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Self-Compassion's Protective Role on Well-Being During the Transition to Post-Secondary

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Self-Compassion's Protective Role
on Well-Being During the Transition to Post-Secondary

by

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A THESIS

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Abstract

More individuals than ever before are enrolling in post-secondary to further their education. Unfortunately, many post-secondary students report elevated stress levels and decreased well-being due to the sudden increase in demands in a variety of life domains (e.g., academic, financial, and social). Both self-compassion and self-efficacy are suggested buffers against stressful academic situations; however, their potential protective role within the transition to post-secondary remains relatively unexplored. Additionally, self-compassion and self-efficacy hold similar associations with adaptive self-regulated learning processes and may work together to further bolster student well-being.

This study surveyed 332 first year undergraduate students with the goal of assessing the relation between self-compassion, self-efficacy, and well-being. A regression analysis found that high ratings of self-compassion and self-efficacy predicted lower levels of perceived stress. Gender differences were present within total self-compassion scores as well as within one of its subscales (i.e., overidentification); however, gender was not found to moderate self-compassion's relation to well-being. The results suggest that self-compassion and the belief in one's abilities help to buffer the stress experienced in the first year of post-secondary. Students could be better prepared for the transition to post-secondary by learning adaptive strategies for managing stressful situations and increasing their confidence in their own abilities.

Key words: Self-Compassion, Self-Efficacy, Well-Being, Transition to Post-Secondary

Preface

This thesis is original, unpublished, and independent work by the author, K. Albrecht. The experiments reported in Chapters 3-5 were covered by Ethics Certificate number REB19-1647_MOD4, issued by the University of Calgary Conjoint Faculties Research Ethics Board for the project “University students’ time management, coping, self-efficacy and self-compassion: Correlations with well-being.” on October 30, 2020.

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Dedication

Chère grand-maman,

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Chapter 1: Introduction

More than ever before, emerging adults are pursuing some type of post-secondary education to become a competitive candidate in the labor market, further themselves in their life goals, and achieve overall financial stability and success (Carnevale et al., 2010; Venezia & Jaeger, 2013). Most individuals who enrol in higher education anticipate this transition with hope and optimism (Parmentier et al., 2021); however, once enrolled, many students experience challenges and stressors that may impede their post-secondary success (Briggs et al., 2012). When students transition from high school to tertiary education, they face shifts in many different aspects of their lives including in the social, emotional, pedagogical, and financial realm (Pampaka et al., 2012). Academically, tighter due dates are imposed on students, greater quality of work is expected, larger workloads are given, and assignments or exams may sequentially overlap. These demands necessitate significant preparation and planning for students. Socially, many students are required to move away from their families and childhood friends to attend university, and therefore must foster and develop new relationships (Oswald & Clark, 2003; Pfund et al., 2020). Students may also experience financial stress as they often take on the responsibility of paying for their education and living expenses, balancing school and working hours, running a household, and becoming increasingly independent in their daily lives (Pfund et al., 2020). Due to these transitions, the first year of tertiary studies has been identified as a time of great importance as well as a time of great risk to well-being (Briggs et al., 2012; Linden & Stuart, 2020; Tinto, 1988).

Students' responses to their new post-secondary scholarly role vary. Some experience success immediately, yet others lack the fundamental knowledge, skills, or habits that are necessary to succeed in this new environment (Venezia & Jaeger, 2013). When there is a

mismatch of preparation and setting, and an inability to adapt under immense pressure, many students experience negative consequences including high levels of stress, thwarted goal progression, poor academic success, and increased negative affect; thereby significantly impairing their overall well-being (Linden & Stuart, 2020; Saklofske et al., 2012). If these difficulties persist, they can lead to the discontinuation of studies and the development of stress into distress; thus, the potential to experience significant mental health problems (Linden & Stuart, 2020; Parkin & Baldwin, 2009).

The mental health of post-secondary students has been highlighted as a topic of concern in the literature. For instance, Duffy and colleagues (2020) found that approximately one-third of students reported clinically significant levels of depressive and anxiety symptoms at the time of entry into university. Those percentages only increased by the end of the first year, which suggests a worsening of well-being throughout the development of tertiary studies. Furthermore, half of those students who endorsed clinical levels of psychopathology reported symptoms in the moderate to severe range.

A further perturbing aspect of well-being among post-secondary students is its bidirectional relation with academic success. Although individuals experiencing academic stress are at a greater risk of threats to well-being, experiencing greater distress also leads to reduced academic success; hence, creating a reciprocal relation between distress and achievement that further disadvantages this population (De Luca et al., 2016; Holmes & Silvestri, 2016; Larson et al., 2016; McFadden, 2016). The reinforcing relation between academic performance and mental well-being necessitates the need for systematic improvements in well-being among tertiary students while simultaneously promoting academic success.

The question of whether post-secondary students' initial sense of stress will further amalgamate into distress depends on their ability to cope with daily stressors present in their environment - a construct also known as resilience (Linden & Stuart, 2020). Resilient individuals experience greater levels of well-being due to their ability to persevere when faced with challenges (Johnson, 2011). Many different factors affecting student perseverance in the face of challenges have been identified; however, protective factors specific to promoting well-being in the general post-secondary population remain relatively less explored compared to other populations (i.e., students with disabilities; Johnson, 2011). To date, factors found to be protective of well-being among a general first year post-secondary student population include both environmental (e.g., level of social support received, healthy sleep habits, and regular exercise; Duffy et al., 2020) and intra-individual factors (e.g., coping strategies utilized and levels of self-esteem; Duffy et al., 2020; Steinhardt & Dolbier, 2008).

Self-compassion has become a factor of particular interest within this population. This self-relationship, originating in Buddhist teachings, involves the direction of compassion inwards towards the self when facing challenges during daily life (Neff, 2003a). It is considered to play a role in the protection of well-being among post-secondary students (Neff, 2003a; Saricaoglu & Arslan, 2013) because students higher in self-compassion report less academic worry (Williams et al., 2008), reduced negative affect (Hope et al., 2014), greater levels of psychological well-being (Hall et al., 2013), and lower levels of stress (Gorvine et al., 2019).

Self-compassion has also been associated with adaptive reactions that promote and protect well-being. It has been theorized that self-compassion enables individuals to perceive themselves accurately, both in terms of strengths and weaknesses, in comparison to other constructs of self-perception, such as self-esteem which tends to skew an individual's self-

perception in their own favour (Brown, 1999; Neff, 2003a). In addition to awakening an individual's inclination towards maintaining well-being, this clarity is also posited to enable individuals to plan for goal attainment accurately and to remain less negatively affected by failure in their pursuit of goals, both of which are important adaptive coping responses for students to use to succeed in post-secondary. There is evidence that self-compassionate individuals experience less rumination and negative feelings in the face of failure (Leary et al., 2007), engage in more productive emotion processing to cope with stressful events (Neff et al., 2005), and are more likely to pursue learning and improvement for intrinsic reasons (Neff et al., 2005). These findings suggest that self-compassion could be an important protective factor for students transitioning to post-secondary.

A second protective factor, self-efficacy (i.e., an individual's perception of their capability to complete a task or goal; Bandura, 1982), is also associated with motivation, goal progression, and well-being. When individuals believe they can complete an objective, they are more likely to engage in work to meet that goal (Bandura, 1986) and to persevere in the face of challenges (Schunk, 1990). Similarly to self-compassion, post-secondary students with greater self-efficacy pursue goals for intrinsic reasons over external reasons (Phillips & Gully, 1997) and report lower levels of stress (Soysa & Wilcomb, 2015).

Thus, both self-compassion and self-efficacy appear to be related, potentially through their influence on students' motivation, and seem to work in similar ways to reduce stress among students. Due to these comparable benefits, a cumulative effect has been suggested (Souza & Hutz, 2016), meaning that self-compassion and self-efficacy may work better together in increasing post-secondary success and well-being, rather than alone. However, to date, the

relations between self-compassion and self-efficacy remain relatively unexplored within the period of the transition to tertiary education.

