# Self-Compassion as a Moderator in the Relationship between Perfectionism and Cognitive Distortion

by

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## Abstract

Objectives: Perfectionism is a consistent predictor of depressive symptoms (Hu et al., 2019). One explanation for this is that perfectionism may cause increased levels of cognitive distortion (Kelly, 2015), which has been theorized to be the major cause of depression (Beck, 2008). Recent research, however, has highlighted the effects of self-compassion on moderating the association between perfectionistic standards and depression (With et al, 2024). This study examined if self-compassion had a similar moderating effect in the relationship between perfectionistic standards and cognitive distortions.

Methods: I conducted a cross-sectional study with 476 undergraduate students who completed surveys that included measures of perfectionism, self-compassion, and cognitive distortion. Multiple regression analyses and moderated multiple regressions was conducted to test relationships between these variables.

Results: Results showed that perfectionism significantly predicted greater cognitive distortions, whereas excellencism did not. A moderation analysis further demonstrated that self-compassion moderated this association: perfectionism predicted higher cognitive distortions at low levels of self-compassion, but the effect disappeared when self-compassion was high. These findings suggest that, although perfectionism contributes to maladaptive thinking, its negative impact is not inevitable. Practically, this highlights the potential value of incorporating self-compassion–based strategies into interventions to reduce cognitive vulnerabilities among individuals with high perfectionistic tendencies.

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## Introduction

Perfectionism is a multifaceted personality trait that has garnered significant attention due to its potential to negatively impact mental health. While often associated with high standards and achievement, perfectionism can also manifest in harmful ways, such as chronic self-criticism, anxiety, and depression (Melrose & Payne, 2011). Research has shown that perfectionism is not simply a desire to excel but a complex cognitive pattern that influences emotional well-being and decision-making (Chang, 2006). A key aspect of this issue is how individuals with perfectionistic tendencies engage in cognitive distortions, irrational thought patterns that can perpetuate negative emotional and behavioural outcomes. Understanding these cognitive distortions, particularly in relation to how they exacerbate perfectionistic traits, is crucial for developing effective interventions.

Cognitive distortions, such as emotional reasoning, labelling, and mental filtering, have been extensively studied in clinical psychology for their role in various mental health conditions (Wang et al., 2023). These distortions often lead individuals to interpret experiences through a biased lens, thereby reinforcing maladaptive behaviours and emotional states. In the context of perfectionism, these distortions are particularly pernicious, as they align with the perfectionist's tendency to focus on flaws and failures while dismissing any positive feedback (Helomond et al., 2015). The presence of these cognitive biases can increase vulnerability to psychological disorders such as depression, anxiety, and stress-related conditions (Hu et al., 2019). Despite their significant impact, there is limited research exploring the specific relationship between perfectionism and cognitive distortions, particularly in non-clinical populations.

A promising area of research in mitigating the negative effects of perfectionism is self-compassion, the practice of treating oneself with kindness and understanding in the face

of failure or personal shortcoming (Long & Neff., 2018). Recent studies suggest that self-compassion may act as a buffer against the harmful effects of perfectionism, reducing self-criticism and emotional instability (Fletcher et al., 2019). Self-compassion involves three core elements: self-kindness, mindfulness, and common humanity (Neff, 2023). By fostering these qualities, individuals can challenge the cognitive distortions that often accompany perfectionism, ultimately promoting emotional resilience and mental well-being. As such, self-compassion offers an innovative avenue for addressing perfectionistic tendencies, particularly in individuals who may not yet meet clinical thresholds for conditions like depression or anxiety.

The primary objective of this thesis was to explore how perfectionism relates to cognitive distortion, and to examine the role of self-compassion as a moderator of these effects. By integrating research on cognitive distortions with studies on self-compassion, this study aims to provide a more comprehensive understanding of how these psychological processes interact. Additionally, the thesis will investigate whether interventions focused on increasing self-compassion can reduce the negative impact of perfectionism on emotional and mental health outcomes. The literature review will synthesize current research on these topics, providing a framework for understanding the psychological mechanisms at play and offering evidence-based insights into potential therapeutic approaches.

The following literature review will first delve into the concept of perfectionism, its association with cognitive distortions, and its impact on emotional well-being. Next, the review will examine the role of each cognitive distortion, such as emotional reasoning, labelling, mental filtering, and overgeneralization. Finally, I will explore self-compassion as a potential moderator of the relationship between perfectionism and cognitive distortion, highlighting its therapeutic potential. This synthesis will lay the groundwork for the

subsequent research, which explored whether self-compassion can effectively alleviate the psychological burden of perfectionism.

# Literature Review

## Perfectionism

Perfectionism is a complex and multifaceted construct that has been extensively researched and debated within the field of psychology. Perfectionism can be defined as the tendency to set exceedingly high personal standards, paired with a critical self-evaluation of one's own performance (Stoeber & Damian, 2014). The literature has identified two primary dimensions of perfectionism: perfectionistic strivings and perfectionistic concerns. Perfectionistic strivings encompass the pursuit of high personal standards and the drive for flawlessness, often accompanied by satisfaction and self-worth derived from goal accomplishment. Conversely, perfectionistic concerns involve a heightened preoccupation with making mistakes, perceived discrepancies between performance and standards, and fear of negative evaluation by others (Jonge-Heesen et al., 2021).

Over the past couple decades, the multidimensional model of perfectionism has garnered significant attention. This model identifies three dimensions: self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism (Hewitt & Flett, 1991). Self-oriented perfectionism involves imposing unrealistic, lofty standards on oneself, paired with a strong drive to achieve them. Other-oriented perfectionism describes expecting and demanding perfection from others. Socially prescribed perfectionism is rooted in the perception of external pressure to meet high standards, leading to a belief that personal value and respect hinge on achieving perfection (Hewitt & Flett, 1991).

Curran and Hill (2019) provide compelling evidence of increasing perfectionism across generations. Their analysis of data from over 41,000 American, Canadian, and British college students between 1989 and 2016 reveals significant growth in self-oriented (10%), socially prescribed (33%), and other-oriented (16%) perfectionism. These trends persisted

across genders and regions, suggesting a pervasive rise in perfectionistic tendencies globally. Increased perfectionism has been linked to a range of negative outcomes. Curran and Hill (2017) highlight strong associations between perfectionism and mental health issues, including depression, anxiety, and suicidal ideation. Negative self-evaluation, chronic stress, and fear of failure contribute to these issues. Additionally, Kelly (2015) connects perfectionism with eating disorders and other psychological conditions. While less emphasis has been placed on physical health, perfectionism has been linked to heightened physiological stress responses, which can potentially harm long-term physical well-being.

Perfectionism also adversely impacts productivity in professional settings. The relentless pursuit of flawlessness often results in procrastination, task avoidance, and inefficiency. Kelly (2015) and Sherry et al (2010) observed that perfectionistic traits may ironically hinder success, as the fear of mistakes often obstructs progress. Interpersonal relationships are similarly strained by perfectionism, with excessive standards and critical behaviour contributing to conflicts and dissatisfaction. Flett et al. (1995) highlight perfectionism as a significant factor in marital discord. Ultimately, perfectionism diminishes life satisfaction, as the inability to meet unattainable standards prevents individuals from appreciating their accomplishments and the present moment.

Perfectionism is a critical concept in academia due to its relevance to motivation, performance, and overall well-being. Early investigations into perfectionism revealed inconsistent and sometimes contradictory effects on students. Some studies have highlighted problematic aspects of high perfectionism, linking it to diminished academic performance and poorer psychological health (Bong et al., 2014). Conversely, other research has demonstrated positive effects on these same outcomes (Flett et al., 2009). These conflicting findings underscore the need to analyse the distinct dimensions and forms of perfectionism

separately, given its multifaceted and complex nature. The link between perfectionistic striving and outcomes like academic success and well-being remains ambiguous and, at times, contradictory (Verner-Filion & Vallerand, 2016). However, perfectionistic concern has been consistently associated with adverse outcomes, including poor academic performance (Flett et al., 2009; Verner-Filion & Gaudreau, 2010), as well as mental health issues such as depression (Erozkan et al., 2011; Flett et al., 2007), anxiety (Bong et al., 2014; Stoeber et al., 2009), stress (Chang & Rand, 2000; La Rocque et al., 2016), and even suicide (Hewitt et al., 2014; Roxborough et al., 2012).

Perfectionistic concern (socially prescribed perfectionism) has been universally agreed to be a maladaptive trait (Curran & Hill, 2019). However, perfectionistic striving has been debated, with researchers arguing all forms of perfectionism being maladaptive and other researchers suggesting it to be adaptive (Curran & Hill, 2019). One of the core issues with perfectionistic strivings is the inherent unattainability of perfection. As highlighted by Sedera and Lokuge (2020) the problem lies not in setting high standards, but in the rigidity and lack of flexibility that characterize perfectionistic strivings. The constant striving for an impossible ideal creates a perpetual sense of dissatisfaction and inadequacy, regardless of actual achievements. This can lead to a chronic state of anxiety and stress, as the individual is never able to truly savour their accomplishments or feel a sense of fulfilment. Smith et al (2015) illustrates this point, demonstrating how the interaction of high perfectionistic strivings and high perfectionistic concerns predicts increased negative emotionality.

Moreover, perfectionistic strivings often fuel harmful self-criticism. The individual becomes their harshest judge, focusing on perceived shortcomings and minimizing successes. Smith et al (2018) emphasizes this self-defeating cycle, explaining how perfectionists are trapped in a loop of over-striving and self-rebuke. Every task becomes another opportunity

for perceived failure, further eroding self-esteem and increasing the risk of depression and even suicidal ideation. The pursuit of perfection can also negatively impact interpersonal relationships. The rigid standards and expectations characteristic of perfectionistic strivings can be projected onto others, leading to strained connections and social isolation. Perfectionists may struggle to accept imperfections in others, creating distance and conflict in their relationships. Additionally, the constant focus on achieving unrealistic goals can leave little time or energy for nurturing meaningful connections, further exacerbating feelings of loneliness and isolation.

However, a key benefit of perfectionistic strivings is the inherent motivation to achieve. The desire to perform at one's best can fuel hard work, dedication, and perseverance, leading to significant accomplishments. Stoeber and Otto (2006) highlight the positive aspects of perfectionism striving and its association with positive characteristics. When balanced with self-compassion and realistic expectations, can be a powerful engine for personal and professional growth. As Fallahchai et al. (2019) note, perfectionism striving can be associated with higher performance and consequently, increased psychological well-being. Perfectionistic strivings can also foster a strong sense of self-efficacy. As individuals consistently strive to improve and achieve high standards, they develop a belief in their ability to succeed. This sense of self-efficacy can be a protective factor against challenges and setbacks, promoting resilience and a growth mindset. Flett et al (2017) supports this idea. While exploring the interplay between perfectionism and coping mechanisms, this work suggests that self-oriented perfectionism can be associated with active coping strategies. This proactive approach to challenges is a hallmark of adaptive perfectionistic strivings.

