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Navigating the Transition to Postsecondary Studies: Exploring the Relationships Between Perceived Stress, Coping Styles and Academic Self-Efficacy

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Navigating the Transition to Postsecondary Studies: Exploring the Relationships Between
Perceived Stress, Coping Styles and Academic Self-Efficacy

by

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A THESIS

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Abstract

The transition to postsecondary studies is a time of newfound independence and responsibility for students. This period of self-discovery and personal growth can also be challenging; some students experience increased stress due to financial constraints, forming new social relationships, moving away from home and increased pressure to perform well academically. Because recent studies have found that postsecondary students are experiencing heightened levels of stress, the aim of the current study was to identify interpersonal factors that could attenuate student stress during the transition to postsecondary studies. It investigated the relationships between perceived stress, coping styles and academic self-efficacy. Additionally, gender differences were explored across the study variables. A sample of 324 students in their first year of university completed measures of perceived stress, coping, and academic self-efficacy. A multiple regression found that coping styles (task-, emotion-, and avoidance-oriented coping) and academic self-efficacy were significant predictors of first-year postsecondary students perceived stress, accounting for 47% of the variance in the model. Specifically, students high in academic self-efficacy, who utilized task- or avoidance-oriented coping experienced decreased stress. Conversely, students who utilized emotion-oriented coping experienced increased stress. Although, there were gender differences in students self-reporting across the measures, these differences were not statistically significant. As a result, gender did not influence the relationships between students' perceived stress, coping styles and academic self-efficacy. Taken altogether, these findings suggest that building academic self-efficacy is an important resource for students as it leads to decreased perceived stress, and that both task- and avoidance-oriented coping can be effective coping styles in certain situations for managing stress.

Keywords: Transition, Postsecondary, Students, Perceived Stress, Coping Style, Academic Self-Efficacy

Preface

This thesis is the original, unpublished, and independent work of the author, O. Matyjanka. 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 wellbeing.” on October 29th, 2021.

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When I first started graduate studies, I did not know what to expect from this journey. However, one thing that remained consistent was the unwavering support I received from my family, friends, partner, peers, and colleagues. It was this very support system that provided me with the encouragement and strength I need to persevere when I faced countless obstacles completing my degree.

First, I would like to thank my family for encouraging me to follow my dreams, even when it meant I needed to relocate to another province for school. I will always treasure the memories we made during that first road-trip to Calgary where you helped me move into my dorm-room. Most of all though, I appreciate how you are always available to listen to me talk about my life through the good times and the bad. Your support means the world to me.

Second, I would like to extend my gratitude to my friends (Claire, Rachel, and Bethany). Thanks for editing my work, motivating me to continue even when I was struggling, and making me laugh when all I wanted to do was cry. The three of you truly helped me manage my stress throughout my studies and for that I am extremely grateful.

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Finally, I would like to acknowledge my research supervisor Dr. Meadow Schroeder. Thank you for sharing your invaluable knowledge and experience with me as I completed this degree. Your support and guidance as I navigated graduate studies was truly appreciated.

Dedication

Dear Dad,

Thank-you for supporting me in all my academic endeavours. You were the first person I wanted to call when I found out I was accepted into graduate studies. I will always fondly remember how proud you were of all my academic accomplishments- no matter how insignificant they were. You always encouraged me to never abandon my passion for learning and you seemed to know, even before I did, that I was capable of completing even the most challenging and demanding academic tasks. Your fervor for learning has truly motivated me throughout my entire education. You may have struggled in school, but you certainly loved to learn new things and you shared that passion with me. This research was inspired by your desires to be a lifelong learner and to help others.

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Chapter 1: Introduction

The transition from high school to postsecondary studies is a time when students exercise newfound independence and responsibility (Baghurst & Kelly, 2014; Bistricky, 2018). They go through a period of self-discovery and personal growth as they define who they are as emerging adults. However, this transitional period can also be one of significant stress for students (Linden & Stuart, 2020a). It is made challenging because of financial constraints, new friendships, and moving out of the childhood home. They also experience new demands on their time from household tasks, work, and academic expectations.

