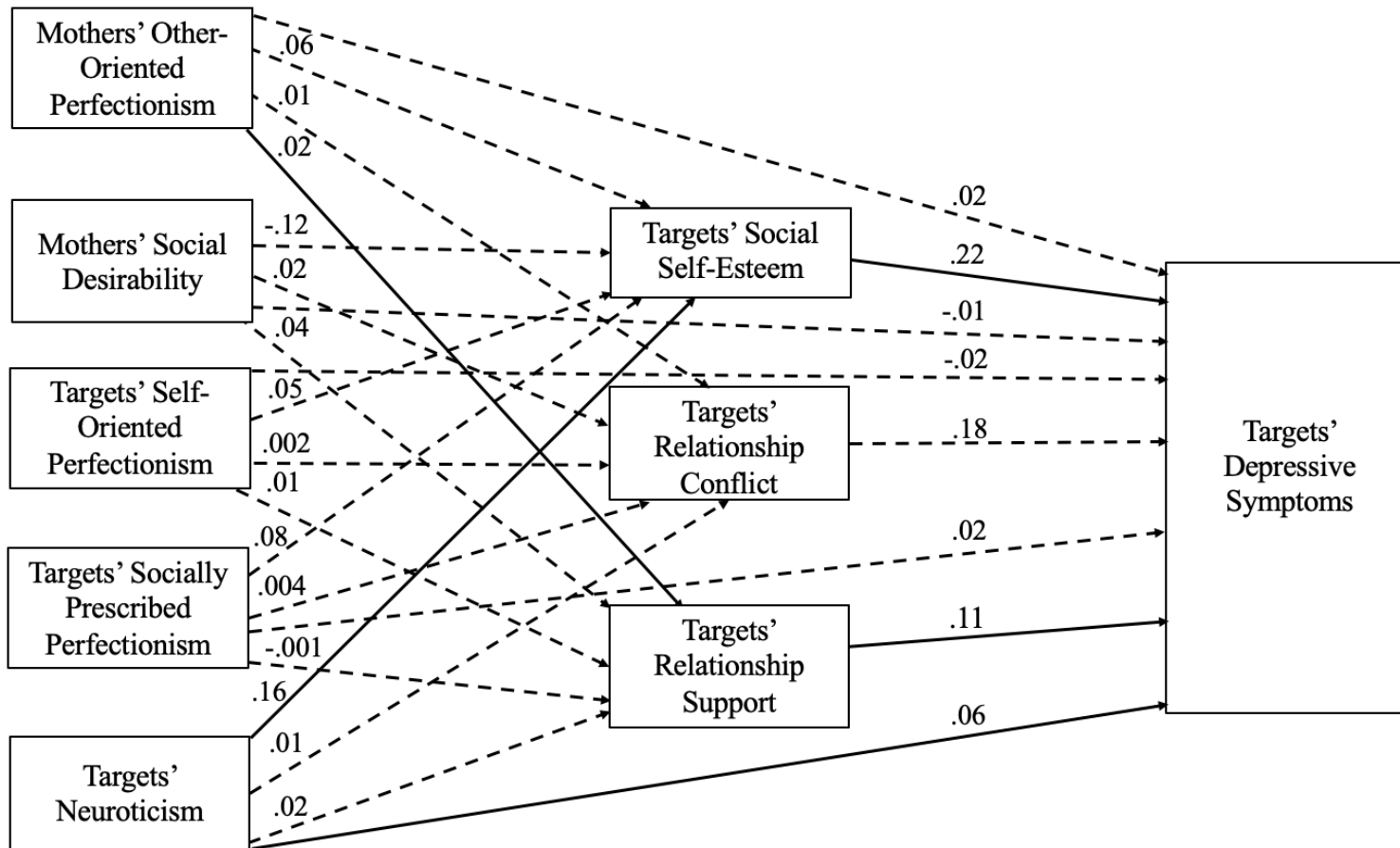
Exploratory Path Diagram for Hypothesis 4 with Mothers



Note. Rectangles represent variables. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows. Unstandardized path coefficients are reported above the arrows.