The concept of excellencism, introduced in the Model of Excellencism and Perfectionism by Gaudreau (2019), offers a healthier alternative to the often-debilitating

effects of perfectionism. Excellencism emphasizes striving for high but realistic standards, characterized by determination, flexibility, and a focus on growth. Unlike perfectionism, excellencism is driven by a desire for mastery and resilience, rather than fear of failure or self-criticism. Gaudreau (2019) critiques past studies that found adaptive benefits in perfectionistic strivings, noting that they did not control for excellencism. Had excellencism been measured and controlled, we would likely not see many adaptive outcomes in perfectionistic striving beyond the level of excellencism. Excellencism fosters numerous adaptive benefits. By pursuing attainable goals, individuals are more likely to experience satisfaction and increased motivation. Its inherent flexibility also allows individuals to navigate obstacles effectively, fostering resilience and adaptability. Moreover, excellencism supports healthier self-perceptions, promoting self-acceptance and reducing harsh self-judgment (Gaudreau et al., 2022). Comparative research underscores the advantages of excellencism over perfectionism. Gaudreau et al. (2022) found that excellence strivers often achieve comparable or superior outcomes to perfection strivers but with less stress and anxiety. This suggests that perfectionism's focus on unattainable ideals may be counterproductive, whereas excellencism offers a more sustainable and fulfilling path to personal and professional success.

**Depression**

Depression, a complex and multifaceted mental health condition, has been extensively studied within the scientific community (Shorey et al., 2022). It is primarily defined as a persistent state of depressed mood, marked by feelings of sadness, emptiness, and a loss of interest or pleasure in daily activities. The disorder encompasses a broad range of symptoms and clinical presentations, including significant weight changes, insomnia or hypersomnia, fatigue, feelings of worthlessness or excessive guilt, and recurring thoughts of death or

suicide (Price & Stolerman, 2015). This variability underscores the diverse nature of depressive disorders, which can manifest differently across individuals (American Psychiatric Association, 2022).

According to the World Health Organization, depression has evolved into a global health crisis, with its prevalence rising significantly over the last 50 years (Liu et al., 2020). The age-standardized incidence rate of depression increased by 49.86% between 1990 and 2017, with the number of incident cases worldwide growing from 172 million to 258 million during this time (Liu et al., 2020). This troubling trend is further supported by evidence that the total number of individuals likely to have depression rose by 18.4% between 2005 and 2015, with projections indicating exponential growth in the coming decades (Ho et al., 2020).

In the United States, more than 21 million adults—approximately 8.4% of the population—have experienced depression. Similarly, in Canada, 5.4% of the population, or about 2 million people, are estimated to suffer from depression. Beyond its toll on individuals, depression carries substantial economic implications. In the US alone, the cost of depression-related treatments and services is estimated at $225 billion annually. Additionally, US employers lose over $23 billion each year due to the effects of depression on absenteeism and presenteeism (Zhang et al., 2023). The societal and economic impacts of depression are staggering, affecting not just individuals but the broader community.

Undergraduate students are a population particularly vulnerable to depressive symptoms due to the transition to college life presenting multiple stressors such as increased academic pressure, financial burdens, and often challenges of independent living for the first time (Luo et al., 2024). The struggle to adapt to a new social environment, navigating complex interpersonal relationships whilst trying to establish a sense of belonging can create a breeding ground for anxiety and depression, especially for those with pre-existing

vulnerabilities (Luo et al., 2024). Furthermore, Curran and Hill (2017) found that college students with high levels of perfectionism to be an even greater predictor of depression. Students who tend to attribute negative experiences to internal, stable, and global factors are more likely to experience depression. For example, a student who fails an exam and attributes it to their own lack of ability (internal), believes they will always struggle academically (stable), and generalizes this failure to other areas of their life (global) is at higher risk (Li et al., 2022; Luo et al., 2024; Sheldon et al., 2021).

Depression's impact extends beyond mental health, impairing productivity and psychosocial functioning. Depressed individuals frequently experience absenteeism, presenteeism, and diminished work performance (Lerner & Henke, 2008). Economically, depression leads to increased healthcare costs, lost productivity, and reduced quality of life. Naturalistic studies reveal that individuals with depression report greater work impairment, and longitudinal research shows a clear relationship between changes in depressive symptoms and work performance (Lerner & Henke, 2008). Encouragingly, effective depression treatments have been shown to significantly improve productivity, with gains often outweighing treatment costs (Simon et al., 2001).

**Perfectionism and Depression**

Research has focused a great deal on the connection between perfectionism and depression, consistently highlighting how certain dimensions of perfectionism—particularly perfectionistic concerns—play a significant role in the development and persistence of depressive symptoms. A meta-analysis on the relationship between perfectionism and symptoms of depression has found that perfectionism significantly impacts mental health, particularly in its association with depression (Callaghan et al., 2024). Perfectionistic concerns, in particular, have been strongly linked to the development of depressive

symptoms. Individuals high in perfectionistic concerns often exhibit intense self-criticism, berating themselves for perceived shortcomings and feeling dissatisfied with their achievements, no matter how objectively successful they may be. This chronic self-criticism and inability to find contentment are key factors that contribute to both the onset and persistence of depression (Stoeber & Damian, 2014).

However, the other main dimension of perfectionism—perfectionistic strivings—does not appear to be as closely associated with depression (Callaghan et al., 2024). Perfectionistic strivings involve the pursuit of high personal standards and a drive to excel, and research suggests this dimension may possess some adaptive qualities. For instance, individuals high in perfectionistic strivings may channel their motivation to achieve success across various domains. However, when perfectionistic strivings co-occur with elevated levels of perfectionistic concerns, the negative effects on mental health tend to become much more pronounced (Kelly, 2015).

**Cognitive Distortion**

Depression has been closely studied for its connections to various cognitive processes. One particularly significant link is the association between depression and cognitive distortion. Beck's theory of depression suggests that individuals with depression often display a negative cognitive triad—a set of distorted perceptions about the self, the world, and the future. This triad perpetuates a recurring cycle of negative thoughts and emotions (Beck, 2008).

Cognitive distortions, defined as systematic errors in thinking, are central to this framework (Covin et al., 2011). Examples include dichotomous thinking, overgeneralization, and catastrophizing. These distortions shape how individuals perceive and interpret events, contributing to both the onset and maintenance of depressive symptoms. Moreover, the

relationship between depression and cognitive distortion is bidirectional. Cognitive distortions heighten vulnerability to depression, while depressive symptoms further intensify these distorted thought patterns (Beck & Haigh, 2014).

Additionally, cognitive distortions have been shown to mediate the relationship between life adversity and emotional distress. When individuals face significant stressors, they may be more prone to cognitive distortions, which in turn amplify depressive symptoms (Beck, 2008). For instance, an individual experiencing a traumatic event may adopt a distorted view of their worth or future, leading to a persistent state of emotional distress.

Research consistently supports the use of Cognitive Behavioural Therapy (CBT) as an effective approach for treating cognitive distortions by helping individuals identify, evaluate, and modify maladaptive thought patterns that contribute to psychological distress (Helmond et al., 2015). Studies have shown that CBT interventions can significantly reduce symptoms of depression and anxiety by helping individuals recognize and challenge catastrophic thinking (Rector et al., 2005). Similarly, CBT equips clients to address overgeneralization by examining the validity of overly broad beliefs and encouraging more nuanced, flexible ways of thinking. In the case of "should" statements, therapists guide clients in replacing rigid, self-imposed rules with more balanced and realistic expectations. Techniques such as cognitive restructuring, Socratic questioning, and behavioural experiments are central to this process, fostering more adaptive thought patterns and improved emotional well-being (Person et al., 2023).

Covin et al (2011) identify ten types of cognitive distortions: mind-reading, catastrophizing, dichotomous thinking, emotional reasoning, labelling, mental filter, overgeneralization, personalization, should statements, and minimizing the positives. These distortions are directly linked to depression and play a significant role in perpetuating the

negative cycle of thoughts and emotions that characterizes the disorder (Beck & Haigh, 2014). Cognitive distortions are not isolated thinking patterns; rather, they tend to co-occur and reinforce one another. As such, individuals who engage in one type of cognitive distortion are often likely to exhibit others as well, creating a network of negative thought patterns that can intensify emotional distress (Covin et al., 2011).

### *Mind Reading*

The ability to infer the mental states of others, commonly referred to as "mind-reading," is a crucial aspect of social cognition. (Kovács et al., 2010) This skill enables people to anticipate the beliefs, desires, and intentions of those around them, encouraging smoother social interactions and mutual understanding. However, an overly excessive or distorted tendency to engage with mind-reading can lead to significant cognitive distortions. In such cases, individuals make unfounded assumptions about others' thoughts and feelings, which can result in misinterpretations of social situations, interpersonal conflicts, and heightened misunderstandings (Pegado et al., 2019). For example, suppose you are having dinner with a friend and realize they have been awfully quiet, so you ask if something is wrong. He responds saying everything is ‘okay’, but you do not believe him and you begin to think he is bored or unhappy. This is an example of mind-reading as you are trying to predict and assume your friend’s thoughts and feelings.

Research highlights that mind-reading as a cognitive distortion is a widespread phenomenon. Studies indicate people often overestimate their own ability to accurately infer others' mental states (Turner & Felisberti, 2017). This bias is particularly evident in individuals with specific personality traits or cognitive styles, such as a strong need for control or a proclivity for black-and-white thinking. These tendencies exacerbate the likelihood of misjudging social cues and intentions (Mecacci & Haselager, 2017). Individuals

with certain cognitive or developmental disorders, like autism spectrum disorder, often display atypical patterns in their mind-reading abilities, which may contribute to difficulties in social interaction (Pegado et al., 2019).

### *Catastrophizing*

Catastrophizing is the tendency to amplify the negative aspects of a situation and consistently anticipate the worst possible outcomes, often without substantial evidence to justify such conclusions (Covin et al., 2011). This pattern of thinking can lead to heightened emotional responses, such as excessive worry, fear, or despair, even when faced with relatively minor stressors (Panourgia & Comoretto, 2017). This cognitive style can create a self-reinforcing cycle, deepening negative emotions and fostering maladaptive behaviours (Beck, 2008). For example, suppose Riley is preparing for a powerlifting competition but fails a 300-kilogram squat in training, he would be engaging in catastrophizing if he started to think he would never be a good powerlifter. Dropping out of the competition based on one out of 50 training sessions in his competition preparation is an example of Riley catastrophizing one training session.

According to the cognitive model of depression, catastrophizing and other cognitive distortions significantly contribute to the development and persistence of depressive symptoms (Wang et al., 2023). Individuals with depression often demonstrate a negative cognitive bias, selectively focusing on and remembering negative information whilst interpreting ambiguous situations pessimistically. Catastrophizing also has a high association with anxiety disorders (Yurica & DiTomasso, 2006). People with anxiety often overestimate the likelihood and severity of adverse outcomes, which can intensify their fears and worries. This distortion frequently leads to avoidance behaviours, as individuals attempt to protect themselves from perceived threats. These avoidance behaviours can inadvertently reinforce

anxious thought patterns, perpetuating the cycle of anxiety. By learning to recognize and reframe catastrophic thoughts, individuals can adopt more balanced and realistic perspectives, leading to enhanced emotional well-being and reduced distress.

### *Dichotomous Thinking*

Dichotomous thinking could also be referred to as all-or-nothing or black-and-white thinking. This cognitive distortion or pattern of thought involves viewing situations or outcomes as either entirely positive or entirely negative, with no room for nuance or middle ground (Giusti et al., 2020). Individuals who engage in dichotomous thinking often classify their experiences and actions as either complete successes or total failures and overlook the complexities and subtleties that typically characterize real-life scenarios. For example, a soccer player attempts the winning shot of a game but misses. Had he scored, he would have deemed himself the most valuable player of the game but since he missed, he deemed himself the worst performing player. This is an example of dichotomous thinking as the player showed no grey area with assessing his performance, he either won everything or won nothing.