The purpose of this study is to explore the relations between self-compassion, self-efficacy, and well-being among first year undergraduate students. By identifying and understanding self-compassion and self-efficacy's protective role, the results have the potential to inform prevention programs intended to prepare students for the transition to post-secondary. Additionally, students beyond their first year of post-secondary studies can also benefit from the implementation of self-compassion practices and interventions to maintain and promote well-being throughout the entirety of tertiary studies. Lastly, faculty can integrate self-compassion research into their instruction and teaching approaches, thereby promoting the well-being of all of their students. The next chapter will review the literature on self-compassion and self-efficacy, their relation to self-regulated learning and well-being, as well as their relation to one another.

Chapter 2: Literature Review

Self-Compassion

Self-compassion involves the direction of compassion inwards onto the self in the face of difficult experiences (Neff, 2003a). Self-compassion is made up of three components, each of which includes the presence of one aspect and the absence of their unfavorable counterpart. The first component, self-kindness, involves responding to oneself with kindness and understanding rather than critical evaluations and judgments (i.e., self-judgment; Neff, 2003b). The second component, common humanity, entails viewing one's experiences as commonly occurring within humanity rather than solely experienced by oneself (i.e., isolation). Although self-compassion is at its core a self-attitude, its common humanity component cultivates a concern for social connectedness, which simultaneously serves to increase an individual's level of concern for others and support well-being (Neff, 2003a; Neff et al., 2005). The last component of self-compassion, mindfulness, involves maintaining a balanced awareness of difficult thoughts without overidentifying with them or avoiding them (i.e., overidentification; Neff, 2003a). Taken together, a self-compassionate individual can adequately perceive and consider their pain and suffering, recognize that their suffering occurs within the realm of human existence, and heal themselves with acceptance and kindness (Neff, 2003a). Because of these traits, self-compassion has been regarded as an adaptive and favorable self-attitude to maintain.

When developing a scale to measure self-compassion among individuals, Neff (2003b) found that each positive and negative factor of all three components loaded onto six factors rather than the expected three. She concluded that the components of self-compassion are mutually inclusive. For instance, if an individual did not engage in self-judgment, it did not imply that they spoke kindly to themselves in its place. Neff also found that all six subscales

(including separate scales for each positive and negative aspect) of the self-compassion model were highly intercorrelated, as was expected based on the theoretical underpinnings of self-compassion. After applying a higher-order confirmatory factor analysis, she identified a single higher-order factor of self-compassion that explained the inter-correlations among the six factors. These results indicated that rather than self-compassion acting as a pre-existing trait that leads to increases in its six components (Neff et al., 2007), self-compassion is an overarching second-order trait that develops through a combination of these six components (Neff, 2003b). Thus, through the interaction of the components, emerges self-compassion (Neff, 2003a; Neff, 2003b).

Although self-compassion includes three working parts (positive and negative aspects), it is posited that the components interact and influence one another. It has previously been hypothesized that each component of self-compassion serves to individually increase one another (Barnard & Curry, 2011; Neff, 2003a). However, research on the specifics of the relations between the components of self-compassion remains limited with the majority of studies focusing on the overall variable of self-compassion.

Self-Compassion and Well-Being

Neff (2003a) stated that self-compassion is an “emotionally positive self-attitude that should protect against the negative consequences of self-judgment, isolation, and rumination” (p. 85). In line with this theory, self-compassion is positively associated with many indices of well-being, including life satisfaction, social connection, and happiness (Neff, 2003b; Neff et al., 2007; Williams et al., 2008) and negatively associated with many indicators of distress, including anxious and depressive thoughts, fear of failure, neurotic perfectionism, and burnout (Barnard & Curry, 2011; Mills et al., 2017; Neff, 2003b; Neff et al., 2005). Thus, self-compassion seems to be highly indicative of well-being. However, it is important to note that well-being may either be

a product of self-compassion, or well-being may facilitate the development of self-compassion, or both processes could be occurring simultaneously (Barnard & Curry, 2011). Additionally, there are most likely other variables that serve to moderate the relation between well-being and self-compassion. Further research is required to understand these relationships better; overall, the literature identifies self-compassion as beneficial for the development of psychological well-being and resiliency (Neff, 2003b).

Self-Compassion Versus Self-Esteem

Neff (2003a) originally proposed that self-compassion is a healthier self-attitude than self-esteem, which at the time was a more popular construct. Self-esteem is based on judgments and comparisons to others to evaluate self-worth. In some circumstances, increasing self-esteem through social comparison can have a more destructive than productive relation with psychological well-being. For instance, overly high levels of self-esteem can be problematic because it can lead to narcissism (Hyatt et al., 2018). Hence, many researchers have pinpointed self-compassion as the true depiction of a positive self-relationship.

Nevertheless, self-esteem and self-compassion are related. Individuals with greater self-compassion also hold greater levels of self-esteem since the action of reacting kindly to oneself promotes positive self-feelings (Leary et al., 2007; Neff & Vonk, 2009). However, the feelings associated with self-compassion lack the narcissistic trait that those with high self-esteem feel towards themselves (Neff, 2003b; Raskin & Hall, 1979). Ultimately, self-compassion entails maintaining a positive self-worth that is not derived from feeling superior to others, but rather from being honest to one's true self (Neff, 2003b). It allows individuals to feel securely positive about themselves without the drive to safeguard or strengthen their own self-perception (present within the construct of self-esteem). Furthermore, boosting self-esteem through social

comparison is replaced by processes of self-kindness, mindful acceptance, and consideration of others' experiences (Neff et al., 2005). For these reasons, self-compassion may be a more useful construct to target when seeking ways to support well-being among students.

Self-Compassion and Response to Adverse Events

Self-compassion plays a pivotal role in how individuals react to various life problems through the regulation of their internal emotions and thoughts, which in turn affects their behaviors (Neff, 2003a; Neff, 2003b). Individuals with high self-compassion view their problems and vulnerabilities with depth and accuracy, yet respond to these difficulties with actions and feelings of kindness and compassion instead of harsh self-criticism (Leary et al., 2007; Neff, 2003b). In opposition to self-esteem, inflated self-compassion is associated with proactive behaviors that promote well-being whereas low self-compassion can be linked to passivity (Neff, 2003a). More specifically, being self-compassionate allows individuals to perceive a situation at hand clearly without being constrained by threats of self-condemnation or rumination about faults and flaws (Brown, 1999). The clarity with which individuals with high self-compassion view themselves enables them to identify their behaviors or actions that may be causing or perpetuating stressful situations. An honest appraisal leads to constructive strategies and behaviors to alleviate their stress and negative feelings as well as maintain a greater level of well-being. It also leads to the implementation of proactive actions to avoid possible negative events in the future (Neff, 2003a).

Contrary to initial assumptions of the construct, self-compassion is not associated with the lowering of standards. Rather, individuals with high self-compassion experience fewer feelings of distress when the standard is not met and accept the occurrence of the unfortunate circumstance. They see thwarted goals as valuable learning experiences and move on from them

as a better developed person (Neff, 2003b; Neff et al., 2005). In support of this theory, Leary and colleagues (2007) investigated the reactions of so labelled “self-compassionate” individuals to disappointing life events and found that self-compassion reduced an individual’s negative reactions to such events. That is, individuals higher in self-compassion were less likely to ruminate about negative evaluations or experience negative emotions when faced with their failures (Leary et al., 2007). Their results suggested that individuals high in self-compassion were better able to come to terms with the faults and weaknesses in their character and behaviors without engaging in destructive rumination (Leary et al., 2007). Overall, self-compassion serves as a buffer against negative reactions to unfortunate events and promotes positive self-feelings and adaptive reactions in their place (Leary et al., 2007; Neff, 2003a).

Self-Compassion in the Undergraduate Population

Since its introduction into western psychology, self-compassion research has explored the construct’s benefits to a post-secondary population. As identified earlier, post-secondary is a period of transition in which young adults begin to take on more responsibility academically, financially, and socially, and must manage competing demands. During this stage of life, individuals set goals (including personal and academic) and apply strategies to meet them. However, it is unavoidable that they will face the occasional failure in their goal attainment. Self-attitudes and feelings, whether positive or negative, affect student well-being and the learning process itself, and consequently post-secondary success (Neff et al., 2005). Considering these risks, there has been interest in the potential for self-compassion during this stage of adulthood to serve as a protective factor.