Figure 32

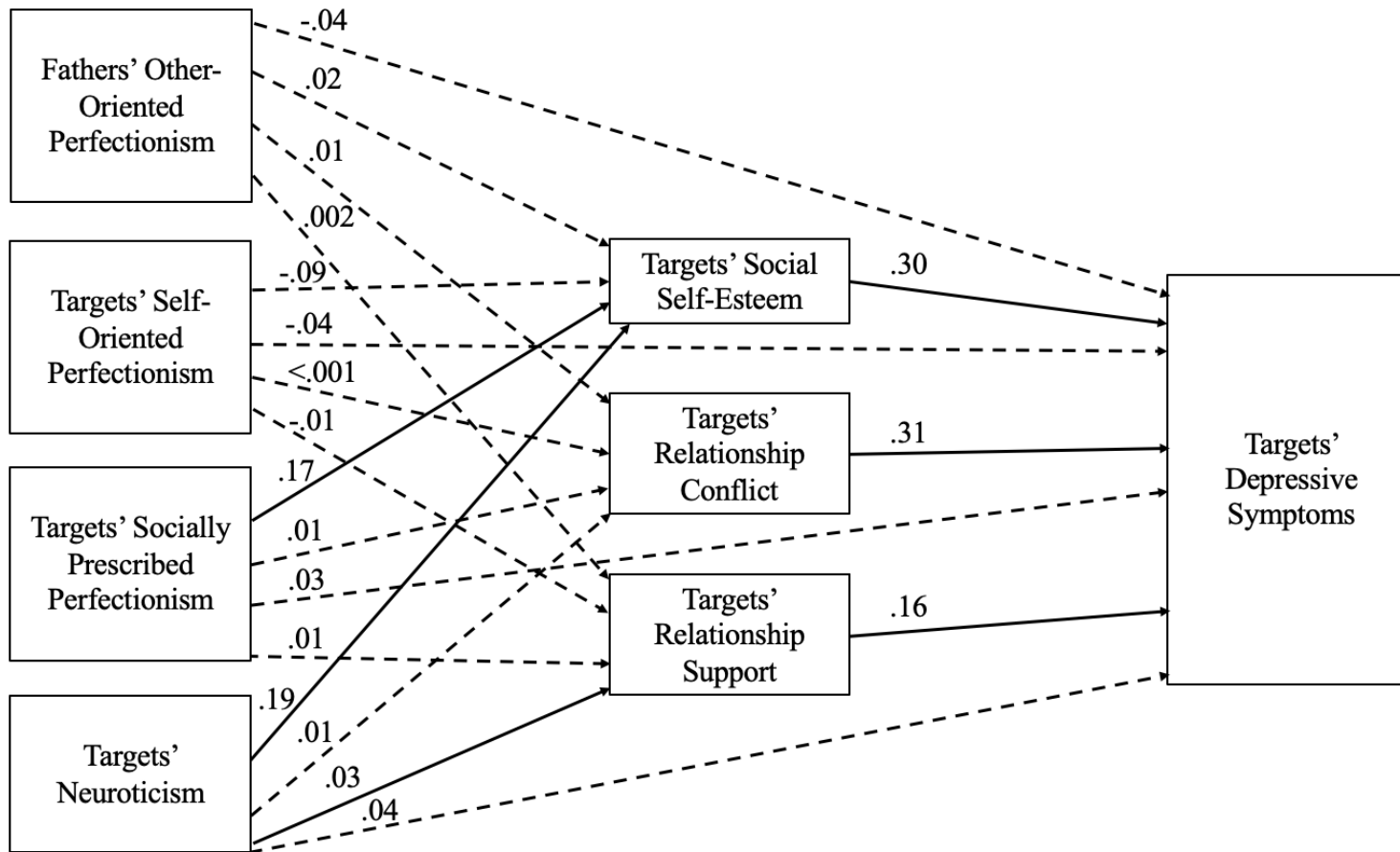
Exploratory Path Diagram for Hypothesis 4 with Mothers, with Social Desirability Included



Note. Rectangles represent variables. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows. Unstandardized path coefficients are reported above the arrows.