Research into dichotomous thinking has uncovered critical insights into its nature, origins, and effects. Key factors such as cognitive ability and thinking dispositions play a significant role in determining an individual's likelihood of engaging in this type of distorted thinking (Stanovich & West, 1998). For instance, individuals with lower cognitive abilities and less analytical thinking styles are more prone to dichotomous thinking. This tendency may arise from a difficulty in evaluating situations comprehensively or considering multiple perspectives and pieces of evidence (Pennycook et al., 2015). Research has indicated that dichotomous thinking tends to be more prominent during periods of heightened stress or adversity. Under these circumstances, individuals may resort to rigid and overly simplistic

interpretations as a coping mechanism to manage the cognitive and emotional demands of the situation. However, while this thinking style may temporarily alleviate stress, it often exacerbates emotional distress over time in the long term (Panourgia & Comoretto, 2017). Evidence suggests that dichotomous thinking is closely linked to mental health challenges, including depression and anxiety (Nazneen & Pagare, 2023). This cognitive distortion can lead you into a negative feedback loop, where extreme evaluations of situations contribute to feelings of failure and hopelessness, further reinforcing maladaptive thought patterns. Its impact extends beyond emotional well-being, potentially influencing behaviour and decision-making in ways that are counterproductive.

### *Emotional Reasoning*

Emotional reasoning is the distortion that occurs when an individual's thought processes are disproportionately shaped by their emotional state, resulting in biased or irrational conclusions (Hogeveen et al., 2016). Individual differences can significantly impact the extent to which people engage in emotional reasoning with factors such as personality traits, cognitive abilities, and emotional regulation skills have all been found to influence an individual's susceptibility to this distortion and their ability to mitigate its effects (Ioannidis & Siegling, 2015). For example, suppose Emily is in a healthy relationship, but one day, she suddenly feels insecure and doubts on whether her partner truly loves her. She starts having thoughts of insecurity and uncertainty of whether the relationship will succeed, leading her to believe her partner is not the right man for her. However, in reality, this feeling of insecurity does not mean there is an actual problem in the relationship, Emily’s doubts may stem from past experiences, stress, or personal fears causing her to experience emotional reasoning.

The current body of literature highlights the intricate relationship between emotion and cognition. Research has shown that emotions can exert a substantial influence on logical

reasoning, with emotional cues—whether positive, negative, or neutral—affecting an individual's capacity for rational decision-making (Jung et al., 2014). Moreover, evidence suggests that the ability to effectively regulate and integrate emotional information is a core aspect of emotional intelligence, which plays a vital role in enhancing decision-making processes (Salovey & Grewal, 2005). Despite these findings, the exact mechanisms underlying the interaction between emotion and reasoning remain a topic of active exploration. Some researchers have found adaptive outcomes, proposing that emotional resonance can help sustain motivation and direct attention, thereby aiding information processing and decision-making (Salovey & Grewal, 2005). Conversely, others argue for a more intricate interplay, suggesting that emotion and reason operate together to shape human experiences and guide behaviour (Luo & Yu, 2015).

***Labelling***

Labelling involves categorizing oneself or others in a simplistic and negative manner, often ignoring the complexity of human experience. Labelling is often marked by the tendency to assign rigid, overgeneralized, and judgmental labels to oneself or others (Covin et al., 2011). For instance, an individual may label themselves as a "failure" after a single setback or perceive a peer as a "troublemaker" based on one isolated incident (Skopalová, 2010). Once formed, these labels become entrenched in an individual's thought patterns, reinforcing negative perceptions and contributing to a self-fulfilling prophecy. For example, Ken got a letter B grade on his final exam, causing him to fall short of his goal of achieving an A grade in the course. Despite still having the highest grade in his class due to a challenging exam, he labels himself a 'failure'. This is also an example of dichotomous thinking, showing cognitive distortions are not independent of each other, and are inter-connected.

This cognitive distortion can have profound consequences on an individual's mental well-being, contributing to the development of emotional and behavioural challenges. The existing literature on labelling as a cognitive distortion emphasizes its pervasive nature and potential impact on emotional and behavioural outcomes. This is another cognitive distortion suggested to emerge during periods of high stress, when individuals are more inclined to interpret events through a negatively biased lens (Panourgia & Comoretto, 2017). Suggesting that labelling plays a role in the onset of emotional and behavioural psychopathologies. The research also highlights the significant social implications of labelling. Individuals who are labelled as "deviant" or "abnormal" may experience increased social stigma and exclusion, which further perpetuates the negative cycle of labelling. Cognitive distortions such as labelling can distort one's perception of reality, leading to a focus on negative aspects of experiences while disregarding positive elements (Nazneen & Pagare, 2023).

### *Overgeneralization*

Overgeneralization is a common cognitive distortion in which individuals draw broad, sweeping conclusions based on a limited number of experiences or observations (Covin et al., 2011). This tendency to apply a general rule or belief to all situations, regardless of the specific circumstances, can significantly impact an individual's emotional well-being and overall mental health (Yurica & DiTomasso, 2006). Those who engage in overgeneralization often struggle to perceive the nuances and complexities of their experiences, instead defaulting to rigid, all-or-nothing thinking patterns (Nazneen & Pagare, 2023). For example, suppose Francis meets Yuki, a Japanese woman, for the first time in his home country of Canada. Yuki ignores Francis when he tries to speak to her, which causes him to assume that all Japanese are impolite. Francis is overgeneralizing the behaviour of Japanese people from just one experience with one individual.

Research on overgeneralization suggests that this cognitive distortion is closely associated with various psychological disorders, such as post-traumatic stress disorder (Raes et al., 2023). Recent studies have also explored the role of mindfulness-based interventions in mitigating the impact of overgeneralization. By creating present-moment awareness and a non-judgmental attitude, individuals may be better equipped to recognize and counteract their tendency to overgeneralize (Panourgia & Comoretto, 2017). The research on overgeneralization highlights the importance of adopting a nuanced, context-sensitive approach to understanding and interpreting one's experiences. By addressing this cognitive distortion, individuals may be better able to navigate life's complexities, promote positive mental health outcomes, and enhance their overall well-being (Beck, 2008; Nazneen & Pagare, 2023).

***Personalisation***

Personalization is a pervasive cognitive distortion, involving attributing external events or the actions of others to oneself, even when there is no clear evidence to support such a connection (Covin et al., 2011). Those who exhibit this distortion often interpret neutral or positive events as being personally directed toward them, reflecting a self-referential bias in their thinking processes. People with high levels of personalization will often assume excessive responsibility for external variables outside of their control (Adewoye & Ndou, 2023). For example, Steve plays for the basketball team, narrowly losing the final game of the season by just one three-point shot. Despite scoring the most shots in the game, Steve believes the team could have won without him and the loss was all his fault.

Existing research on personalization has revealed several critical insights. For instance, one study found that cognitive distortions, including personalization, help explain the longitudinal relationship between life adversity and emotional difficulties, as such

distortions can increase vulnerability to developing psychopathology (Panourgia & Comoretto, 2017). Additionally, research highlights that personalization, along with other cognitive distortions, can be effectively targeted in therapeutic interventions to improve emotional well-being. Consequently, interventions aimed at addressing personalization require adopting a holistic approach, focusing on underlying cognitive biases and maladaptive information-processing patterns contributing to this distortion (Nazneen & Pagare, 2023). By addressing personalization within the context of these broader cognitive processes, individuals can develop healthier, more balanced ways of interpreting events, ultimately reducing the negative impact of this distortion on their emotional and mental health.

### *Should Statements*

Should Statements, a common cognitive distortion, reflect a rigid and inflexible view of how things "should" or "must" be, often contributing to emotional distress and maladaptive behaviours (Covin et al., 2011). This type of thinking arises when individuals hold themselves and others to unrealistic or idealized standards, leading to self-criticism, frustration, and disappointment. The current literature provides valuable insights into the nature and impact of Should Statements. This distortion is characterized by the frequent use of words like "should," "ought," or "must," which create a dichotomy between reality and an individual's perceived ideal. When expectations set by these statements are unmet, individuals often experience guilt, shame, or a sense of failure (Yurica & DiTomasso, 2006). For example, suppose Christopher believes his girlfriend *should* take the day off work to be by his side as he wakes up sick. However, his expectation is not met and results in him having negative feelings toward his girlfriend, which is the frequent reaction when people's should statements are not met.

Should Statements are particularly prevalent in individuals with anxiety and depression, where they serve as a mechanism for self-criticism and judgment of others (Beck, 2008). For example, a person might think, "I should have achieved more by now," or "People must always treat me fairly," creating unrealistic benchmarks that exacerbate emotional distress. Research has shown that these rigid thought patterns are associated with a range of negative psychological outcomes, including lower self-esteem, heightened emotional distress, and strained interpersonal relationships (Yurica & DiTomasso, 2006). Additionally, such thinking can foster a sense of helplessness, as individuals may feel trapped by circumstances they perceive as unchangeable or beyond their control.

### *Mental Filter*

The cognitive distortion known as the Mental Filter is a prevalent and often detrimental thought pattern that affects many individuals. This distortion involves selectively focusing on the negative aspects of a situation while disregarding the positive elements (Covin et al., 2011). Mental filters can also be observed in individuals with anxiety disorders. People with anxiety often catastrophize and jump to the worst-possible conclusion, overlooking the more positive or neutral aspects of a situation. For example, suppose you overhear your mum talking on the phone boasting about how you received an A grade in every class apart from maths with a B grade. You ignore her enthusiasm for all the A grades and fixate on the only B grade you received thinking your mum is disappointed in you.

Recent research on mental filtering suggests that this cognitive bias can have significant consequences for an individual’s psychological well-being. Studies have found that individuals prone to mental filtering are more vulnerable to emotional disorders, such as depression and anxiety (Beever et al., 2019). Those who exhibit a strong tendency toward this distortion often ruminate on negative events, overlooking the more positive or neutral aspects

of their lives (Schneider et al., 2024). Research has also explored strategies for overcoming mental filtering. One effective approach involves the practice of journaling, which helps shift an individual's attention from negative thoughts to more balanced or constructive perspectives. By actively recording and reflecting on both positive and negative experiences, individuals may counteract their tendency to focus solely on negative aspects (Fazio, 1996). Cognitive-behavioural interventions designed to identify and challenge distorted thinking patterns have also been shown to reduce the impact of the mental filter on emotional and behavioural functioning (Panourgia & Comoretto, 2017).

### *Minimizing the Positive*

The cognitive distortion known as "minimizing the positives" is the distortion involving the tendency to downplay or dismiss positive experiences, achievements, or personal qualities (Yurica & DiTomasso, 2006). For example, suppose Isaac wins powerlifting nationals and breaks the national record with a perfect day. Instead of celebrating and savouring his victory, he dismisses it claiming he only won because he had no challenging competitors competing against him. This differs from the previous distortion of mental filtering; whilst both share many commonalities, mental filtering focuses on the negative when both positive and negative attributes are present, but minimising the positive occurs when you manifest negativity from a solely positive event.