Self-Compassion and Post-Secondary Well-being. In compliment to general theory and findings on self-compassion, self-compassion within the undergraduate population has

correspondingly been identified as correlated with and predictive of psychological well-being (Neely et al., 2009; Saricaoglu & Arslan, 2013). For instance, Hope et al. (2014) found that self-compassion predicted increases in positive affect and life satisfaction over time as self-compassionate post-secondary students continued to grow into happier individuals with greater levels of well-being. In addition, interventions among post-secondary populations have identified self-compassion as a rather meaningful element in increasing student well-being. In their study on the effects of yoga and mindfulness meditation on self-compassion and perceived stress, Gorvine and colleagues (2019) found that self-compassion was the strongest predictor of stress reduction among both yoga and mindfulness meditation groups of college students. They put forth the importance of offering specific self-compassion training to students to improve well-being (Gorvine et al., 2019).

Within self-compassion's role in protecting well-being, a handful of scholars have investigated the differing components of self-compassion and their respective functions. Hall et al. (2013) found that self-kindness was the key predictor of physical and psychological well-being among college students. They argued that it is beneficial to examine self-compassion relative to its three subscales rather than using the global measure of self-compassion. Similarly, Shin and Lim (2019) examined the relations between the subscales of self-compassion and well-being also finding that the self-kindness component of self-compassion positively predicted all three types of positive mental health (social, emotional, and psychological well-being) within their Korean university student population.

Self-Compassion and Self-Regulated Learning. When examining a post-secondary population, self-compassion also maintains a relation to self-regulated learning processes. Motivation, goal perseverance, response to academic failure, and self-efficacy are related to self-

compassion. Because self-compassionate individuals engage in honest appraisals of their weaknesses, they are in a better position to plan, manage, support, and overcome those weaknesses through the use of behavioral techniques (e.g., goal setting, risk taking, pro-active behaviors, etc.; Neff, 2003a); self-compassionate individuals are more likely to show intrinsic motivation because they seek to achieve goals for reasons of genuine interest and curiosity rather than in the interest of proving self-worth, meeting standards, and attaining external rewards (Neff, 2003a; Neff et al., 2007). Additionally, individuals higher in self-compassion remain interested and engaged in courses even after experiencing failure because they approach learning with curiosity, genuine interest, and the drive to better their skills (Neff et al., 2005).

In light of self-compassion's role in response to adverse life events, it has been theorized that the construct would enable students to engage in more adaptive responses to academic goal failures. Indeed, when faced with academic failure (e.g., a failed midterm exam), self-compassionate students engaged in adaptive emotion-focused responses such as reinterpretation, growth, and acceptance of a situation (Neff 2003a; Neff et al., 2005). Students were less emotionally affected by the consequences of failing to attain a goal. Instead, they maintained a balance between the acknowledgement of their emotions in response to failure and the acceptance of those emotions while avoiding engaging in detrimental rumination (Neff, 2003b). Correspondingly, Hope and colleagues (2014) found that freshmen with greater self-compassion were less emotionally affected by the consequences of failing to attain a goal, once again identifying self-compassion as a rather adaptive trait for students as it allows one to learn from their failures and grow from their experiences. In their study, students who reported lower levels of self-compassion experienced greater levels of negative affect at night when they did not adequately meet their goal, thus the engagement in less rumination (Hope et al., 2014).

Although they are less emotionally affected by failure, self-compassionate students are still able to learn from it. Breines and Chen (2012) found that students higher in self-compassion who initially failed an exam spent more time studying for their following test than their peers. Self-compassionate individuals' experience of failure does not decrease their motivation to succeed and seems to leave their perception of their ability to succeed in the future (i.e., their self-efficacy) unchanged. Overall, self-compassion is a productive response in the face of post-secondary academic failure, enabling students to learn from their mistakes and persevere (Neff, 2003a; Neff et al., 2005). In sum, self-compassion is associated with the pursuance of goals for genuine reasons that resonate with one's values and with the drive to improve and learn from one's mistakes. These relationships thereby help students succeed in post-secondary.

Self-Efficacy

A major component of self-regulated learning, self-efficacy, also plays an important role in student well-being. There is research support for a relation between self-compassion and self-efficacy (Neff et al., 2005); however, the theoretical underpinning of the relation remains poorly understood. Interestingly, both constructs hold similar learning benefits for post-secondary students, leading some scholars to question the distinction between these constructs.

Self-efficacy entails an individual's perceptions or beliefs regarding their ability to complete a task or to meet a goal (Bandura, 1982). These perceptions then in turn go on to affect their motivation in the face of challenging tasks. Individuals high in self-efficacy believe they are capable of overcoming challenges and seek ways to meet the demands (Jerusalem & Mittag, 1995; Pajares, 2002; Poole & Evans, 1989). When they are successful in achieving their goals, individuals feel more in control of the situation and are more likely to believe in their abilities (Maddux, 2002). Conversely, not achieving goals leads to less confidence in abilities and

decreased feelings of control. Because self-efficacy plays a large role in determining whether individuals can successfully maneuver through challenges (Xie & Xie, 2019), it has been posited as one of the most influential cognitions on human behavior (Bandura, 1986).

Self-efficacy has been conceptualized as domain specific. Of interest to a post-secondary population, academic self-efficacy specifically pertains to one's perceptions of their ability to meet academic goals or complete academic tasks (Zimmerman et al., 1992). This belief in one's abilities goes on to influence study and learning behavior and, thus, academic outcomes. Similar to self-compassion, students high in self-efficacy are motivated for intrinsic reasons (Phillips & Gully, 1997), engage in less avoidance of challenges (Schunk, 1990), and demonstrate greater perseverance in the face of difficulties (Di Giunta et al., 2013; Komarraju & Nadler, 2013). Lastly, self-efficacy resembles self-compassion in its inverse relation to stress, such that post-secondary students with higher levels of self-efficacy report lower levels of stress (Lightsey & Barnes, 2007; Quimby & O'Brien, 2006). Soysa and Wilcomb (2015) found that when examined alone, high self-efficacy predicted lower stress levels among undergraduates.

Self-Efficacy and Self-Compassion

It is clear that self-compassion and self-efficacy affect how individuals become motivated, take action to meet their goals, and handle encountered challenges. Because of these similar relations, some researchers have sought to understand self-compassion's link to self-efficacy directly. Certain scholars have even gone so far as to argue that self-efficacy and self-compassion may be the same construct.

Neff and colleagues' (2005) study found that undergraduates who were higher in self-compassion also reported greater levels of perceived competence regardless of the grades they received in courses. Based on these findings, researchers began to question whether self-

compassion served to overinflate one's perceived competence in their skills. In response to this query, Leary and colleagues (2007) found contradictory evidence showing that those high in self-compassion actually tended to estimate their performance accurately on a task labelled as awkward and embarrassing whereas those low in self-compassion tended to underestimate their performance. Thus, these results suggests that high self-compassion enables more accurate perceptions of competencies, rather than inaccurate over-inflations (Barnard & Curry, 2011).

Pudalov (2016) hypothesized that self-compassion would serve to increase self-efficacy among psychology clinician trainees. In her study, she found that self-efficacy was positively associated with self-compassion; however, she did not find that self-compassion scores on their own significantly predicted self-efficacy scores. Instead, a synergistic effect of self-compassion scores in combination with hope scores were found to hold predictive power. Her results suggest that the two constructs of self-compassion and self-efficacy, although similar in effect, are separate constructs (Pudalov, 2016).

A number of other studies that have examined the relation between the two constructs have found less clear results. Iskender (2009) found that self-compassion was not associated with self-efficacy. However, when he looked at the relations with the individual positive components of self-compassion (i.e., self-kindness, common humanity, and mindfulness), they were positively associated with self-efficacy. In turn, each negative component of self-compassion (i.e., self-judgement, isolation, and over-identification) was negatively related to self-efficacy. Iskender (2009) proposed that an increase in self-efficacy would decrease the three harmful counterparts of self-compassion and enable university students to adapt, learn, and be happy. In contrast, Manavipour and Saeedian (2016) found that total self-compassion and self-efficacy maintained a small, yet significant positive correlation within an Iranian post-secondary student

sample. Also, Souza and Hutz (2016) found a moderate positive relation between the two constructs within a Brazilian student sample. Though results are somewhat mixed, it has been posited that individuals higher in self-compassion and self-efficacy have a more objective self-image. It is suggested that, combined, the two constructs allow individuals to recognize and understand their own challenges better (Souza & Hutz, 2016).