Students identify academic workload as one of their biggest stressors in postsecondary (Linden & Stuart, 2020b). They report difficulties managing deadlines for assignments and navigating multiple exams within a short period of time (Crocker & Luhtanen, 2003). Some students also feel disoriented by an increase in new content, ideas and information being taught during lectures (Bistricky et al., 2018). Consequently, students may perform below their personal standards and capabilities, which leads to feelings of goal failure (Pritchard et al., 2007). The stress associated with goal failure is concerning because it leaves students at risk of experiencing negative outcomes such as significant physical and mental health problems (Bistricky et al., 2018; Misra & McKean, 2000).

Studies suggest stress in postsecondary students has increased in the past couple of decades (Linden et al., 2021; Misra & McKean, 2000; Pritchard et al., 2007). According to the American College Health Association's National College Health Assessment II, conducted in spring 2019, approximately 50% of postsecondary students from Canadian universities reported above average levels of stress within the year the survey was completed. Of the students surveyed, 23% had felt overwhelming anxiety in the past academic year and 21% felt so

depressed it was hard for them to maintain daily activities. Stress in postsecondary students is also associated with maladaptive coping behaviours such smoking and alcohol misuse or abuse (Hudd et al., 2000; Misra & McKean, 2000; Pritchard et al., 2007). Unfortunately, decreased wellbeing can lead to impaired academic performance and premature program withdrawal (Beilock & DeCaro, 2007; Hudd et al., 2000). For instance, an analysis of data from the Youth in Transition Survey published in the 2000s, found that 7 to 16% of first-year Canadian postsecondary students prematurely withdrew from their studies in any given year (Childs et al., 2017).

Concerned with the rise in student stress and risk of dropout, the current study sought to identify interpersonal factors that facilitate reduced stress in students during their first year of postsecondary. The current study is a sub-study within a larger project exploring the effect of multiple variables on students' transition to postsecondary studies. Although the larger study measured other variables associated with self-regulated, this study focuses on the relationships between coping, academic self-efficacy, and perceived stress.

Coping is a cognitive, emotional, and behavioural response to stressful situations (Snyder & Dinoff, 1999). It is used to ameliorate physical, affective, and psychological distress caused by stressful life events or daily hassles. The responses to stressors, or coping strategies, can take on many forms (i.e., problem-solving, avoidance, social support seeking, or emotional reactivity; Skinner et al., 2003). When individuals use similar types of coping strategies to manage stressors, these are referred to as coping styles (Folkman & Mosowitz, 2004).

Endler & Parker (1990a,b) categorized coping into three main styles: task-oriented, emotion-oriented, and avoidance-oriented. Task-oriented coping relies on cognitive strategies that promote problem-solving in response to a stressful situation. This coping style is associated

with positive wellbeing and decreased stress because individuals use cognitive strategies to problem solve or manage stressors. For example, individuals who must study for multiple exams in a short timeframe may actively create a plan that includes time management and study strategies to cope with the stressful situation.

Emotion- or avoidance-oriented coping utilize subconscious strategies that are a response to uncontrolled, automatic reactions to stressors (Lazarus & Folkman, 1984). For example, rather than using problem-solving strategies in response to having multiple exams in a short period of time, individuals might cope by fixating on their feelings of stress in their attempt to regulate their emotional responses. Or they might avoid the stressor by socializing with friends. In some situations, using emotion or avoidance-oriented coping can be maladaptive to the situation. For instance, if students become overly reliant on these coping styles and do not working towards attenuating their stress, it can lead to increased stress in the long-term (Lazarus & Folkman, 1984).

Academic Self-efficacy is the belief in one's ability to learn and implement strategies or skills in order to achieve goals related to academic demands (Zimmerman & Schunk, 2008). Academic self-efficacy influences the complexity of learning skills and strategies that students implement. Students high in academic self-efficacy are willing to learn and implement strategies that will help them achieve their academic goals and obtain higher academic standings (Jansen et al., 2015; Lee et al., 2014; Schunk & Pajares, 2005). Consequently, after accounting for measures of general cognitive and academic abilities, academic self-efficacy is considered one of the most critical factors accounting for student achievement (Hsieh et al., 2007; Travis et al., 2020). It is also positively associated with students' wellbeing (Bücker et al., 2018).

Individuals with higher self-efficacy are more likely to perceive an academic goal as challenging rather than stressful because they perceive that they have the required resources to achieve that goal (Freire et al., 2016). Thus, these individuals are more likely to utilize task-oriented forms of coping to meet those challenges (Freire et al., 2016). For postsecondary students who are experiencing new challenges and potential goal failure, self-efficacy, and the use of task-oriented coping strategies, may help them successfully cope with stressful situations. The current study will examine the relationships between perceived stress, coping styles and academic self-efficacy. It will specifically explore the effect of coping styles and academic self-efficacy on perceived stress in first-year postsecondary students. Because previous research has shown gender influences individuals' perceptions of stress, the coping style(s) they implement and their levels of academic self-efficacy, gender differences across these variables will also be evaluated in this study.