Studies indicate that individuals prone to minimizing the positives are more vulnerable to emotional distress and may struggle to engage in productive or creative activities (Charyton et al., 2009). This difficulty stems from a cognitive bias in which positive information is either ignored or interpreted in a less significant or threatening manner, leading to an unbalanced perception of personal experiences. The literature also explores the potential adaptive value of maintaining some level of positive self-perception. Positive illusions, such

as overconfidence or unrealistic optimism, can foster mental health benefits, including greater resilience, the capacity for happiness, and the ability to engage effectively in social and professional contexts (Taylor & Brown, 1988). However, other researchers caution that the benefits of positive illusions are not without limitations. Unrealistic expectations can lead to significant psychological or financial harm if an individual fails to meet those expectations. For example, overestimating one's abilities or chances of success can result in setbacks that might exacerbate emotional distress (Makridakis & Moleskis, 2015).

**Perfectionism and Cognitive Distortion**

Perfectionism has been shown to have a strong relationship with cognitive distortions—maladaptive thinking that not only reinforce perfectionistic tendencies but also contribute to the development of depression (Beck, 2008). Perfectionism can be linked with cognitive distortions including dichotomous thinking, overgeneralization, catastrophizing, and personalization

Dichotomous thinking can be linked to perfectionism as they both manifest as an inability to perceive nuances in performance, self-worth, or situations. Individuals in this cognitive trap tend to categorize everything in absolute extremes, perfect or flawed, success or failure with no in between (Flett et al., 2018; Schellenberg et al., 2025). The relationship between dichotomous thinking and perfectionism are cyclical and self-reinforcing. Perfectionists will set an unrealistic standard, when the unattainable standard is inevitably not met, dichotomous thinking kicks in and interprets any setback as a complete failure. This leads to shame, self-criticism, and inadequacy, further strengthening perfectionistic tendencies (Flett et al., 2018). Perfectionists often revert to developmentally earlier thinking styles, clinging to all-or-none evaluations despite cognitive maturity (Flett et al., 2018). This

regression to simplistic thinking patterns prevents them from engaging in more nuanced and adaptive self-appraisals.

Overgeneralization overlaps with perfectionism as it involves extending a single negative experience or event to represent a broader, often inaccurate, pattern of inadequacy or failure. For instance, a perfectionist might receive constructive feedback on a project and, instead of viewing it as an opportunity for growth, overgeneralize the experience to conclude that they are incompetent and incapable of success in all endeavours. This relationship is bi-directional, overgeneralization intensifies the negative consequences of perfectionism, perfectionistic tendencies can also make individuals more susceptible to overgeneralization (Yosopov et al., 2024). The constant striving for flawlessness and the fear of making mistakes create a hyper-sensitive environment where any perceived shortcoming is amplified and interpreted as evidence of a fundamental flaw (Flett et al., 2018).

Catastrophizing can be associated with perfectionism as both traits exaggerate the negative consequences of an event beyond its reality causing emotional distress. For example, a perfectionist might make a small error on a work presentation and subsequently catastrophize, envisioning being fired, losing respect from colleagues, and ultimately deeming themselves a complete failure. Perfectionists, driven by their fear of failure and need for external validation, are more susceptible to catastrophizing when they perceive any threat to their self-worth or sense of competence (Minichiello et al., 2024). When setbacks occur, catastrophizing intensifies the emotional distress experienced, reinforcing the perfectionistic belief that mistakes are intolerable and must be avoided at all costs (Flett et al., 2018) which further emphasizes the susceptibility of perfectionists to other cognitive distortions like dichotomous thinking.

Personalization involves assuming excessive personal responsibility for negative events, even when there is little or no objective basis for doing so. Perfectionists, with their inherent tendency towards self-criticism and high standards, are particularly prone to this distortion (Flett et al., 2018). They may internalize external events, interpreting them as reflections of their own perceived flaws or inadequacies. For example, a perfectionist might blame themselves for a project's failure, even if the outcome was largely influenced by external factors beyond their control. Personalization can contribute to a vicious cycle of self-blame and negative self-evaluation. Perfectionists, already prone to self-doubt, may interpret external setbacks as confirmation of their inherent flaws. Moreover, the tendency towards personalization can negatively affect interpersonal relationships (Barnett & Johnson, 2016). Perfectionists might misinterpret neutral or even positive feedback as criticism, leading to defensiveness and strained communication.

Perfectionism is connected to all forms of disordered thinking, and not just specific cognitive distortions in isolation, as all cognitive distortions are interconnected (Stoeber et al., 2018). For example, suppose Annie receives an A- on her thesis and immediately tells herself she is a failure because she did not achieve an A+, this reflects both dichotomous thinking and labelling, where performance is viewed in all-or-nothing terms and self-worth is reduced to a single outcome. In another instance, after presenting a well-received presentation, Annie fixates solely on one piece of minor criticism, interpreting it as evidence of incompetence. This illustrates mental filtering and minimizing the positive, where she discounts the positive and exaggerates the negative. Further, if Annie makes a small mistake during a team project and concludes, “I always screw things up, now no one will ever want to work with me again,” she is catastrophizing and overgeneralizing by turning a single event into a sweeping, negative prediction about her future. Finally, when she tells herself, “I should never make mistakes—if I do, it means I have let everyone down,” she is engaging in

should statements and personalization, placing unrealistic demands on herself and assuming excessive responsibility for others' perceptions. These patterns show how perfectionism is often intertwined with distorted thinking that can maintain or worsen psychological distress.

**Self-Compassion**

Self-compassion is conceptualized by Kristen Neff (2023) as the process of turning compassion inwards through treating oneself with kindness, recognizing one's shared humanity, and maintaining a balanced awareness of emotions. The concept has emerged as a transformative approach to enhancing well-being, promoting emotional resilience, and countering the harmful effects of self-criticism (Ebbeck & Austin, 2018). Self-compassion consists of three interconnected components: self-kindness, common humanity, and mindfulness. Self-kindness entails treating oneself with care and understanding rather than being harshly judgmental or self-critical. Common humanity involves recognizing that imperfection and failure are universal aspects of the human experience, fostering a sense of shared connection in difficult times. Mindfulness requires acknowledging painful thoughts and feelings in a balanced way, avoiding both avoidance and over-identification (Neff, 2023).

Self-compassion has been intricately linked to self-care and holds significant implications in the health and fitness domains. It has been associated with adaptive fitness outcomes, as well as positive health behaviours like exercise, healthy eating, and regular check-ups (Homan & Sirois, 2017). This may be because self-compassion provides a stable, non-evaluative source of self-worth that is independent of external validation (Sirois, 2014). In the fitness context, self-compassion exercises have been proposed to shift the focus from appearance to overall health and well-being. This could be particularly beneficial in an environment that often emphasizes physical appearance and weight loss above other markers of health (Ebbeck & Austin, 2018). Self-compassion represents a critical psychological

resource for improving physical and emotional health, fostering resilience, and cultivating adaptive behaviours in health and fitness domains.

In academic settings, self-compassion has been found to reduce concerns about self-presentation and increase classroom participation by buffering against the negative impacts of self-criticism and fear of evaluation. For instance, students with higher levels of self-compassion are less likely to perceive classroom environments as intimidating. They are also more inclined to participate actively and communicate openly, even when they feel less skilled in verbal expression compared to peers. This indicates that cultivating self-compassion can mitigate the adverse effects of self-judgment and social evaluation anxieties, which often hinder both academic and professional growth.

Self-compassion has also been extensively studied in the field of clinical psychology, reporting a plethora of positive mental health outcomes (Ferrari et al., 2019). Lower levels of self-compassion were shown in a meta-analysis by MacBeth and Gumley (2012) to be strongly associated with psychopathologies, including symptoms of depression, anxiety, and stress. However, self-compassion interventions have been found to not only increase self-compassion, but improve mental health markers such as depression, anxiety, and overall well-being (Kirby et al., 2017). Ferrari et al. (2019) was able to expand on this result, showing that self-compassion interventions positively influenced 11 psychosocial factors, including eating behaviour, rumination, stress, depression, self-criticism, and anxiety. Other meta-analyses have also demonstrated self-compassion enhances psychological well-being across various populations, including individuals with multiple sclerosis (Simpson et al., 2023), sexual and gender minorities (Helminen et al., 2023), breast cancer patients (Fan et al., 2023), Asian communities (Kariyawasam et al., 2023), self-critical individuals (Wakelin et al., 2022), and those dealing with body image concerns (Turk & Waller, 2020).

**Perfectionism, Cognitive Distortion, and Self-compassion**

Perfectionism has been widely recognized as a significant risk factor for the development and maintenance of depression (Melrose, 2011). Individuals with a perfectionist personality style often engage in harsh self-criticism and set unrealistically high standards for themselves, leading to feelings of inadequacy and despair when they inevitably fail to meet their own unrealistic expectations (Shafran et al., 2002). However, recent research suggests that self-compassion may play a crucial role in moderating the relationship between depression and perfectionism (With et al., 2024).

With et al (2024) examined the relationship between perfectionism and depressive symptoms, and how self-compassion was able to moderate the relationship. They recruited 575 undergraduate students and measured their levels of perfectionism, depressive symptoms, and self-compassion. In line with previous research from Callaghan et al (2024), they found a strongly positive relationship with perfectionism and depressive symptoms. However, self-compassion was found to moderate the relationship between perfectionistic standards and psychological distress. Specifically, at low levels of self-compassion, perfection strivers experienced significantly higher psychological distress compared to excellence strivers. However, this difference diminished as levels of self-compassion increased. This suggests that self-compassion can act as a protective factor, mitigating the negative effects of perfectionism on mental health.

The findings from With et al (2024) have important implications for understanding the complex relationship between striving for high standards and mental health. Highlighting the protective role of self-compassion, it offers valuable insights into how to promote healthy striving while mitigating the risks associated with perfectionism. This framework is particularly relevant to my own thesis research, which focuses on the moderating effect of

self-compassion on the relationship between perfectionism and cognitive distortion. Given that perfectionism has been strongly linked to depressive symptoms, and that Beck's cognitive theory posits that depression is caused by cognitive distortions (Beck, 2008), understanding how self-compassion might interrupt this process is of significant clinical importance. Just as With et al (2024) found that self-compassion moderated the relationship between perfectionism and psychological distress, my research seeks to explore whether self-compassion similarly buffers against the tendency for perfectionism to lead to cognitive distortions.

A growing body of research has explored the interplay between self-compassion, depression, and perfectionism. Studies have found that self-compassion can buffer the negative effects of perfectionism on depressive symptoms, with higher levels of self-compassion associated with lower levels of depression, even in individuals with a perfectionist personality style. For example, a study on the assessment of self-critical perfectionism in a clinically depressed sample found that individuals with higher levels of self-compassion were less likely to experience severe depressive symptoms, even when they exhibited high levels of self-critical perfectionism (Ferrari et al., 2019). Similarly, research on the dimensions of perfectionism and depression has shown that self-compassion can mitigate the negative impact of perfectionism on various outcomes, including depression (Clara et al., 2007). These findings suggest that self-compassion may be an important factor in understanding the relationship between depression and perfectionism. Individuals who can cultivate self-compassion may be better equipped to manage the negative consequences of their perfectionistic tendencies, ultimately reducing their risk of developing depression.

## Current Research

Based on the current theoretical considerations and previous literature on this topic, the objective of my thesis was to test the association between perfectionism, cognitive distortion, and self-compassion. Firstly, I tested the link between perfectionism and cognitive distortion. Secondly, I tested the potential moderating effects of self-compassion in the link between perfectionism and cognitive distortion. I tested my hypothesis with undergraduate students as this aligns with past research from With et al. (2024) as well as being a vulnerable population to perfectionism and distorted thinking patterns (Curran & Hill, 2019; Sheldon et al., 2021). In conducting this research, I adopted the Model of Excellencism and Perfectionism to examine the effects of perfectionism beyond excellencism (Gaudreau., 2019).