Based on the literature, it seems that self-compassion could be an overarching construct that empowers individuals to speak more kindly to themselves and enables the development of self-efficacy. It allows students to view themselves confidently as individuals who are capable of attaining goals while simultaneously experiencing less debilitating fear of failure and more motivation to undertake challenging tasks. Whereas, the absence of self-compassion (i.e., the presence of its negative counterparts) may impede the development of feelings of competence (Neff et al., 2005).

Gender Differences

Gender norms prescribe a typical script of how society believes each gender should handle and express their emotions and carry themselves through life. Traditionally, women are viewed as being more nurturing, caring, willing to help others, and in touch with their emotions whereas men are typically viewed as being more independent, confident, self-oriented, competitive, and less connected to their emotions (Cross & Madson, 1997; Eisenberg & Lennon, 1983; Mahalik et al., 2003; Mahalik et al., 2005). Because of these proposed differences, it has been posited that the conformation to gender norms may either increase or limit levels of self-compassion and self-efficacy (Huang, 2013; Karakasidou et al., 2020).

Gender Differences in Self-Compassion

On the surface, male gender norms appear to be less in line with the concept of self-compassion as males are encouraged to be independent and guarded as well as detached from their emotions (Karakasidou et al., 2020; Mahalik et al., 2003). If highly attuned to these norms, males may be less capable of self-compassion and more vulnerable to distress (Karakasidou et al., 2020; Levant, 2011; Mahalik et al., 2003). This reasoning has led some to believe that female gender norms are more clearly aligned with the concept of self-compassion and that women are better protected from psychological distress. (Neff, 2003b; Neff & McGehee, 2010; Neff & Pommier, 2013). At the same time, females are regarded as being more self-critical than their male counterparts, which may lead to less self-compassion (DeVore, 2013; Neff & Vonk, 2009). Thus, from a solely theoretical examination of gender, it is difficult to hypothesize which gender may be more likely to be self-compassionate.

Neff (2003a) originally suggested two opposing hypotheses on self-compassion levels between the genders. She suggested that females would have greater levels of self-compassion due to heightened levels of common humanity because they tend to have a more interdependent sense of self (Cross & Madson, 1997) and tend to be more empathic than their male counterparts (Eisenberg & Lennon, 1993). However, she also proposed that females may have lower levels of self-compassion because they tend to be more self-critical and engage in more rumination (Leadbeater et al., 1999; Nolen-Hoeksma et al., 1999), leading to greater levels of self-judgment and overidentification (Neff, 2003a).

In support of both hypotheses, studies on gender differences have found two patterns of results. One group of studies has identified a significant difference between the genders, with males reporting greater levels of self-compassion (Neff, 2003b; Neff & McGehee, 2010; Yarnell

et al., 2015). Another group identified similar levels of self-compassion between males and females (Iskender, 2009; Neff & Pommier, 2013). Most recently, Karakasidou and colleagues (2020) sought to illuminate gender's relation to self-compassion. They found greater levels of self-compassion among men than women. Additionally, Neff (2003b) further investigated her hypotheses on gender differences within the subscales of self-compassion. She found that females had lower levels of mindfulness and higher levels of self-judgment, isolation, and overidentification than males. However, work on gender differences within the subscales of self-compassion remains limited. Overall, the research seems to suggest higher levels of self-compassion are present within males than females, but given the mixed results, true gender differences remain unclear.

Gender Differences in Self-Efficacy

Similar to self-compassion, findings on gender differences in self-efficacy have also been mixed (Pajares, 2002). In a meta-analysis of 247 samples (including students enrolled in elementary, middle, and high school, as well as college), males had slightly higher overall academic self-efficacy although the effect size was small (i.e., $g = 0.08$; Huang, 2013). There have also been gender differences identified within academic domains. Females tended to exhibit higher levels of self-efficacy in language arts, whereas males scored higher in mathematics, computers, and social sciences (Huang, 2013). No gender differences were identified within the science domain. Teacher assumptions of student ability, based on gender, may have an effect on how students perceive their own abilities, and repeated messages about abilities are reinforced throughout their schooling years (Huang, 2013; Pajares, 2002).

The Current Study

Today's students face great amounts of stress during the transition to post-secondary (Pfund et al., 2020). If not properly prepared for this transition, stress levels may amalgamate into distress and worsen psychological well-being while simultaneously impairing academic success (Holmes & Silvestri, 2016; Linden & Stuart, 2020; Saklofske et al., 2012). The main purpose of the current study is to explore the influence of self-compassion and self-efficacy on perceived stress (i.e., one means of measuring psychological well-being) within first year post-secondary students. It may be that self-compassion sets the stage for self-efficacy to occur without necessarily causing its occurrence (Neff et al., 2005; Pudalov, 2016). Additionally, as both constructs hold similar associations with processes of self-regulated learning, it may be that self-compassion and self-efficacy would work together to greater benefit student success and well-being; however, a synergistic effect between self-compassion and self-efficacy remains uninvestigated. A secondary aim of this study is to investigate gender differences in self-compassion, originally hypothesized within specific subscales (i.e., self-judgment, common humanity, and overidentification; Neff, 2003b), and determine whether gender influences the relation between self-compassion and perceived stress. To meet these goals, the following research was divided into two questions that were addressed via the listed sub questions:

1. *Do self-compassion and self-efficacy predict stress among first-year undergraduate students?* To answer this question, the following sub questions were asked:

a) *What are the relations between self-compassion, its components, self-efficacy, and perceived stress?* It is expected that both self-compassion and self-efficacy will be negatively associated with perceived stress. Also, it is

hypothesized that each positive factor of self-compassion will be negatively associated with stress, whereas every negative factor will be positively associated with stress. However, given the mixed results regarding self-efficacy and self-compassion's relation, no other expectations were formed on the subject.

- b) *Can perceived stress be predicted based on self-compassion and self-efficacy? If so, which variable holds more predictive power?* It is anticipated that higher levels of both self-compassion and self-efficacy will predict lower levels of stress. However, it is expected that self-compassion will hold greater predictive power over stress than self-efficacy, as self-compassion is defined as a more global self-relation than self-efficacy, thus resulting in more associations with stress (Neff, 2003a).
- c) *Do self-compassion and self-efficacy have a synergistic effect in predicting perceived stress?* Due to the similarities in both constructs' associations with other self-regulated learning processes and student well-being, it is hypothesized that greater levels of self-compassion in combination with greater levels of self-efficacy will better predict lower stress levels than would the combination of each variable on their own.
- d) *Which aspect of self-compassion (i.e., common humanity, mindfulness, self-kindness), is the greatest predictor of well-being (i.e., low levels of perceived stress?)* Of the limited studies examining the separate components of self-compassion, self-kindness has been identified as a significantly important contributor to well-being (Hall et al., 2013; Shin & Lim, 2019); however, the

research seems to vary depending on cultural factors and environment. It is hypothesized that self-kindness will be the greatest predictor of well-being among first year post-secondary students.

2. *Does gender influence the strength of the relation between self-efficacy and stress?* To address this research question, the following sub questions were asked:

- a) *Are there gender differences in students' scores of self-compassion, (including the subscales of overidentification, self-kindness, and common humanity) and self-efficacy?* Given the mixed results regarding gender differences in both constructs, no specific outcomes were expected.
- b) *Is the relation between self-compassion and perceived stress moderated by gender?* Due to the exploratory nature of this question, no hypothesis was formed.

Chapter 3: Methods

This quasi-experimental study is part of a large-scale survey investigating well-being among first year undergraduate students. As such, only measures relevant to the present study will be included and examined within this thesis.

Participants

First year undergraduate students were recruited from the University of Calgary. A total of 346 participants met the inclusion criteria. After preparing the data set (detailed below) the final sample included 332 first year undergraduate students. The sample contained 129 males (38.9%), 198 females (59.6%), two transgender cases (.6%), two others unspecified (.6%), and one participant who preferred not to disclose (.3%). The mean age of the sample was 18.07 years of age and ranged from 17 to 20 years old. The faculties represented in the sample included 75 participants from Arts, eight from Medicine, 31 from Business, 47 from Kinesiology, 18 from Nursing, 59 from Engineering, 63 from Science, and two from Education. The mean GPA (out of a total of 4.0) was 3.30 and ranged from 1.20 to 4.00.