Significance of the Study

The results of this study have the potential to contribute to the literature on perceived stress, coping and self-efficacy within the postsecondary context. Previous research in this area has primarily focused on general or global self-efficacy and has not taken into account how individuals' levels of self-efficacy may differ within the academic domain. By focusing specifically on students' academic self-efficacy, researchers can better understand students' perceptions of their abilities to complete academic tasks, which has meaningful implications for students' educational outcomes (e.g., grade point averages, enjoyment for learning, or indicators of career readiness). Given growing concerns about the increasing stress levels of postsecondary students and the negative effect of stress on wellbeing and mental health outcomes, it is important to identify individual factors that help students manage stressful situations throughout

the duration of their postsecondary programs. Data from this study may inform the development and implementation of interventions that promote postsecondary readiness (i.e., fostering skill development by teaching various coping strategies such as time management, organization, goal setting and monitoring). Furthermore, such interventions would provide students with knowledge about the primary differences between high school and postsecondary and it would help them understand what to expect once they start postsecondary classes (e.g., that classes take place in lecture halls, you're expected to take notes during class to use for study purposes, or assignments and exams may be more challenging as you're expected to demonstrate an in-depth understanding of the course content). This type of psychoeducation would help students' better cope or manage their stress during this major transitional period. Because the majority of students find the transition to postsecondary studies overwhelming, it is important to promote the development of self-efficacy and adaptive coping styles during middle school and high school. This has the potential to decrease students stress and enhance their wellbeing once they navigate the transitional period between high school and postsecondary studies.

Chapter 2: Literature Review

This chapter will identify the importance of investigating students experiences during the transition from high school to postsecondary studies. Additionally, it will define stress and summarize relevant literature on how it affects students' daily lives. This will be supplemented with a discussion of coping and academic self-efficacy. Definitions of these concepts will be presented followed by a discussion of their interactional relationships.

The Transitional Period from High School to Postsecondary

Approximately 70 % of Canadian students who graduated high school in 2016 enrolled in postsecondary studies (Statistics Canada, 2016). There has been an upward trend of enrolment over the past two decades with enrolment rates steadily increasing every year since the early 2000s. This trend has likely developed because of an evolving labour market that requires more educational requirements before entering the work force (Statistics Canada, 2016). Employer's value postsecondary education as they aim to maximize their employees' potential skills and abilities (Tomkowicz & Bushnik, 2003). Additionally, students view postsecondary education as a way to pursue careers that can foster social and economic prosperity (Tomkowicz & Bushnik, 2003). Because postsecondary education plays an integral role in students career prospects, it is imperative that researchers, teachers, parents, and school psychologists understand the risks and benefits associated with the transition from high school to postsecondary studies.

There are numerous personal and social benefits associated with attending postsecondary. Students who complete a postsecondary program tend to obtain a higher income, experience better health, and have greater job security (Oreopoulos & Salvanes, 2011). However, postsecondary students are also at increased risk of experiencing heightened stress and psychological disorders (Auerbach et al., 2017). This may occur as the majority of students

entering postsecondary studies are navigating the developmental period known as emerging adulthood. During this time, they must define who they are as individuals, while managing increased independence and responsibility (Baghurst & Kelly, 2014; Bistricky, 2018). As such, they experience heightened stress due to competing financial, academic, and interpersonal demands (Wiens et al., 2020). Experiencing heightened stress for prolonged periods of time has an adverse effect on these students physical, emotional, mental, social and behavioural wellbeing (Eisenberg et al., 2007; Holinka, 2015; Miczo et al., 2006; Zadlin et al., 2020). Additionally, it also negatively impedes their academic abilities as it is associated with impaired academic performance, disengagement, dissatisfaction and premature program withdrawal (Eisenberg et al., 2009; Frazier et al., 2019; Linden & Stuart, 2020; Lisnyj et al., 2021).