**Hypothesis 1**: I hypothesize that perfectionism will be positively associated with cognitive distortion.

**Hypothesis 2**: I hypothesize that self-compassion will moderate the positive association between perfectionism and cognitive distortion, such that this association will be attenuated among those with high levels of self-compassion.

# Methods

## Participants

I recruited 476 undergraduate students via Prolific to participate in this study. The sample size was selected to match the sample size used in the With et al study (2024), who used a similar design. This sample size was also based on a power analysis conducted with the Interaction Power Shiny App (Barranger et al., 2023), which revealed that 575 participants would be needed to detect a significant ($p < 0.05$) perfectionism × self-compassion interaction that was approximately half of the effect size of the association between perfectionism and cognitive distortion, with 80% statistical power. I recruited 600 participants to account for potential missing data and outliers. Participants were from Canada, United States, and the United Kingdom to match the nationality demographic of past research (With et al., 2024). Cultural differences and practices from countries outside of North America and the U.K. can distort the results of the study, making it hard to isolate the variables we are testing when discussing results in relation to previous research (Curran & Hill, 2019). All Prolific users who reside in these regions, are fluent in English, and who had indicated that they are currently an undergraduate student were eligible to participate.

## Procedures

All participants completed a 10-minute online survey (see appendix). Before answering any questions, they provided their free and informed consent. All participants received monetary compensation of £1.70 (approximately $3.15 CAD). The incentive amount was determined using Prolific's recommended rate. The payment amount was also aligned with Manitoba's minimum wage requirements. The online survey assessed the following variables.

**Socio-Demographic Variables**

Participants answered socio-demographic questions regarding their age, gender, ethnic identity, and country of residence. Participants (183 men, 278 women, 11 others, 4 did not report a gender) ranged from 18 to 73 years old (M = 29.26 years, SD = 11.02 years). Most identified their ethnic/cultural background as being White/European (60.9%) or Black (11.3%).

**Perfectionism**

Perfectionism was measured using the 10-item version of the Scale of Perfectionism and Excellencism (SCOPE; Gaudreau et al., 2022). Using a 7-point scale from 1 (*not at all*) to 7 (*totally*), participants indicated to what extent each item best reflects their goals as a student. Gaudreau et al. (2022) had conducted exploratory and confirmatory analyses and found support for a 2-factor structure of the full 22-item version of the SCOPE, along with its convergent and discrimination validity. An internal consistency score of ($\alpha = 0.98$) on both Perfectionism and Excellencism was reported by Goulet-Pelletier et al. (2022) demonstrating very high internal consistency. Past research has used the 10-item version of the SCOPE (e.g., Cheek & Goebel, 2020; Gaudreau & Schellenberg, 2022) and demonstrated a strong correlation with the long form ($r > .80$).

**Cognitive Distortions**

The Cognitive Distortions Scale (Covin et al., 2011) is a measure that individually assesses the frequency in which respondents experience 10 cognitive errors in interpersonal and achievement domains. Items were rated on a 7-point scale from 1 (*Never*) to 7 (*All the time*) in both achievement and interpersonal based contexts. Covin et al. (2011) have examined the validity and reliability of the scale in a non-clinical sample (318 undergraduate

students) and found an overall reliability of (α = 0.85), with acceptable reliability coefficients for the two subscales (Interpersonal subscale, α = 0.75; Achievement subscale, α = 0.79). Good concurrent validity was also found between the CDS and the Beck Depression Inventory-II (BDI-II) ($r$ = .39, $p$ < .01), State-Trait Anxiety Inventory-trait anxiety ($r$ = .45, $p$ < .01), State-Trait Anxiety Inventory-as state anxiety ($r$ = .31; $p$ < .01) scores (Covin et al., 2011). Whilst Covin et al do not prescribe a specific scoring method for cognitive distortion, subsequent research using CDS has commonly used a total raw score approach. This involves the sum of all 20 questions on the Likert scale from 1 (*never*) to 7 (*all the time*), with the score ranging from 20-140 (e.g., Aldi et al., 2020; Özdel et al., 2014; Takeda et al., 2024).

**Self-Compassion**

Self-compassion was measured using the Self-Compassion Scale-Short Form (SCS-SF; Raes et al., 2011). The SCS-SF is a 12-item scale that has been found to be a reliable valid alternative to the long form with the factor and structure of the SCS-SF being the same as the original scale with 6 factors. The positive factors (self-kindness, common humanity, and mindfulness) were coded along with the three negative factors (self-judgment, isolation, and over-identification) were reverse coded to obtain a total score of self-compassion. Participants would have indicated how often they behave in the manner stated in each item using a 5-point scale from 1 (*Almost never*) to 5 (*Always*). In the factorial validation study of the SCS-SF, Raes et al. (2011) established indices indicating acceptable model fit, with the scale demonstrating adequate internal consistency (α ≥ 0.86).

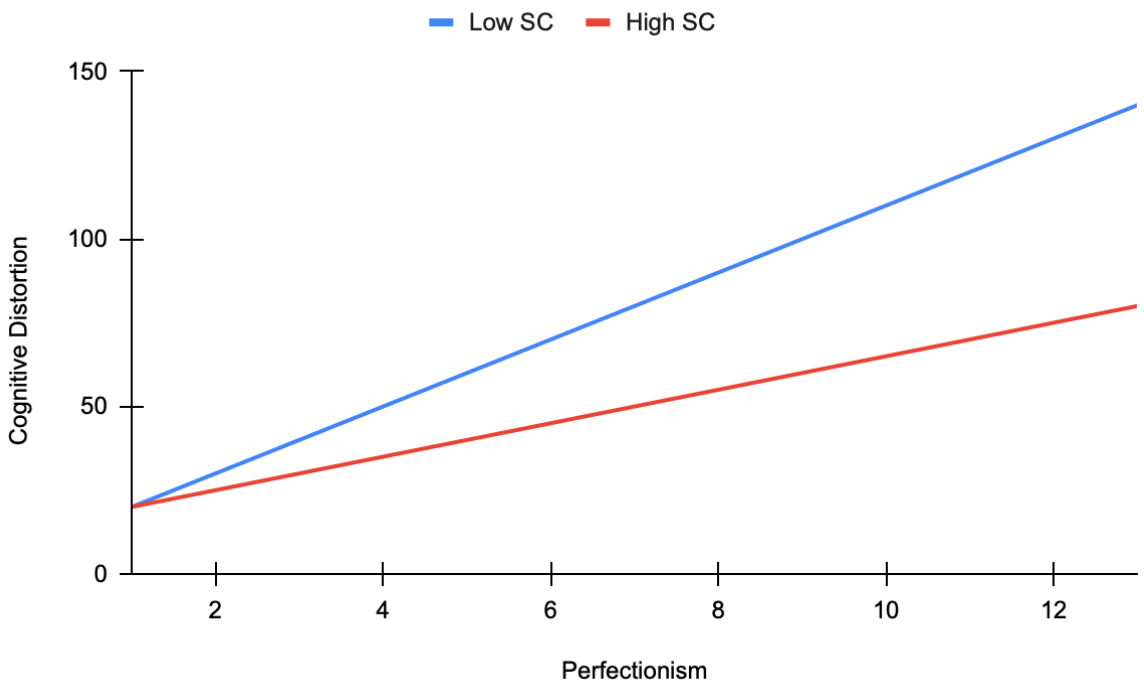
**Data Analyses**

Hypothesis 1 was tested using multiple regression analyses. Perfectionism was entered as a predictor variable, cognitive distortion was entered as a dependent variable, and, in line with the MEP (Gaudreau, 2019, 2022) excellencism was included as a control

variable. My hypothesis was supported if there is a positive association between perfectionism and cognitive distortions.

Hypothesis 2 was tested using multiple regression analyses. Cognitive distortion was entered as the dependent variable, and the predictor variables included perfectionism, self-compassion, and the perfectionism × self-compassion interaction effect. Excellencism was once again included as a control variable. My hypothesis was supported if there was a significant perfectionism × self-compassion interaction effect that shows that the positive association between perfectionism and cognitive distortion is strongest with low self-compassion and weakest with high self-compassion. This hypothesis is visualized in Figure 1. All analyses were performed using IBM SPSS Statistic version 29 and Hayes' PROCESS macro (Hayes, 2022).

**Figure 1**




*Note.* Figure 1 shows what I hypothesised as the relationship between perfectionism and

cognitive distortion, along with their relationship when self-compassion (SC) is included as a moderator. Note, all numbers in this graph are hypothetical

## Results

Prior to conducting data analysis, data were screened to remove participants who did not respond carefully or who did not qualify for the study. First, participants ($n$ = 2) were removed if participants reported answering dishonestly. Second, participants ($n$ = 48) were removed if reported on the survey they no longer held student status. Thirdly, participants ($n$ = 74) were removed if they had not read through the page thoroughly. If a participant spent fewer than 10 seconds on the Mindreading page which included both the explanation and two questions, they were removed from the dataset. This criterion was selected for two main reasons. First, taking under 10 seconds would indicate that the participant read the scenario at a speed that is highly unrealistic. The explanation and questions together contained 122 words. Even an extremely rapid reading pace of 1,000 words per minute, a rate at which meaningful comprehension is essentially unattainable (Brysbaert, 2019; Rayner et al., 2016) would require approximately 7.3 seconds to read the scenario alone. For reference, the typical silent reading speed is about 238 words per minute (Brysbaert, 2019). Second, prior research suggests that response times faster than roughly 2 seconds per survey item often indicate careless or insufficiently attentive responding (Bowling et al., 2023). Thus, participants who spent less than 10 seconds on the page containing a scenario (that should take more than 7.3 seconds to read) and two items (that should take about 4 seconds to answer) were excluded based on careless responding. This resulted in a sample size of 476 participants.

Table 1 displays the descriptive statistics and correlations for the studied variables. I tested the first hypothesis to see if there was a relationship between perfectionism and cognitive distortion whilst controlling for excellencism. Referring to Table 2, there was a

significant positive association between perfectionism and cognitive distortion, $b = 0.128$, $p = .001$. The second hypothesis was then tested with a moderation analysis conducted using PROCESS Model 1 (Hayes, 2022) to test whether self-compassion moderated the association between perfectionism and cognitive distortion**.** The results of this moderation analysis are shown in Table 3, which shows a significant self-compassion by perfectionism interaction effect, $b = -0.082$, $p = 033$. Table 4 displays the results of simple effects, which shows the association between perfectionism and cognitive distortion at high and lows levels of self-compassion. Results showed that when self-compassion was low, there was still a significant positive association between perfectionism and cognitive distortion. However, when self-compassion was high, there was no significant association between perfectionism and cognitive distortion.

**Table 1**

*Descriptive Statistics and Correlations for Study Variables*

| | *M* | *SD* | PERFECT | EXCEL | COGD |
|---|---|---|---|---|---|
| PERFECT | 3.425 | 1.739 | | | |
| EXCEL | 5.359 | 1.128 | .610** | | |
| COGD | 4.159 | 1.173 | .124** | .008 | |
| SC | 2.984 | 0.728 | -.031 | .087* | -.655** |

*Note.* PERFECT = Perfectionism. EXCEL = Excellencism. COGD = Cognitive Distortion. SC = Self-compassion. *$p < .05$. **$p < .01$.