Measures

Self-Compassion

Participants completed the 26-item Self-Compassion Scale created by Neff (2003b). Participants responded to statements by rating how often they engage in the identified behaviors on a five-point Likert scale ranging from 1 (*almost never*) to 5 (*almost always*). The scale encompasses six subscales, including a five-item Self-Kindness subscale (e.g., “I try to be loving towards myself when I’m feeling emotional pain.”), a five-item Self-Judgment subscale (e.g., “I can be a bit cold-hearted towards myself when I’m experiencing suffering.”), a four-item Common Humanity subscale (e.g., “When things are going badly for me, I see the difficulties as

part of life that everyone goes through.”), a four-item Isolation subscale (e.g., “When I fail at something that's important to me, I tend to feel alone in my failure.”), a four-item Mindfulness subscale (e.g., “When I fail at something important to me I try to keep things in perspective.”), and a four-item Over-Identification subscale (e.g., “When I fail at something important to me I become consumed by feelings of inadequacy.”). Individual subscale scores were computed by averaging subscale responses; a total mean self-compassion score was obtained by reverse coding the negative subscale items (i.e., Self-judgment, Isolation, and Over-identification), calculating the three new negative subscale means by averaging the newly reverse coded scores, and then averaging the six subscale scores (using the reverse coded negative subscales means) to create a grand mean (out of a possible five). The Self-Compassion Scale has been found to hold good internal consistency (.92), good test-retest reliability (.93; Neff, 2003b), as well as good convergent validity (.70; Neff & Beretvas, 2013) and discriminant validity (e.g., does not correlate with social desirability; Neff, 2003b).

Perceived Stress

The 14-item Perceived Stress Scale (PSS-14) measures how stressful participants perceive their lives (Cohen et al., 1983). The questionnaire contains seven positively worded stress questions (e.g., “In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?”) and seven negatively worded stress questions (e.g., “In the last month, how often have you felt that you were unable to control the important things in your life?”). Participants responded to the items on a five-point Likert scale ranging from 0 (*never*) to 4 (*very often*) based on their past four weeks of life. A total perceived stress score was obtained by reverse coding the scores on the seven positively loaded stress items and summing the seven reverse coded scores with the remaining seven scores to

create a total score out of a possible 56. The scale has good internal consistency, ranging from .75 to .89 (Lee, 2012), and generally satisfactory test re-test reliability (.55 to .90; Almadi et al., 2012; Cohen et al., 1983; Remor, 2006). Additionally, the scale demonstrates convergent validity as it is highly correlated with other related constructs, including stress (.64), depression (.61), and anxiety (.54; Andreou et al., 2011).

Self-Efficacy

The 33-item College Academic Self-Efficacy Scale (Owen & Froman, 1988) measures the amount of confidence participants have in completing certain academic behaviors (e.g., “Earning good marks in most courses.” and “Spreading out studying instead of cramming.”). Participants rated their confidence on a five-point Likert scale ranging from 1 (*very little*) to 5 (*quite a lot*). Items were averaged to create a total mean score out of a possible 5. The original validation study of the scale established good internal consistency (.90 to .92), satisfactory test re-test reliability (.85; Owen & Froman, 1988), and good concurrent validity (.62 to .81).

Procedure

Following ethics approval, participants were recruited to complete an online survey in Qualtrics. To recruit students, class presentations were conducted in first year university courses by two research assistants. Additionally, recruitment posters were posted throughout public spaces on campus (e.g., libraries, food court, hallways, etc.) and postcards were placed on tables in common areas. A virtual postcard was displayed on the digital bulletin board at the Taylor Family Digital Library. Lastly, the study advertisement was posted on the University of Calgary research services website. As an incentive to participate in the study, potential participants were informed that upon registering, participants would be entered into a draw to win prizes (e.g., noise cancelling headphones).

Participant consent was implied once they agreed to complete the survey. Data collection occurred from January to early March 2020. Participant recruitment ended prior to the beginning of the COVID-19 pandemic, ensuring that stress associated with the pandemic did not confound the measure of perceived stress. Following data collection, participants were removed if the individual reported that they were not in their first year (collected via a survey question) or they entered any email address other than a UCalgary email address.

Data Preparation

The data set was imported into the Statistical Package for Social Sciences (SPSS) v.27 software where it was prepared prior to the conduction of analyses. After removing participants who did not meet inclusion criteria, the sample totalled 346 first year undergraduate students. Initially, there were 14 participants that were missing most of their scores, however, Little's Missing Completely at Random test (1988) revealed that the data was in fact missing completely at random. These 14 participants were subsequently listwise deleted from the data set and therefore the final data set included 332 participants. There were nine participants who did not obtain a self-efficacy score due to incomplete questionnaires; thus, the fifth iteration of multiple imputation was utilized to fill in these missing data values.

Plan for Analyses

To investigate whether self-compassion and self-efficacy predict stress, first correlational analyses will be run to understand the significance and direction of relations between the variables. Next, a multiple regression will be conducted to investigate the predictive power that self-compassion and self-efficacy have on stress. If significant, a moderation will be conducted to investigate a synergistic effect of the combination of self-efficacy and self-compassion

predicting perceived stress. Lastly, another multiple regression will be run to examine the predictive power that the six subcomponents of self-compassion have on stress.

To investigate gender's potential moderating role in the relation between stress and both self-compassion and self-efficacy, a series of *t*-tests will first be conducted to identify the presence of any gender differences within self-efficacy and self-compassion. Additionally, to examine Neff's original inferences (2003a), *t*-tests will be conducted to examine gender differences specifically within the self-compassion subscales of Common Humanity, Self-Judgment, and Overidentification. If gender differences are found within total self-compassion or self-efficacy, a moderation analysis will be performed to determine whether gender affects their relation to perceived stress.

Chapter 4: Results

Test Assumptions

Table 1 contains the descriptive statistics for the variables. No extreme univariate or multivariate outliers were identified within the data as assessed by visual inspection of the box plots and Mahalanobis variables. The variables appeared to be normally distributed, as assessed via a visual examination of the Q-Q plots and histograms. Values of skewness ranged from -.33 to .08 and values of kurtosis ranged from -.69 to .24, indicating an approximately normal distribution.

Table 1

Descriptive Data for Perceived Stress, Self-Compassion, and Self-Efficacy (N = 332)

Measure	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Perceived Stress	28.69	7.41	-.03	.24
Self- Compassion				
Total Self-Compassion	2.81	.62	.08	-.12
Self-Kindness	2.87	.79	-.21	-.24
Common Humanity	2.95	.79	-.06	-.15
Mindfulness	3.16	.74	-.14	.00
Self-Judgment	3.48	.83	-.33	-.19
Isolation	3.35	.92	-.22	-.69
Over-Identification	3.31	.87	-.31	-.43
Self-Efficacy	3.29	.60	-.05	-.21

All assumptions were met for the following analyses except for the *t*-test comparison between self-efficacy and gender, which did not have homogeneity of variances. To correct for this violation the results were subsequently interpreted using the Welch *t*-test (Welch, 1947).

Predictors of Perceived Stress

The first aim of this study was to determine whether self-compassion and self-efficacy predict stress among first year undergraduate students.

Correlational Analyses

An initial correlational analysis examined the relations between self-compassion (the total mean score plus the subscales scores), self-efficacy, and perceived stress in first year undergraduate students. Correlation values between the variables can be found in Table 2. There was a strong negative association between perceived stress and total self-compassion, and a moderate negative association between perceived stress and self-efficacy. Additionally, moderate negative correlations were found between perceived stress and the self-compassion subscales of self-kindness, common humanity, and mindfulness. On the other hand, strong positive associations were found between perceived stress and the negative counterparts of self-compassion- self-judgment, isolation, and overidentification. Lastly, total self-compassion and self-efficacy held a small yet significant positive correlation. In general, these correlations suggest that individuals with greater levels of self-compassion, specifically self-kindness, common humanity, and mindfulness, tend to experience lower levels of perceived stress as do individuals with higher self-efficacy. In contrast, individuals with greater levels of self-judgment, isolation, and overidentification experience greater stress levels.