Figure 33

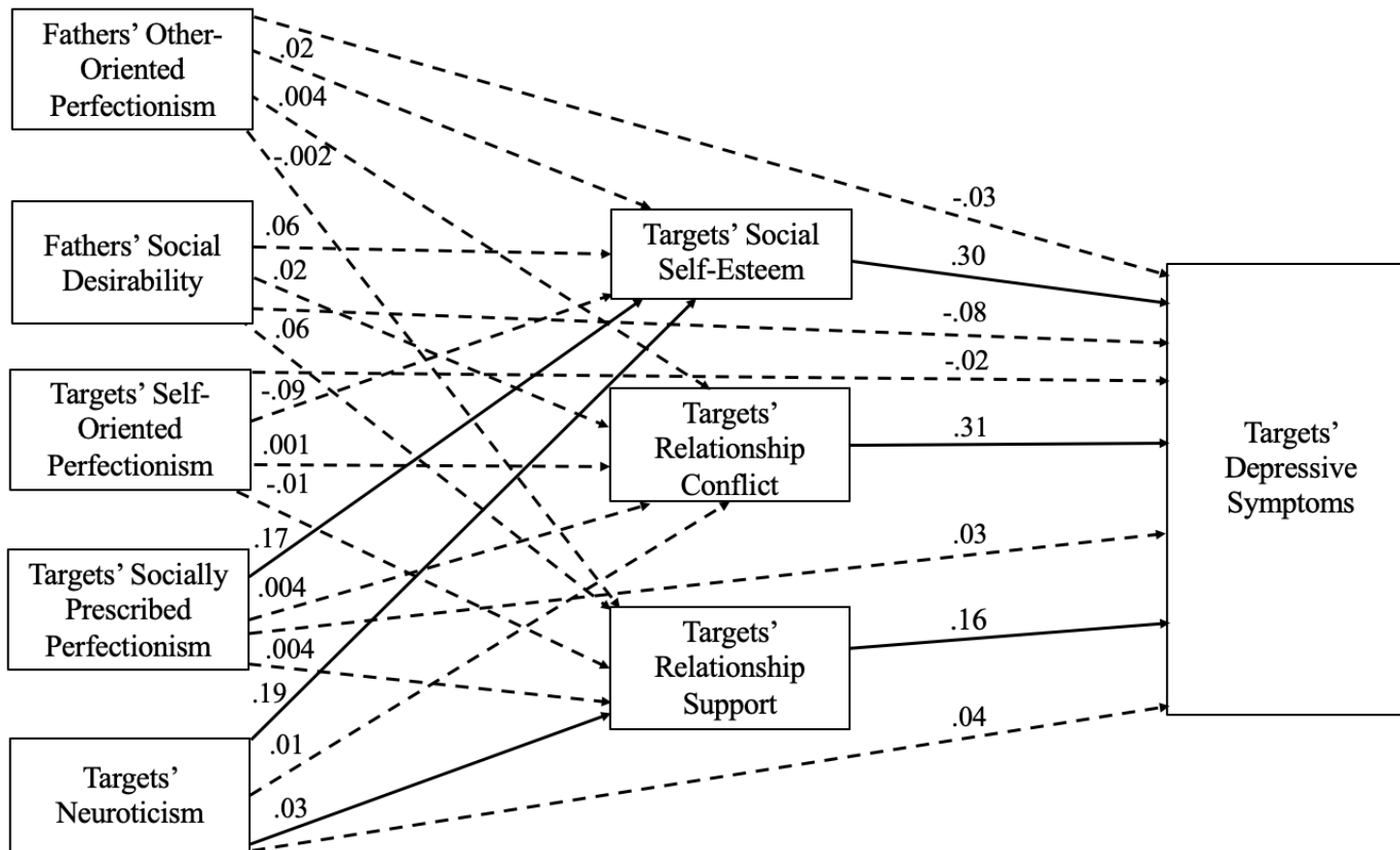
Exploratory Path Diagram for Hypothesis 4 with Fathers



Note. Rectangles represent variables. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows. Unstandardized path coefficients are reported above the arrows.

Figure 34

Exploratory Path Diagram for Hypothesis 4 with Fathers, with Social Desirability Included



Note. Rectangles represent variables. Significant paths ($p < .05$) are represented by solid single-headed arrows. Non-significant paths are represented by dashed single-headed arrows. Unstandardized path coefficients are reported above the arrows.

Appendix A

Multidimensional Perfectionism Scale – Target Version (Hewitt & Flett, 1991; Hewitt, Habke, Lee-Baggley, Sherry, & Flett, 2008; Stoeber, 2018)

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, 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.

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7		

1. One of my goals is to be perfect in everything I do.
2. The better I do, the better I am expected to do.
3. I strive to be as perfect as I can be.
4. It is very important that I am perfect in everything I attempt.
5. I demand nothing less than perfection from myself.
6. Success means that I work even harder to please others.
7. I must work to my full potential at all times.
8. My family expects me to be perfect.
9. People expect nothing less than perfection from me.
10. People expect more from me than I am capable of giving.

Appendix B

Neuroticism subscale from the Big Five Inventory (BFI-N; Benet-Martinez & John, 1998)

Please rate each item below based on how you have felt or behaved over the past several years.

(1) Disagree strongly (2) (3) (4) (5) Agree strongly

I see myself as someone who...

1. worries a lot
2. can be tense.
3. gets nervous easily
4. is depressed, blue
5. can be moody
6. remains calm in tense situations
7. is emotionally stable, not easily upset
8. is relaxed, handles stress well

Appendix C

Profile of Mood States Questionnaire Short Form Depression Subscale (McNair et al., 1992)

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 number refers to the following descriptive phrases:

Not at all = 0

A little = 1

Moderately = 2

Quite a bit = 3

Extremely = 4

1. Sad
2. Hopeless
3. Discouraged
4. Worthless

Appendix D

Multidimensional Perfectionism Scale – Influencer Version (Hewitt & Flett, 1991; Hewitt, Habke, Lee-Baggle, Sherry, & Flett, 2008; Stoeber, 2018)

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, 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.