Concerned with the impact heightened stress has had on students physical, emotional, mental, social, and behavioural wellbeing, as well as academic performance, researchers have evaluated students perceived stress over the past couple decades. Data suggests that during this time students stress levels have increased (Linden et al., 2021; Misra & McKean, 2000; Pritchard et al., 2007). Specifically, according to data collected in the spring of 2019 from the American College Health Associations National College Health Assessment II, approximately 50% of postsecondary students from Canadian universities reported above average levels of stress the year the survey was completed. Additionally, 23% of the students surveyed had felt overwhelming anxiety in the past academic year and 21% felt so depressed it was hard for them to maintain daily activities. This is particularly alarming as heightened stress in students has also been linked to increased engagement in maladaptive coping (e.g., smoking and alcohol misuse or abuse; Hudd et al., 2000; Misra & McKean, 2000; Pritchard et al., 2007), which can negatively

impede academic performance and lead to premature program withdrawal (Beilock & DeCaro, 2007; Hudd et al., 2000).

Based on this information, it is paramount that researchers investigate specific factors that can aid in ameliorating students' distress during the transition from high school to postsecondary studies. Understanding factors that can help students manage their stress during this transitional period can help ensure that students are experiencing optimal levels of stress that facilitate enhanced wellbeing and increased academic performance; thus, leading to a more positive postsecondary experience.

Stress

Stress is conceptualized in multiple ways. First, stress can be viewed as negative changes within the environment such as painful stimulation, noise, or arguments (González Ramírez & Landero Hernandez, 2007). Alternatively, it can be considered a biological reaction that activates an individual's sympathetic nervous system; consequently, resulting in the release of catecholamines or cortisol, which can trigger emotions such as anxiety or anger. Lastly, stress is seen as an interactional process between an individual and the environment. In accordance with the latter view, stress is regarded as a biological and physiological response that occurs when individuals encounter a real or perceived threat with which they cannot cope (Folkman & Lazarus, 1985).

The stress that results from the interaction between an individual and the environment can be either positive or negative (Folkman & Lazarus, 1985). If individuals perceive that they have sufficient resources to cope with stress, they may view a stressful situation as a challenge they are capable of overcoming (Folkman & Lazarus, 1985). If they see the situation as manageable, individuals typically experience stress in a positive way because overcoming it can

promote resilience (Aschbacher et al., 2013). Distress, or negative outcomes of stress can occur when individuals encounter a situation in which they lack resources (e.g., time, social support, and/or cognitive strategies) to ameliorate the source of their stress (Phillips, 2013). When distress occurs for a short period of time it is often referred to as acute stress (American Psychological Association Dictionary of Psychology, 2020), but if individuals experience heightened distress for prolonged periods of time it is classified as chronic stress (American Psychological Association Dictionary of Psychology, 2020). The latter classification of stress is especially problematic as it is associated with many adverse health outcomes such as heart disease, obesity, anxiety, and depression (Aschbacher et al., 2013; Cohen et al., 2012).

Successful resolution of the stress can be positive but too much stress can be detrimental to health. Therefore, there is an optimal level of stress for individuals to be motivated to find ways to manage the situation (i.e., an appropriate amount of stress required to facilitate enhanced mental and physical performance). Optimal stress can help individuals be more productive, creative, and confident (Simonelli-Muñoz et al., 2018). Individuals who experience optimal levels of stress may also maintain a greater sense of control over their environment (Simonelli-Muñoz et al., 2018). Because postsecondary students typically report above average levels of stress associated with chronic stressors (American College Health Association, 2019), it is important that we identify factors that can help ease postsecondary students' distress; thus, ensuring they can experience the positive benefits of optimal stress (e.g., heightened motivation to fulfill goals) rather than the negative effects of chronic stress (e.g., heart disease, obesity, anxiety, or depression).

Measurement of Stress

Since stress was first conceptualized, researchers have used various methods to measure acute and chronic stress. Prior to 1984, stress was evaluated objectively by exploring how individuals were affected by different forms of stress such as unemployment (Dooley & Catalano, 1979), bereavement (Strobe et al., 1982), exposure to intense noise (Cohen & Weinstein, 1981), or high population density (Sundstorm, 1978). Additionally, individuals' responses to multiple forms of stress were tabulated to evaluate the cumulative effects of multiple stressors on individuals physical and psychological wellbeing (Cohen et al., 1983). These scores were based on the number of stressful events that had occurred within a specific timeframe (e.g., six months up to a year), or from judges' ratings of individuals' difficulties adjusting to stressful events. This type of evaluation allowed researchers to estimate the increased risk of disease linked to the occurrence of stressful life events. Furthermore, the measurement techniques that were employed were simple and they reduced errors associated with individuals' potential subjective and biased perceptions that may lead to reporting errors. A major drawback to analyzing stress in this manner is that it implies that stressful situations are the cause of pathology, which contradicts the current understanding of how individuals actively interact with their environments while appraising potential threats and evaluating their coping resources (Lazarus, 1966).