**Table 2**

*Regression Analyses Predicting Cognitive Distortion*

| | Coeff (B) | *SE* | *t* | *p* | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | 4.323 | 0.266 | 16.225 | < .001 | 3.799 | 4.846 |
| EXCEL | -0.112 | 0.060 | -1.883 | .060 | -0.230 | 0.005 |
| PERFECT | 0.128 | 0.039 | 3.308 | .001 | 0.052 | 0.204 |

*Note.* EXCEL = Excellencism. PERFECT = Perfectionism. LLCI = Lower Limit 95% Confidence Interval. ULCI = Upper Limit 95% Confidence Interval

**Table 3**

*Moderated Regression Analysis Predicting Cognitive Distortion*

| | Coeff (B) | *SE* | *t* | *p* | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | 4.151 | .041 | 102.230 | .000 | 4.071 | 4.231 |
| PERFECT | 0.076 | .030 | 2.550 | .011 | 0.017 | 0.134 |
| SC | -1.039 | .057 | -18.360 | .000 | -1.150 | -0.928 |
| PERFECTxSC | -0.082 | .038 | -2.130 | .033 | -0.157 | -0.007 |
| EXCEL | -0.002 | .046 | -0.040 | .972 | -0.091 | 0.088 |
| EXCELxSC | 0.062 | .057 | 1.090 | .277 | -0.050 | 0.175 |

*Note.* PERFECT = Perfectionism. SC = Self-compassion. EXCEL = Excellencism. PERFECT*x*SC = Interaction between perfectionism and self-compassion. EXCEL*x*SC = Interaction between excellencism and self-compassion. LLCI = Lower Limit 95% Confidence Interval. ULCI = Upper Limit 95% Confidence Interval.

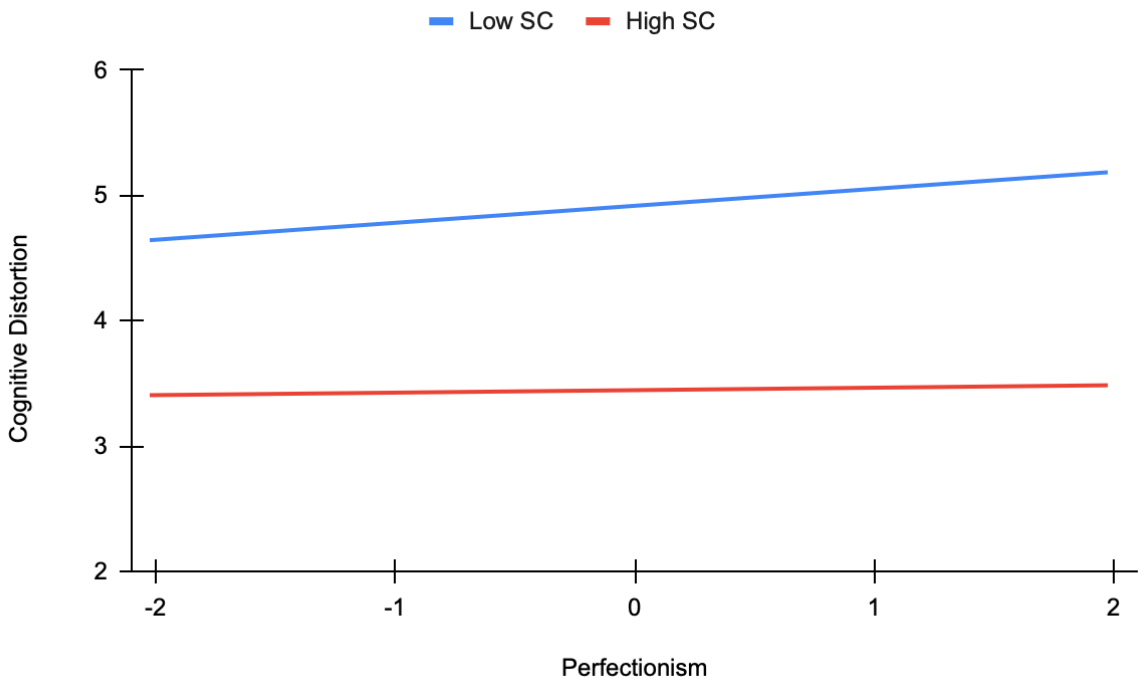
**Table 4**

*Association Between Perfectionism and Cognitive Distortion at Low/High Levels of Self-compassion*

| | Effect (B) | *SE* | *t* | *p* | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Low SCS | .136 | .043 | 3.170 | .002 | .052 | .220 |
| High SCS | .020 | .038 | 0.530 | .598 | -.054 | .093 |

*Note.* SC = Self-compassion. LLCI = Lower Limit 95% Confidence Interval. ULCI = Upper Limit 95% Confidence Interval

**Figure 2**




*Note.* Figure 2 shows the relationship between perfectionism and cognitive distortion at high and low levels of self-compassion (SC)

## Discussion

The purpose of this research was to examine the relationship between perfectionism and cognitive distortions, as well as the moderating role of self-compassion in this association. Previous theory has linked perfectionism to maladaptive cognition (Flett et al., 2018). Based on this, I hypothesized that higher levels of perfectionism would predict greater cognitive distortions, and that self-compassion would buffer this relationship. The results supported these hypotheses, demonstrating that perfectionism was a positive predictor of cognitive distortions, but that this relationship became nonsignificant at high levels of self-compassion. These findings are important as they extend existing literature (Hewitt & Flett, 2021) by highlighting a key mechanism of cognitive distortions through which perfectionism contributes to psychological maladjustment, while also identifying self-compassion as a potential protective factor. In doing so, this study contributes to a growing body of evidence suggesting that perfectionism's negative effects can be mitigated when paired with adaptive self-regulatory traits (Ferrari et al., 2019), offering valuable insights for interventions aimed at reducing the cognitive and emotional burdens of perfectionism.

### Perfectionism and Cognitive Distortion

The findings in hypothesis 1 have supported previous literature (Flett et al., 2018) by demonstrating that perfectionism predicts distorted thought patterns by showing an association between perfectionism and cognitive distortion. Aligning with theoretical models, perfectionistic tendencies characterized by excessively high standards and chronic self-criticism have been shown to foster maladaptive and distorted thought patterns (Gaudreau, 2021). Individuals with high perfectionism tendencies are more likely to judge their performance and self-worth through rigid distorted thinking styles such as dichotomous thinking, catastrophizing, and overgeneralization (Flett et al., 2018). Catastrophizing subtle

mistakes, minimising the positives with subtle wins, whilst dichotomous thinking and labelling takeover to rate the performance a “failure”. The distortions reinforce one another in a cyclical pattern, causing perfectionism to not only be a personality trait but become a driver of distorted thinking resulting in chronic psychological distress (Beck, 2008)

The association observed in this study also underscores how perfectionism can contribute to broader mental health challenges through its link to cognitive distortions. Beck’s cognitive distortion theory (2008) suggests distorted thinking is the key mechanism to the onset and maintenance of depression, with evidence often showing perfectionism being highly associated with depressive symptoms (Callaghan et al., 2024; Stoeber & Damian, 2014). By supporting perfectionism’s association with cognitive distortion, the present study supports the theoretical pathway, bridging the association between perfectionism and depression. This suggests that perfectionism may exert its maladaptive influence not only through excessively high standards, but also through distorted interpretations and appraisals when those standards are not met. This highlights the value and importance of addressing cognitive processes in interventions targeted at perfectionism, suggesting the reduction of distorted thought patterns could interrupt the chain that leads perfectionists to psychological distress.

My results support a positive association between perfectionism and maladaptive cognition, consistent with Flett et al. (2018), who suggested that perfectionism may play a role in shaping maladaptive cognition. Distortions such as personalization and “should” statements will often resonate with perfectionistic standards, suggesting perfectionism can shape the cognitive framework through which experiences are interpreted. This further strengthens the argument that interventions targeting perfectionism should address not only the personality trait itself but also the distorted thought patterns it generates. This can be

particularly relevant to undergraduate students, a population that is especially vulnerable to the perils of perfectionism (Luo et al., 2024).

**The Moderating Effects of Self-Compassion**

Hypothesis 2 showed self-compassion to be a protective mechanism to counteract the maladaptive effects of perfectionism and cognitive distortion. Often associated with harsh self-criticism and rigid self-evaluation, these perfectionistic tendencies are compounded with distorted thinking patterns to further fuel feelings of inadequacy. Through fostering self-kindness, common humanity, and mindfulness, self-compassion provides an alternative outlook to shortcoming and perceived failures. Instead of further provoking self-criticism, individuals with high levels of self-compassion are more likely to accept setbacks, acknowledging the struggle is part of a shared human experience, and adapting to a balanced outlook on their thoughts (Pereira et al., 2022). This can weaken the maladaptive effects of cognitive distortions, and weaken the negative spiral of catastrophizing or overgeneralization, reducing the intensity of self-judgement that perfectionists tend to perpetuate. Hypothesis 2 supports the theoretical pathways of self-compassion acting as a buffer for perfectionists to continue striving without the maladaptive thought patterns associated with their tendencies.

The findings of the present study also align with With et al's (2024) existing research showing the role of self-compassion to serve as a protective mechanism between perfectionism and its association with maladaptive psychological processes. With et al (2024) previously demonstrated self-compassion's ability to moderate perfectionisms association with psychological distress, showing the association was not significant when self-compassion was high. Similarly, the present study also showed the association between perfectionism and cognitive distortion was not significant when individuals displayed high levels of self-compassion. This not only compounds onto the With et al (2024) study but

demonstrates we can mitigate the onset of psychological distress if we are able to intervene with self-compassion with individuals with distorted thinking, which is the precursor of depressive symptoms as theorized by Beck (2008). The current study further adds to the growing evidence of self-compassion being a critical protective mechanism for maintaining psychological well-being amongst individuals with perfectionistic traits.

**The Perfectionism Debate**

The present research contributes to ongoing debate surrounding whether perfectionism is inherently a maladaptive mechanism or if certain dimensions of perfectionism striving can yield adaptive outcomes. Some researchers have argued that perfectionism is uniformly detrimental because of its long-standing association with psychological distress and rigid cognitive patterns (Smith et al., 2018). The result of the current study suggests a nuanced perspective, perfectionism on its own is associated with cognitive distortion, further supporting the ongoing argument that it is a maladaptive mechanism. However, when paired with high levels of self-compassion, perfectionism is suggested to not be uniformly harmful as it was no longer associated with distorted thinking. This trend suggests perfectionistic striving can become non-maladaptive when complemented with high levels of protective psychological resources to offset self-critical tendencies. The presence of self-compassion might allow individuals to reap the motivational benefits of perfectionism without succumbing to the cognitive vulnerabilities and psychological distress that are often associated with perfectionism.

This research supports Gaudreau (2021) suggestion that perfectionistic striving can, under the right conditions, resemble excellencism, a healthier form of achievement orientation characterized by high standards, adaptive motivation, and cognitive flexibility.

The current results demonstrate that perfectionistic tendencies are not universally harmful but become maladaptive when entangled with self-critical and distorted modes of thinking. By contrast, when paired with high levels of self-compassion, these tendencies may reflect excellence striving of pursuing high standards with self-acceptance and resilience in the face of imperfection. This distinction advances theoretical understanding by showing how perfectionism can shift along a continuum from maladaptive to adaptive functioning depending on accompanying psychological mechanisms. The findings contribute to the growing body of work that supports the conceptual separation of perfectionism from its maladaptive expressions, lending empirical support to the model of excellencism as a viable framework for understanding healthy striving and optimal functioning.