Table 2*Correlations for Self-Compassion, Self-Efficacy, and Perceived Stress*

Measure	1	2	2a	2b	2c	2d	2e	2f	3
1. Perceived Stress	-								
2. Total Self-Compassion	-.66**	-							
a) Self-Kindness	-.47**	.78**	-						
b) Common Humanity	-.35**	.68**	.57**	-					
c) Mindfulness	-.39**	.71**	.64**	.63**	-				
d) Self-Judgment	.55**	-.78**	-.56**	-.29**	-.29**	-			
e) Isolation	.61**	-.80**	-.42**	-.34**	-.36**	.68**	-		
f) Overidentification	.57**	-.78**	-.38**	-.32**	-.37**	.67**	.72**	-	
3. Self-Efficacy	-.43**	.28**	.22**	.17**	.31**	-.18**	-.20**	-.23**	-

** $p < .001$.

Multiple Regressions and Moderation

Next, a standard multiple regression analysis was performed between the degree of perceived stress as the dependent variable and total self-compassion and self-efficacy as independent variables, to examine their predictive powers. The results of the regression indicated that the model explained 49.4% of the variance and that both variables significantly predicted levels of perceived stress, $\text{Adj } R^2 = .494$, $F(2, 329) = 162.747$, $p < .001$. The size and direction of the relations suggest that lower self-compassion and lower self-efficacy predict higher perceived stress scores. In terms of importance, self-compassion's beta value was about double that of self-efficacy. Thus, self-compassion held greater predictive power. Regression coefficients and standard errors can be found in Table 3.

As the multiple regression was significant, a moderation sought to examine whether self-compassion and self-efficacy had a synergistic effect on perceived stress when combined. Thus, self-efficacy was treated as a moderating variable using a hierarchical regression. Self-efficacy did not affect the relation that self-compassion had on perceived stress, with the interaction term explaining an additional 0% of the total variance, $p = .93$. In sum, self-compassion and self-efficacy do not interact to further decrease stress.

Table 3*Total Self-Compassion and Self-Efficacy as Predictors of Perceived Stress*

Variable	<i>B</i>	β	<i>SE</i>	<i>t</i>	<i>p</i>	95% <i>CI</i>
Constant	58.99		1.85	31.90	<.001	[55.35, 62.63]
Total Self-Compassion	-6.90	-.58	.48	-14.25	<.001	[-7.86, -5.95]
Self-Efficacy	-3.32	-.27	.51	-6.56	<.001	[-4.317, -2.325]

Note. $N= 332$; *B* = unstandardized regression coefficient; β = standardized regression coefficient; *SE* = standard error; *t* = test statistic; *p* = statistical significance; *CI* = confidence interval.

Lastly, in addition to examining whether total self-compassion predicts perceived stress, the predictive power of the individual subscales of self-compassion on perceived stress levels among first year undergraduate students was investigated. A standard multiple regression analysis was performed between the degree of perceived stress as the dependent variable and the six factors of self-compassion as independent variables (see Table 4). The results of the regression indicated that the model explained 45% of the variance and that the model was a significant predictor of perceived stress scores, $Adj R^2 = .45$, $F(6, 325) = 46.185$, $p < .001$. Of the six subscales, self-kindness, isolation and overidentification were significant predictors of stress. Specifically, the size and direction of the relations suggest that lower self-kindness, higher isolation, and higher overidentification scores predicted higher perceived stress scores. Based on the absolute beta values, isolation was the most important predictor variable, followed by over-identification and self-kindness.

Table 4*Subscales of Self-Compassion as Predictors of Perceived Stress*

Variable	<i>B</i>	β	<i>SE</i>	<i>t</i>	<i>p</i>	95% <i>CI</i>
Constant	18.819		2.720	6.919	<.001	[13.468, 24.169]
Self-Kindness	-1.420	-.151	.618	-2.298	.022	[-2.635, -.205]
Common Humanity	-.242	-.026	.515	-.471	.638	[-1.256, .771]
Mindfulness	-.682	-.068	.608	-1.121	.263	[-1.878, .514]
Self-Judgment	.845	.095	.608	1.391	.165	[-.351, 2.041]
Isolation	2.459	.307	.514	4.783	<.001	[1.447, 3.470]
Over-Identification	1.700	.199	.551	3.086	.002	[.616, 2.785]

Note. *N* = 332; *B* = unstandardized regression coefficient; β = standardized regression coefficient; *SE* = standard error; *t* = test statistic; *p* = statistical significance; *CI* = confidence interval.

Gender***Independent T-Tests***

A second research question examined whether gender moderated the relation between self-compassion and perceived stress, as well as self-efficacy and perceived stress. First, several *t*-tests were conducted using a Bonferroni correction comparing the mean gender scores by each variable (*ps.* > .01; see Table 5). Males had greater total self-compassion scores than females and the difference was statistically significant with a small effect size, *d* = .34. Similarly, males had lower overidentification scores than females and the difference was found to be significant with a medium effect size, *d* = .63. Although not significant at a level of .01, males had higher mean scores than females on the common humanity subscale and lower mean scores on the self-judgment subscale. Lastly, males reported higher levels of self-efficacy than females although the difference was not significant.

Table 5*Results of T-Test Analysis Examining Gender Differences (N = 327)*

Group	Males		Females		<i>t</i> (325)	<i>p</i>
	<i>n</i> = 129		<i>n</i> = 198			
	M	SD	M	SD		
Total Self-Compassion	2.94	.66	2.73	.57	2.974	.003*
Common Humanity	3.02	.85	2.92	.74	1.076	.283
Self-Judgment	3.36	.85	3.55	.81	-2.110	.036*
Overidentification	2.99	.88	3.51	.79	-5.581	<.001**
Self-Efficacy	3.37	.65	3.24	.55	1.88 ^a	.061

^a Degrees of freedom with Welch correction was $t(239.08)$.

* $p < .05$. ** $p < .001$.

Moderation

Because male and female mean scores of self-compassion were significantly different, gender was included as a moderating variable within the multiple regression model to investigate whether the association between self-compassion and perceived stress was affected by gender. The analysis found that self-compassion was associated with, and predictive of, perceived stress ($\beta = -.56, p < .001$). Gender was associated with, but not significantly predictive of perceived stress ($\beta = .08, p = .059$). The interaction between self-compassion and gender was not significant ($\beta = -.10, p = .076$), suggesting that the effect of self-compassion on perceived stress is not moderated by or dependent on gender. Together, the variables accounted for approximately 42.5% of the variance in perceived stress and the model was significant, $\text{Adj } R^2 = .425, F(3, 323) = 81.20, p < .001$.

Chapter 5: Discussion

The overall purpose of this study was to investigate the relations between self-compassion, self-efficacy, and well-being within first year university students. Developing a better understanding of protective factors over post-secondary students' stress is imperative in promoting student well-being during the challenging transition to tertiary education. Self-compassion and self-efficacy have been associated with post-secondary well-being in general (Neff et al., 2007; Soysa & Wilcomb, 2015) and with adaptive self-regulated learning processes (Neff et al., 2007; Phillips & Gully, 1997); however, their associations during the transition period remain uninvestigated. These constructs may be pivotal factors to target to prepare students for this transition better.

Self-Compassion, Self-Efficacy, and Stress

It was hypothesized that students high in self-compassion and self-efficacy would experience lower levels of stress. The regression analysis supported this hypothesis, and these results are consistent with past findings identifying self-compassion and self-efficacy as predictors of well-being among students (Saricaoglu & Arslan, 2013; Soysa & Wilcomb, 2015). Initially, it was expected that self-compassion would predict a greater amount of stress compared to self-efficacy, due to its more comprehensive and global nature (Neff, 2003a). Both variables were found to be significantly predictive of stress, however, self-compassion held more predictive power, thereby supporting the original hypothesis. Thus both constructs are important to consider as factors in a positive transition to post-secondary, however, self-compassion may be a particularly important construct to target.