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7		

1. Everything that others do must be of top-notch quality.
2. I have high expectations for the people who are important to me.
3. I can't be bothered with people who won't strive to better themselves.
4. If I ask someone to do something, I expect it to be done flawlessly.
5. I cannot stand to see people close to me make mistakes.

Appendix E

Modified Perfectionistic Climate Questionnaire (Grugan et al., 2021)

Rate your level of agreement or disagreement with each statement.

(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree

1. I expect performances to be perfect at all times
2. I am anxious about the possibility of even small mistakes when performing
3. I am tense when mistakes are more likely to happen during performances
4. I am nervous that things will not go perfectly during performance
5. I am concerned about mistakes during performance
6. I criticize even the best performances
7. I criticize performances that are not perfect
8. I expect performances to be perfect
9. I criticize all mistakes no matter how small
10. I expect performance to include no errors
11. I expect nothing less than perfect performance
12. I use my position unfairly to try to make performances perfect
13. I criticize performances all the time
14. I use threats to try to stop mistakes in performances
15. I am less approving when performances are not perfect
16. I am friendlier when performances are perfect
17. I use punishment to try to make performances perfect
18. I am kinder when no mistakes are made when performing
19. I am less friendly when performances are not perfect
20. I withhold rewards if performances are not perfect

Appendix F

Marlowe-Crowne Social Desirability Index – Short Form (Reynolds, 1982)

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is <i>true</i> (T) or <i>false</i> (F) as it pertains to you personally.		
1. It is sometimes hard for me to go on with my work if I am not encouraged.	T	F
2. I sometimes feel resentful when I don't get my way.	T	F
3. On a few occasions, I have given up doing something because I thought too little of my ability.	T	F
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.	T	F
5. No matter who I'm talking to, I'm always a good listener.	T	F
6. There have been occasions when I took advantage of someone.	T	F
7. I'm always willing to admit it when I make a mistake.	T	F
8. I sometimes try to get even rather than forgive and forget.	T	F
9. I am always courteous, even to people who are disagreeable.	T	F
10. I have never been irked when people expressed ideas very different from my own.	T	F
11. There have been times when I was quite jealous of the good fortune of others.	T	F

12. I am sometimes irritated by people who ask favors of me.	T	F
13. I have never deliberately said something that hurt someone's feelings.	T	F

Appendix G

Depression Anxiety Stress Scale – Modified Depression Subscale (Antony et al., 1998; Lovibond & Lovibond, 1995)

Please read each statement and select a number 0, 1, 2, or 3 which indicates how much the statement applied to you **SINCE YOUR LAST ENTRY**. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scales is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

1. I couldn't seem to experience any positive feeling at all
2. I felt I had nothing to look forward to
3. I felt I wasn't worth much as a person
4. I felt that life was meaningless

Appendix H

Positive and Negative Affect Schedule Short Form (Thompson, 2007)

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way **SINCE YOUR LAST ENTRY**. Use the following scale to record your answers:

Very slightly or not at all = 1

A little = 2

Moderately = 3

Quite a bit = 4

Extremely = 5

1. Upset
2. Alert
3. Ashamed
4. Inspired
5. Nervous
6. Determined
7. Attentive
8. Afraid

Appendix I

Depression Anxiety Stress Scale – Modified Stress Subscale (Antony et al., 1998; Lovibond & Lovibond, 1995)

Please read each statement and select a number 0, 1, 2, or 3 which indicates how much the statement applied to you **SINCE YOUR LAST ENTRY**. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scales is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

1. I tended to over-react to situations.
2. I found myself agitated.
3. I was intolerant of anything that kept me from getting on with what I was doing.
4. I felt I was rather touchy.

Appendix J

State Self-Esteem Scale (Heatherton & Polivy, 1991; Smith et al., 2017)

This is a questionnaire designed to measure your feelings **SINCE YOUR LAST ENTRY**. Read each item and indicate your response by selecting a number between “1” and “5”, using the following scale:

SINCE YOUR LAST ENTRY...

1 = Not at all	2	3	4	5 = Extremely	
I was worried about whether I was regarded as a success or failure.	1	2	3	4	5
I was worried about what other people thought of me.	1	2	3	4	5
I was concerned about the impression I made.	1	2	3	4	5
I was worried about looking like a fool.	1	2	3	4	5