**Limitations**

Limitations of the current study should be acknowledged when interpreting the results of these current findings. First, the study relied on self-report questionnaires, which can introduce an element of cognitive bias such as social desirability resulting in inaccurate self-perception. The evaluative nature of perfectionism and self-compassion can make this particularly relevant as individuals with high self-criticism often underreport self-compassion or exaggerate self-critical tendencies and negative cognitive tendencies (Tobin & Dunkley, 2021). Second, although perfectionism was associated with cognitive distortion and self-compassion appeared to buffer this relationship, the cross-sectional design prevents any conclusions about causality.

The third limitation can be established in the characteristics of the sample, with participants consisting of undergraduate students and can limit generalizability to a broader population. This includes the clinical populations, which are populations more vulnerable to these constructs. This may also include older adults, individuals outside of academic contexts,

and performance-based athletes, as perfectionism and self-compassion can manifest differently across various professional and personal domains. Finally, the study also examined the three constructs at a single level of analysis, without considering interfering and associated variables such as stress, anxiety, or other psychological distresses that influence these relationships. These limitations suggest caution when interpreting findings, showing a need for further research to draw a stronger conclusion.

**Future Directions**

A future direction this research can take is the use of longitudinal study, where design actively fosters self-compassion between Time A and B, whilst measuring the differences in perfectionism and cognitive distortions at the two timepoints. For example, a sample of participants with high levels of perfectionism can be recruited and randomly assigned to participate in self-compassion interventions, such as Kristen Neff's 8-week Mindful Self-Compassion program (Neff & Germer, 2018), and measure pre and post levels of perfectionism and cognitive distortion. This work can also inform research on psychological distress. Since With et al. (2024) demonstrated that self-compassion buffers psychological distress, researchers could additionally measure symptoms of depression and anxiety at both timepoints to assess change. Doing so would help clarify whether self-compassion functions as the mechanism that enables individuals high in perfectionistic striving to benefit from its adaptive elements while reducing its maladaptive consequences.

Additional research can also examine the direct association between self-compassion and cognitive distortion. The strong negative association found between self-compassion and cognitive distortions ($r = –0.655$) shown in Table 1, provides compelling evidence for the protective role of self-compassion in cognitive and emotional functioning. These finding aligns with existing literature that suggests self-compassion fostering more adaptive cognitive

processing and mitigates maladaptive thinking patterns (Barnard & Curry, 2011; Neff, 2003). Individuals high in self-compassion are less likely to engage in dichotomous, mindreading, or catastrophizing thought patterns because they approach personal failures with understanding and mindfulness rather than harsh self-evaluation. By acknowledging imperfections as part of a shared human experience, self-compassion promotes balanced self-appraisal and cognitive flexibility which counteract distorted thinking. This robust inverse relationship also supports Beck's (2008) cognitive theory, which emphasizes the role of negative thought patterns in maintaining psychological distress; higher self-compassion may interrupt this process by reframing negative experiences in a non-judgmental manner. These findings suggest that self-compassion not only buffers against the emotional consequences of perfectionism but may also directly reduce the prevalence of cognitive distortions, serving as a cognitive and emotional stabilizer that protects psychological well-being.

Although the association between striving for excellence and cognitive distortion did not reach a significant level in the present research, the negative relationship observed ($\beta = -0.112$, $p = .06$) suggests that this can warrant further investigation. Unlike perfectionism research showing a mix of adaptive and maladaptive outcomes, excellence striving continually shows adaptive benefits reflecting a healthier alternative with the present research suggesting evidence it may be negatively correlated with distorted thought patterns. Future research could therefore examine excellence striving independently of perfectionism to determine whether striving for high standards in a more flexible environment, unlike the rigid and harsh self-critical environment often associated with perfectionism, can protect against maladaptive cognitions. Longitudinal and experimental designs could be especially valuable in clarifying whether excellence striving actively predicts reductions in distorted thinking

over time, ultimately contributing to a more nuanced understanding of achievement-related traits in psychological well-being.

## Conclusion

The present study highlights the association between perfectionism and cognitive distortions, showing perfectionism to foster maladaptive thinking patterns that may contribute to psychological distress. Importantly, the findings also demonstrate that self-compassion can buffer this relationship, weakening the link between perfectionism and distorted cognition. This suggests that cultivating self-compassion may provide a critical protective mechanism for individuals prone to perfectionistic tendencies, promoting healthier cognitive processing and greater psychological resilience. While excellence striving did not reach statistical significance, the negative trend observed indicates potential adaptive value, distinguishing it from the maladaptive elements of perfectionism. Taken together, these findings reinforce the importance of considering both risk and protective factors in understanding perfectionism's cognitive consequences and provide a foundation for future research aimed at disentangling maladaptive perfectionism from more adaptive forms of striving.

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**Appendix**

# Participant Informed Consent Form

STUDY TITLE:

## The Thoughts and Goals Study

PRINCIPAL INVESTIGATOR:

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CONFLICTS OF INTEREST AND UNDUE INFLUENCE:

The researchers do not have any conflicts of interest in this study.

You are being invited to participate in a research study. This consent form, a copy of which you can download or print, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, feel free to ask any of the people named above. Please take the time to read this document and any accompanying information carefully. It is very important that you understand:

- what is being asked of you,
- what the risks and benefits of participation are, and
- how the information you provide will be used and stored.

### Purpose of the Study

The goal of this study is to explore how people's thoughts are shaped by how they approach goals, challenges, and setbacks.

### Study Procedures

If you decide to take part in this study, you will be asked to complete one online survey. The survey should take about ***10 minutes*** to complete. The survey will ask you to answer questions about how you approach goals and challenges, and how you think about different life situations. For quality control purposes, we will also record how long participants take to complete the survey.

## Study Risks
This survey is minimal risk, meaning that the risks are no greater than what you might encounter in your daily life.

## Study Benefits
There are no direct benefits to you by participating in this study, but we hope to learn more about how people think about goals, challenges, and setbacks.

## Compensation
To thank you for your contribution to this research project, you will be paid ***£1.70 (approximately $3.15 CAD)***. You will receive payment even if you choose not to answer some of the questions – however, you will need to continue to the final page of the survey for Prolific Academic to record your participation in this survey and to receive payment.

## Use and Storage of Information
All the information you provide as a participant in this study is confidential which means we as researchers must keep it safe. We will do our best, however, it is not possible to guarantee absolute confidentiality. We will only share your personal information if required (court order or law).

Your responses will not be anonymous. However, they will be anonymized by removing any identifying information (i.e., your Prolific ID number). To comply with Prolific's regulations and to verify participation and payment, at the end of the survey we will ask for your Prolific ID number. This number will be stored in a separate data file and will be permanently deleted after all payments have been confirmed, which will be approximately in September 2025. Before the data file containing sensitive information is deleted, it will be accessible only by Darren Liu and Dr. Ben Schellenberg and stored on a password-protected network drive that is hosted by the University of Manitoba.

The other survey questions will not ask you any questions to identify yourself (e.g., your name, phone number). The anonymized data file of survey responses will be stored, indefinitely, on a university network drive, a desktop computer in a research laboratory, and on an external hard drive. These three locations have been approved by the University of Manitoba and are password-protected. The desktop computer and external hard drive are physically located in a locked room at the University of Manitoba Fort Garry Campus.

To facilitate open science and collaboration between researchers, the anonymized data file, or parts of the file, will be shared with other researchers and/or posted on public data repositories. Sharing anonymized research data is a best practice in data management and complies with national research data archiving policies. It is important to emphasize that data shared in this way will be anonymized, meaning that the chances that your response could be linked back to you personally is extremely low.

## Dissemination

The results from this study will be presented as part of my Master's thesis and in scientific journals, book chapters, a summarized report posted on our lab website, and/or at conferences and public lectures. The results will be presented in aggregate and will not focus on any individual's responses.

## Withdrawing

Your participation in this research study is voluntary. You can choose to do only the activities and/or answer only the questions that you are comfortable with. You may withdraw from the study for any reason. You do not have to explain why. You will not be penalized in any way. However, to receive your honorarium from Prolific you must click through to the end of the study. You do not have to respond to any subsequent questions. Should you withdraw partway through the study, all your responses will be destroyed. Due to the nature of the study, once you submit your responses, we will not be able to remove your information as it cannot be linked back to you.

## Summary of Results

A summary of the study results will be available on our lab website (www.psalab.ca) when the study has finished (***approximately in December 2025***).

## Questions or Concerns

Designated University of Manitoba personnel may check that this study is being done safely and properly. To do this, they may review the research records. This study has been reviewed and approved by a Research Ethics Board at the University of Manitoba. However, this does not mean that participation is risk-free. If you have questions about your rights as a research participant, you may contact the Office of Human Research Ethics at humanethics@umanitoba.ca or (204) 474-7122. If you have any questions, concerns, or complaints about this study, you may contact any members of the research team listed on the first page or the Office of Human Research Ethics.

## CONSENT

By participating in this study, I agree that:

- I have read the above information.
- I have had the opportunity to ask and have answered all of my questions.
- I understand what is being asked of me.
- I will be taking part in a research study.
- I may freely stop or leave the research study activities at any time.
- My information may be shared outside the University of Manitoba.
- I do not waive my legal rights by participating in the study.

### Notice Regarding Collection, Use, and Disclosure of Personal Information

Your personal information is being collected under the authority of The University of Manitoba Act. The University of Manitoba is committed to preserving your right to privacy. The information you

provide will be used by the University to support our research. Your personal information will not be used or disclosed for other purposes, unless permitted by The Freedom of Information and Protection of Privacy Act or The Personal Health Information Act. If you have any questions about the collection of personal information: Ph: 204-474-9462 or Email: fippa@umanitoba.ca

| **I agree to participate in this study** | **☐ YES** | **☐ NO** |
|---|---|---|

## Press CONTINUE to continue to the survey!

**PAGE 1**

[Page 1 will display the Participant Informed Consent Form]

**PAGE 2**

Thank you for agreeing to take part in this survey! The survey will ask you to answer questions about how you approach goals and challenges, and how you think about different life situations. We ask that you answer all the questions in this survey as honestly as possible.

Press CONTINUE to continue to the survey.

**PAGE 3**

For each statement listed below, please select the response that best indicates how true the particular statement is for you. There are no right or wrong answers. Please be as honest as you can.

| | Scale of Perfectionism and Excellencism | Not at all | Very slightly | Slightly | Moderately | Strongly | Very Strongly | Totally |
|---|---|---|---|---|---|---|---|---|
| | As a person, my general goal in life is to… | | | | | | | |
| 1. | …be a competent person. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. | …accomplish great things. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. | …reach excellence. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. | …perform very well. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. | …work very hard until I reach excellence. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | As a person, my general goal in life is to… | | | | | | | |
| 6. | …be a perfect person. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. | …accomplish great things perfectly. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. | …attain perfection. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. | …perform perfectly. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. | …work relentlessly until I reach perfection | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Press CONTINUE to continue the survey.