Additionally, a hierarchical regression explored the relation between self-compassion and self-efficacy by treating self-efficacy as a moderator of self-compassion's effect on stress. Self-

efficacy did not interact with self-compassion to decrease stress levels. That is, self-compassion in combination with self-efficacy does not better protect students from experiencing greater levels of stress than either variable does on their own. These findings suggest that the relation between self-compassion and stress is not influenced by self-efficacy and that their effect on stress is independent of each other (Neff et al., 2005).

Although self-efficacy and self-compassion do not interact to influence stress, a correlation analysis found a significant positive yet small relation between the two variables. This finding is in alignment with other research on these two constructs within a post-secondary population that has also found a small to moderate positive correlation (Manavipour & Saeedian, 2016; Souza & Hutz, 2016). Thus, these results suggest that students may speak unkindly and harshly to themselves and feel alone and isolated in facing their challenges, yet still believe in their ability to succeed. That is, high levels of self-efficacy do not necessarily imply high levels of self-compassion, and vice versa. This conception is in line with Neff and colleagues' (2005) theorization of the relation between the two constructs. Overall, by the results of this study, self-compassion and self-efficacy are further validated as separate constructs lacking causality in their relation, and, while they seem similar, the two do not work together to further decrease stress and protect well-being.

In her original research, Neff (2003b) found that the components of self-compassion interact to create the overarching trait of self-compassion. In alignment with this finding, most research on the relation between well-being and self-compassion has used the total self-compassion score. However, each component of self-compassion contributes to the construct in a distinct way and thus uniquely promotes well-being. In response, this study explored the relations between the subscales of the Self-Compassion Scale and students' perceived stress. The

positive subscales of self-compassion (i.e., self-kindness, common humanity, and mindfulness) were negatively associated with perceived stress resulting in students reporting high scores on these subscales also reporting lower stress. The opposite relation was observed with the negative subscales of self-compassion (i.e., self-judgment, isolation, and overidentification). On these subscales, higher scores were associated with higher levels of stress. These findings validate Neff's (2003a) conceptualization of self-compassion, which posited that self-kindness, common humanity, and mindfulness are positive contributors to student well-being.

Lastly, a regression including the subcomponents of self-compassion was run to understand the specificities of the role of self-compassion in predicting stress. It was expected that self-kindness would be identified as a component of significant importance as previous studies have established it as a key predictor of well-being (Hall et al., 2013; Shin & Lim, 2019). The analysis supported this hypothesis. However, two negative components of self-compassion, isolation and overidentification, were also significant predictors. Neff (2003b) originally identified a mutually inclusive relation within the three components of self-compassion. That is, if one has high levels of self-kindness, it does not necessarily imply that they will have low levels of self-judgment. Thus, each negative factor of each component is its own separate factor, rather than the absolute opposite of its positive counterpart. If isolation, overidentification, and self-kindness all appear to have an influence on stress, the negative aspects of self-compassion may overshadow the other positive aspects of self-compassion as they are stronger predictors of stress than mindfulness and common humanity (positive aspects). In sum, there may be significant differences in how some components of self-compassion influence well-being with the presence of negative factors potentially having more influence than the presence of the positive factors.

The Mechanisms of Self-Compassion and Self-Efficacy

Considering the influence of self-compassion and self-efficacy on stress contributes to our understanding of their relation. Self-compassion was found to predict stress via processes of isolation, overidentification, and self-kindness. Individuals who feel that they are the only ones to have faced a challenge and tend to over fixate on their negative thoughts, experience greater levels of stress. Those who respond to their flaws with understanding and kindness experience less stress, whereas, in terms of self-efficacy, those who feel that they are not capable of succeeding or accomplishing a certain academic task experience greater stress. Thus, within an undergraduate population, it appears as though self-compassion largely affects stress through rumination on negative cognitions and perceptions that the problem is unique to the individual. To decrease stress, students are better off believing that they are worthy of self-love even in the face of failure. Such a mindset does not tap into the ability-evaluation process that is engaged in through self-efficacy (Bandura, 1982). Although self-compassion has been said to enable individuals to perceive their weaknesses and challenges clearly (Neff, 2003b), that mechanism does not appear to be at play in self-compassion's role in reducing stress among undergraduate students. Rather, speaking to oneself with love and respect, avoiding hyper fixation on negative thoughts and emotions, and refraining from adopting the perspective of being the only person to experience these challenges, are all ways in which self-compassion has the most influence on stress among first year post-secondary students. Both constructs are thus important in their own regard, and it may be due to these different mechanisms of work that a synergistic effect between self-compassion and self-efficacy was not observed.

Gender as a Moderator

The second goal of the current study was to examine gender's role as a potential moderating variable between the strength of the relation that self-compassion and self-efficacy have on perceived stress. First, this study confirmed that there were gender differences in self-compassion but not self-efficacy. Males reported greater levels of total self-compassion, a result previously identified by a group of studies (Neff, 2003b; Neff & McGehee, 2010; Yarnell et al., 2015). Within the subscales, females were more likely to engage in overidentification in the face of failure. Neff (2003a) originally suggested two opposing hypotheses: that males would have greater total self-compassion as females tend to overidentify with their problems and engage in greater amounts of rumination or that females would have greater self-compassion as they tend to have a more interdependent sense of self (Neff, 2003a). However, Neff (2003b) found that females had lower levels of self-compassion than males in terms of self-judgment, isolation, mindfulness, and overidentification. Thus, these original results were only partially replicated.

Overidentification, while not a widely used term, can be likened to rumination. Rumination, as defined by Nolen-Hoeksema (1987, 1991) is the engagement in repetitive and passive thoughts regarding one's negative affect, scrutinizing its potential causes and its consequences. Both terms refer to the process of engaging in aimless and detrimental introspection focused on negative affect. It is posited that the more an individual engages in rumination, the more intense is their distress (Noelen-Hoeksema, 1991). The findings of greater overidentification within females complements the body of literature that finds rumination levels to be higher among females than males (Johnson & Whisman, 2013) and may partially account for the gender differences found in total self-compassion.

While not significant within this study due to the Bonferroni correction, without the correction, females would have been found to be experiencing significantly more self-judgment than males. This result is also in line with Neff's (2003a) statement that women tend to be more self-critical and with Neff's (2003b) past study results.

Given that this study found that self-compassion predicted stress and there were gender differences in self-compassion, it was investigated whether being male or female interacted with self-compassion to have a different effect on stress levels among students. In this sample the stress buffering effects of self-compassion were comparable for both men and women. However, these results do not forcibly exclude the possibility of a moderation by gender at play. Further research will be required to better understand this relationship. Females have been found to experience greater self-judgment than males (Galhardo et al., 2011). In line with this finding, females have also been found to engage in greater negative self-talk and to be more critical of their actions than men (DeVore, 2013; Leadbeater et al., 1999). Thus, women seem to be engaging in more maladaptive forms of emotional coping, which include judging one's actions harshly and becoming overly attached to these negative cognitions, in response to stressors. Because these processes are associated with depression and anxiety, gender differences in emotional coping may account for women reporting greater levels of depression and anxiety disorders than males (Kessler et al., 2007; McLean & Anderson, 2009; Nolen-Hoeksema, 1987; Nolen-Hoeksema & Jackson, 2001).

Gender role theories suggest that gender beliefs and socialization lead women to engage in more negative emotional coping skills compared to men (Nolen-Hoeksema & Jackson, 2001). Women are typically recognized as the "more emotional sex" who experience and express more of their emotions and are less able to move on from their emotions than their male counterparts

(Barrett & Bliss-Moreau, 2009; Fabes & Martin, 1991). Additionally, theories have posited that males and females should cope with their emotions differently. More specifically, traditional gender beliefs claim that females use more internally focused emotional responses, such as rumination (Maccoby & Jacklin, 1974; Tamres et al., 2002), whereas men suppress their emotions and instead use more active problem-solving strategies to cope (Tamres et al., 2002). These gender beliefs, if internalized, are perpetuated in society through the upbringing of children, with parents encouraging their young sons to suppress the verbalization of their negative emotions and overcome their stressor with actions (Kuebli et al., 1995) and encouraging girls to engage in discussion of their negative emotions (Dunn et al., 1987). This expression of feelings engaged in by girls could lead to positive emotion-coping, if discussion led to overcoming these emotions (Nolen-Hoeksema & Jackson, 2001). However, for many girls, the reinforcement of the expression of negative emotions actually leads to the internalization of these emotions, often later developing into rumination as others may not always respond positively to these emotional expressions (Nolen-Hoeksema & Davis, 1999), or because they are unable to move on from the situation even after discussing it (Nolen-Hoeksema & Jackson, 2001). Thus, based on gender role theories, it does not seem as though either gender is particularly brought up to practice more self-compassion, but rather, women are brought up to engage in the negative emotion-coping strategies that correspond with the negative factors of self-compassion.