**PAGE 4**

For each statement listed below, please select the response that best indicates how true the particular statement is for you. There are no right or wrong answers. Please be as honest as you can.

| | Self-Compassion Scale Short Form | Almost Never | Rarely | Sometimes | Frequently | Almost Always |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. | When I fail at something important to me, I become consumed by feelings of inadequacy. | 1 | 2 | 3 | 4 | 5 |
| 2. | I try to be understanding and patient towards those aspects of my personality I don't like it. | 1 | 2 | 3 | 4 | 5 |
| 3. | When something painful happens, I try to take a balanced view of the situation. | 1 | 2 | 3 | 4 | 5 |
| 4. | When I'm feeling down, I tend to feel like most other people are happier than I am. | 1 | 2 | 3 | 4 | 5 |
| 5. | I try to see myself failing as part of the human condition. | 1 | 2 | 3 | 4 | 5 |
| 6. | When I'm going through a very hard time, I give myself the caring and tenderness I need. | 1 | 2 | 3 | 4 | 5 |
| 7. | When something upsets me, I try to keep my emotion in balance. | 1 | 2 | 3 | 4 | 5 |
| 8. | When I fail at something that's important to me, I tend to feel alone in my failure. | 1 | 2 | 3 | 4 | 5 |
| 9. | When I'm feeling down, I tend to obsess and fixate over everything that's wrong. | 1 | 2 | 3 | 4 | 5 |
| 10. | When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people. | 1 | 2 | 3 | 4 | 5 |
| 11. | I am disapproving and judgemental about my own flaws and inadequacies. | 1 | 2 | 3 | 4 | 5 |
| 12. | I am intolerant and impatient towards those aspects of my personality I don't like. | 1 | 2 | 3 | 4 | 5 |

**PAGE 5**

We would like to find out about the different types of thinking you use. In the following pages, you will read about 10 types of thinking. You will be given a description of each thinking type. You will also read two case examples that help explain the thinking type. There will always be two case examples: one dealing with social relationships (such as friends, partners and family) and one that deals with personal achievements (such as passing a test or failing a task at work). These case examples are used to help you understand how each type of thinking might look in a real-life scenario.

Your task is to try and understand the thinking type that is described. Then, you are asked to estimate how often you use that type of thinking. You will be asked to think about how often you use that type of thinking in the two domains previously described (social and achievement scenarios). Please take time to think about your answers.

When you are ready, press CONTINUE to continue to the next part of the survey.

Press CONTINUE to continue the survey.

**PAGE 6**

MIND READING

People will sometimes assume that others are thinking negatively about them. This might occur even though the other person has not said anything negative. This is sometimes called *mindreading.* To illustrate this, please read the following passages:

**A.** Sonya is having coffee with her boyfriend Jim. Jim is quiet, and Sonya asks if anything is wrong. Jim replies that he is 'Okay.' Sonya does not believe Jim. She starts to think that he is unhappy with her.

**B.** Bob has been working on a project for weeks. He finally gives the final product to his boss, and is curious about his boss' opinion of his work. After a few days pass, Bob starts to worry that his boss thinks he is incompetent.

**Please estimate how often you engage in Mindreading when in social situations (like when you're with friends, partners or family):**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

**Please estimate how often you engage in Mindreading when in achievement situations (such as school or work).**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

Press CONTINUE to continue the survey.

**PAGE 7**

CATASTROPHIZING

People can make negative predictions about the future. When there isn't much evidence for these predictions, it is called Catastrophizing. To illustrate, please read the following passage:

**A.** John is in his first year of university. He just received a 70 on his Biology exam. He immediately starts to worry that he will end up with a low grade in the course, and that he'll have a tough time getting into medical school.

**B.** Tina's boyfriend just gave her some feedback about their relationship. He told her that he would like to spend a little more time with his friends. Based on his feedback, Tina starts to predict that they will start to become distant, and eventually break-up.

**Please estimate how often you engage in Catastrophizing when in social situations (like when you're with friends, partners or family):**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

**Please estimate how often you engage in Catastrophizing when in achievement situations (such as school or work).**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

Press CONTINUE to continue the survey.

**PAGE 8**

ALL-OR-NOTHING THINKING

When people make evaluations, they can view things as being "either-or." For example, a concert can be considered to be *either good or bad*. On the other hand, people can also see shades of gray when making evaluations. For example, a concert can have some negative aspects, but be considered fairly good overall. When a person considers something as being either good or bad, we call that all-or-nothing thinking. To illustrate this point further, please read the following passages:

**A.** Brian gets a B+ on an exam. He is disappointed because it was not an A. He tends to view success on exams as follows: 'I either do great, or my performance is a failure.'

**B.** Erin is the type of person who either likes a person, or dislikes them. You're either in her "good book" or you're not.

**Please estimate how often you use All-or-Nothing Thinking when in social situations (like when you're with friends, partners or family):**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

**Please estimate how often you use All-or-Nothing Thinking when in achievement situations (such as school or work).**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

Press CONTINUE to continue the survey.

**PAGE 9**

EMOTIONAL REASONING

People can believe something to be true because it "feels" that way. To illustrate, please read the following passages:

**A.** Kim's friends told her that she could not come to the concert with them because they were unable to get enough tickets for everyone. Kim knows they probably didn't exclude her on purpose, but she *feels rejected*. Therefore, part of her believes she was rejected.

**B.** Ted's boss told him that his performance at the company has been good. Yet, Ted wonders if he could have done better. In fact, he *feels like a failure*. Consequently, he starts to believe he is a failure.

**Please estimate how often you engage in Emotional Reasoning when in social situations (like when you're with friends, partners or family):**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

**Please estimate how often you engage in Emotional Reasoning when in achievement situations (such as school or work).**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

Press CONTINUE to continue the survey.

**PAGE 10**

LABELING

People can label themselves as being a certain *kind of person*. If this occurs after something bad happens, it is called labeling. To illustrate, please read the following passages:

**A.** While at a social event, John asks a woman if she would like to dance. She turns him down. As a result, John considers himself to be *a loser*.

**B.** During class, Allison's teacher asks if anyone knows the answer to a question. Allison raises her hand and gives an answer. Her teacher says 'Unfortunately, that is incorrect. Does anyone else know the answer?' Allison tells herself that she is *a moron*.

**Please estimate how often you engage in Labeling when in social situations (like when you're with friends, partners or family**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

**Please estimate how often you engage in Labeling when in achievement situations (such as school or work).**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

Press CONTINUE to continue the survey.

**PAGE 11**

MENTAL FILTER

People sometimes have a filter for information. When there is positive and negative information, they only focus on the negative information. This is called Mental Filtering. To illustrate, please read the following passages:

**A.** Lauren overhears her new boyfriend , Tom, telling his friends about her. He says 'Yeah, things are going great so far. She's really smart and fun to be with, and we have a lot in common. She can be a bit demanding at times, but that's OK.' Although Tom had mostly positive things to say, Lauren dwelled on the one negative comment, and felt bad.

**B.** Ed is a high school student. He is reading comments from his teacher regarding his recent essay. His teacher wrote 'Ed, you have an excellent way of expressing ideas. I really enjoy the way you write. However, you should try and make better transitions from one idea to another.' Despite the fact that Ed clearly performed well, he could only think about the one piece of criticism, and felt poorly about himself.

**Please estimate how often you engage in Mental Filtering when in social situations (like when you're with friends, partners or family):**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

**Please estimate how often you engage in Mental Filtering when in achievement situations (such as school or work).**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|

Never Sometimes All The Time

Press CONTINUE to continue the survey.

**PAGE 12**

OVERGENERALIZATION

When a negative event occurs, people might assume more bad things are going to happen. They see the negative event as the start of a pattern. To illustrate, please read the following passages:

**A.** Janet's boyfriend just broke up with her. She thinks to herself: 'I am never going to get into a stable relationship.'

**B.** William recently failed his math exam. He thinks to himself: 'I'll probably fail the exams in my other courses as well.'

**Please estimate how often you engage in Overgeneralization when in social situations (like when you're with friends, partners or family):**

1 2 3 4 5 6 7
Never Sometimes All The Time

**Please estimate how often you engage in Overgeneralization when in achievement situations (such as school or work).**

1 2 3 4 5 6 7
Never Sometimes All The Time

Press CONTINUE to continue the survey.

**PAGE 13**

PERSONALIZATION

People can believe they are responsible for negative things, even though they're not. In other words, they take a negative event, and assume they are the cause of it. This is called Personalization. To illustrate, please read the following passages:

**A.** Sally's company did not get an important contract. Although many people worked hard on this project, she assumes that it is her fault.

**B.** Chris' best friend has been in a bad mood lately, and it has been hard to get in contact with him. Chris assumes that he must have personally done something wrong to make his friend act this way.

**Please estimate how often you engage in Personalization when in social situations (like when you're with friends, partners or family):**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

**Please estimate how often you engage in Personalization when in achievement situations (such as school or work).**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

Press CONTINUE to continue the survey.

**PAGE 14**

SHOULD STATEMENTS

People sometimes think that things should or must be a certain way. To illustrate, please read the following passages:

**A.** "Billy is upset with getting an 85 on his exam because he thinks he *should* get at least a 90. He often has these thoughts for many things (e.g., he feels he *should* never drop a pass when playing football; his room *should* be organized a certain way)."

**B.** "Anne believes that she *must* be funny and interesting when socializing."

**Please estimate how often you tend to make Should Statements when in social situations (like when you're with friends, partners or family):**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

**Please estimate how often you tend to make Should Statements when in achievement situations (such as school or work).**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

Press CONTINUE to continue the survey.

**PAGE 15**

MINIMIZING OR DISQUALIFYING THE POSITIVE

People can sometimes ignore the positive things that happen to them. This is called Minimizing or Disqualifying the Positive. To illustrate, please read the following passages:

**A.** "Brenda works as a real estate agent. Her boss recently told her that she did a wonderful job on a recent sale. In her head, she dismisses her achievement because she probably 'just got lucky.'

**B.** "Cory is getting ready for a big first date. His friends tell him he looks good. He dismisses their complement because he thinks they're just trying to be nice."

**Please estimate how often you tend to Minimize or Disqualify the Positive when in social situations (like when you're with friends, partners or family):**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

**Please estimate how often you tend to Minimize or Disqualify the Positive when in achievement situations (such as school or work).**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Never | | | Sometimes | | | All The Time |

Press CONTINUE to continue the survey.

**PAGE 16**

For this part of the survey, we would like to know more about you and your experiences completing this survey.

1. What is your age? _____
2. What is your gender? _____
3. Which of the following categories best describes your ethnic or cultural background?

_____ Aboriginal/First Nations
_____ Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)
_____ Black
_____ Chinese
_____ Filipino
_____ Japanese
_____ Korean
_____ Latin American
_____ Métis
_____ South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)
_____ South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)
_____ White/European (e.g., English, French, Scottish, Irish)
_____ Other (please specify:
_____)

4. Are you an undergraduate student currently enrolled in university? _____

5. Please enter your Prolific ID number: _____
6. Did you answer all the questions on this survey honestly? If so, please type "Yes" in the space below. If not, please type "no". _____

Press CONTINUE to continue the survey.

**PAGE 17**

**Thanks!**

Thanks for taking the time to participate. In this study, we are exploring how people think about their goals, challenges, and setbacks. We are measuring different thought patterns and experiences when facing challenges and setbacks while pursuing their goals. We will test these relationships by statistically analyzing the responses using multiple regression.

We hope you have enjoyed participating in our study. A summary of the study results will be available on our lab website (www.psalab.ca) when the study has finished (***approximately in December 2025***).

## To receive your payment from Prolific Academic, press the CONTINUE button below

Press CONTINUE to complete the survey and record your participation.