Limitations

The current study used a general measure of self-compassion. More recently, Martin and colleagues (2019) investigated the use of an academic self-compassion measure over Neff's (2003a) general self-compassion measure that was used in this study. They suggested that an academic domain specific measure of self-compassion is a better predictor of academic outcomes

and adaptive self-regulated learning processes than general self-compassion. As a general self-compassion measure was used in this study, it remains possible that academic self-compassion predicts perceived stress among first year undergraduate students better than a general measure. Future work needs to be done on academic self-compassion to better understand its predictive power over post-secondary student well-being.

Another limitation of the current study is its generalizability. Since this study only sampled from one Canadian university, it is possible that group differences exist between universities, cities, provinces or states, and countries, thereby rendering any generalizing of the results difficult. Also, some cultural differences in self-compassion have been identified (Kotsou & Leys, 2016; Zeng et al., 2016), thus these results need to be considered in terms of a Canadian population. Additionally, there are many different streams of post-secondary education (including college, trade schools, diploma programs, etc.) but this study solely sampled from a university. Group differences may exist between students of these different program streams, thus future research should also target other streams of post-secondary education. Also, the sample contained participants from a narrow age range (i.e., 17 to 20) and the GPA of the sample was rather high (i.e., 3.30). The results of the study may have differed if more mature students were included in the sample as well as if the participants were performing at a lower rate. For this reason, the results should be considered within the constraints of the current sample.

This study used only a single sample of stress, self-efficacy, and self-compassion. While fluctuations in self-compassion have yet to be studied, fluctuations in self-efficacy and perceived stress in the post-secondary population have been identified (Burger & Samuel, 2017; Doerksen, et al., 2014). During a semester, students may feel relaxed and comfortable at the beginning (i.e., January), when major assignments and exams have not yet accumulated. However, they may feel

more stressed towards the middle and end of the semester (i.e., March and April), when important deadlines overlap and they may have already faced an academic failure. As data collection occurred from January 2020 to March 2020, student responses may have differed depending on when they completed the survey. Thus, the scores are only a snapshot of each student in that moment in time. To understand these relations, measuring these variables over multiple time points would create a stronger representation of self-compassion and self-efficacy's relation to post-secondary student well-being.

Implications

The results of this study suggest that the implementation of self-compassion interventions in tandem with strategies to support the development of self-efficacy among first year post-secondary students could be beneficial. Such interventions offered prior to entering post-secondary (i.e., grade 12 students) could help to prepare them for a potentially challenging transition. In addition, these interventions should also be offered to current students, regardless of their year of study to protect all student's well-being.

Rather than simply focusing on increasing the positive aspects of self-compassion (i.e., self-kindness), interventions should also explicitly focus on decreasing its negative counterparts (i.e., self-judgment, isolation, and overidentification) as an increase in the positive components of self-compassion does not explicitly lead to a decrease in the negative components. In particular, self-kindness, isolation, and overidentification should be focused on. However, given the interactive nature of self-compassion, incorporating strategies targeting all six factors of the construct would be beneficial.

In addition to the creation and implementation of self-compassion interventions, this information could also be integrated into post-secondary classroom instruction. For example,

lecturers could incorporate information and strategies that promote self-compassion into classes throughout the term. Also, faculty awareness of self-compassion's relation to stress may help them respond to their students in a manner that maintains and promotes self-compassion. For example, if a distraught student approaches a professor regarding a failed assignment or exam, while providing them with constructive feedback, they can also respond in ways that incorporate the components of self-compassion, such as common humanity (e.g., "Believe it or not, a lot of students do not achieve all their goals.").

Lastly, results of this study also identified women as an at-risk population of threats to well-being due to their lower levels of self-compassion, particularly in overidentification. Literature has significantly demonstrated women as engaging in different types of coping than men (DeVore, 2013; Galhardo et al., 2011; Leadbeater et al., 1999) that may be more in line with the negative counterparts of self-compassion, thereby putting them at risk of decreases in well-being. Thus, these self-compassion interventions may be particularly important to female post-secondary students, due to the chance that they might have lower levels of self-compassion upon entering university. Disseminating this information (i.e., the importance of self-compassion for females) will be critical to gaining female student interest in enrollment and implementation of these interventions and supports.

Future Directions

The present study contributes to our understanding of how these three variables interact within a student population. Although there is evidence that both self-compassion and self-efficacy are important factors in supporting student well-being, future research would benefit from taking multiple measurements of these variables in time to further our understanding of their relation. Obtaining longitudinal data of real academic failures or successes and changes in

self-compassion, self-efficacy, and stress levels will provide more concrete data of these variables' relations and functions, allowing us to better systematically target them through interventions. Furthermore, the use of structural equation modeling to examine self-compassion and self-efficacy's contribution to students' motivation and emotional and behavioral coping responses, as well as their effects on student well-being, would help solidify the current understanding of the exact mechanisms at work. The latter variables are known to influence student academic performance and their ability to manage stressful or challenging situations, and have also been found to be associated with both self-relationships (Leary et al., 2007; Neff et al., 2005; Phillips & Gully, 1997; Schunk, 1990). The specificities of these relations remain relatively unknown; however, it is possible that both self-compassion and self-efficacy each create a distinct mindset that works on stress via processes of intrinsic motivation and proactive goal pursuit behaviors, with self-compassion becoming particularly important in reasoning with one's emotions in the face of failure, where self-efficacy plays a smaller part.

As the analysis of gender moderating the relation between self-compassion and stress was approaching significance, the possibility of a moderating relation remains. Future research should explore a moderating effect of gender within this relation of the subscales of self-compassion as gender differences were found within some of them. For example, it is possible that men's engagement in overidentifying behaviors or cognitions does not put them at risk of the same levels of stress as women's engagement in overidentification. Additionally, utilizing the Academic Self-Compassion Scale within this moderation might provide richer data on the matter, and may identify a significant moderation.

The influences of self-compassion and self-efficacy should be examined in specific programs and years of study. For example, certain faculties have been identified as having

particularly high stress levels and, correspondingly, particularly low levels of psychological well-being (e.g., medical students; Elias et al., 2011). These two constructs may be especially important for these students at greater risk of stress. Furthermore, the influence of these constructs on student's well-being in graduate programs remains uninvestigated, an older population of students who report significant stress levels often due to role conflicts and financial hardships (Hudd et al., 2000). While these high achieving students may be viewed as highly competent by their peers, they may particularly benefit from self-compassion and self-efficacy interventions.

Lastly, future work should focus on creating targeted university and pre-university self-compassion interventions. Given the findings that self-compassion and self-efficacy protect individuals through the transition from secondary to post-secondary education, evidence-based practices supporting the development of these two constructs must be established and implemented. Longitudinal data gathered on students' use of developed strategies during real time transition to post-secondary will provide valuable insight on their efficaciousness.

In conclusion, students transitioning to post-secondary likely experience heightened levels of stress while adjusting to their new student role (Pfund et al., 2020). If adequately prepared for this transition, students will demonstrate resilience in the face of challenges, enabling them to better manage their stress levels before their stress amalgamates into distress (Linden & Stuart, 2020). The results of this study have identified both self-compassion and self-efficacy as protective factors during the transition to post-secondary which should be targeted via intervention and prevention programs both prior to and during the transition to tertiary education. Additionally, the findings of this study demonstrate the importance of explicitly targeting the reduction of self-compassion's negative factors in addition to increasing its positive factors

within these intervention programs. Females may be at risk of greater threats to well-being during their transition to post-secondary due to lower levels of self-compassion, however, future work is required in the area. By explicitly targeting these constructs through intervention and prevention programs, students can be better prepared for this life transition and live more success in their post-secondary years.

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