According to Lazarus (1966), individuals experience negative effects from a stressor if they evaluate it as a threat and they do not have sufficient cognitive resources available to cope with it. It is not the intensity of the stressor that results in individuals experiencing physiological, emotion and cognitive symptoms of stress; rather, the response is based on the appraisal of the threat. Due to the discrepancy between how stress was defined and how stress scales measured

the construct, researchers began investigating subjective measures to evaluate individuals' perceptions of how various stressful situations have impacted their wellbeing. Thus, perceived stress is measured as individuals' thoughts or feelings regarding how much stress they are currently experiencing during a specific timeframe (Cohen et al., 1983).

Coping

Since the twentieth century, multiple operational definitions of coping have attempted to concisely summarize the cognitive, emotional, and behavioral aspects of this phenomenon. Coping was first described by White in 1974. He defined coping as a context-specific process in which individuals must adapt to difficult situations. Hann (1977) added to this definition when she characterized coping as flexible and purposeful behaviours that integrate conscious and preconscious desires in order to process distressing emotions in a composed manner. Following Hann's (1977) definition of coping, Lazarus and Folkman (1984) classified coping as a constant flux of cognitive and behavioural efforts to manage internal and external stressors that are regarded as taxing. Moos (1993) enhanced this definition of coping by clarifying that coping is a stable factor that aids in psychosocial adaptation during times of stress. They viewed coping as any cognitive or behavioural effort to reduce or eliminate stressors.

The operationalization of coping that started in the 1970s led to the current definition of coping that is frequently utilized within research today: coping is a cognitive, emotional, and/or behavioural response that is initiated to manage stressful situations (American Psychological Association Dictionary of Psychology, 2020). Its primary aim is to attenuate physical, emotional, and psychological distress that stems from stressful life events and daily hassles (Snyder & Dinoff, 1999). Despite these definitions, researchers have been divided on the theories of coping

or how individuals engage in coping. The next section will discuss macro- and micro theories of coping, and the types of strategies used to reduce stressful situations.

Theories of Coping

There are two common classifications to describe the structure of coping. First, coping structure can be understood from either a macro- or micro-analytic level. Second, coping structure can be evaluated as either a trait (i.e., fixed) or state (i.e., flexible) process.

Macro-Analytic Level Coping Theories. These coping theories assess the construct of coping generally. They provide an overarching idea of what constitutes coping based on the underlying principle of approach versus avoidance. Macro-analytic theories posit that individuals' have an innate inclination to psychologically orient themselves either towards or away from a stressful situation or stressor (Chronister & Chan, 2006; Roth & Cohen, 1986). Furthermore, most of these theories often show approach versus avoidance dichotomies in the form of two opposing coping responses (Krohne, 1996). There are many dichotomies proposed to explain the response to a stressor including repression versus sensitization (Byrne, 1961), avoidance versus vigilance (Cohen & Lazarus, 1973), or attention versus rejection (Mullen & Suls, 1982). For instance, an individual who fails an exam may cope by either not thinking about the situation (i.e., avoidance) or studying more for the next exam to ensure they do not fail again (i.e., vigilance). These dichotomies are currently widely discussed within coping literature. However, some researchers and theorists have started assessing coping at a more minute level by assessing individual differences in coping responses.

Micro-Analytic Level Coping Theories. These types of coping theories were created to account for individual differences in coping responses. At a micro-analytic level, coping is viewed as a situation-specific behaviour that is defined by the type, severity, timing, and amount

of stress encountered (Endler & Parker, 1990a,b; Carver et al., 1989; Lazarus & Folkman, 1984). Micro-analytic level coping theories are generally divided into trait (e.g., fixed) or state (e.g., flexible) approaches.

Trait-Based Classifications of Coping. Trait-based classifications of coping ascertain that innate personality dispositions influence how individuals perceive, react, and behaviourally respond to stressful situations. Responses become a style of coping when individuals habitually utilize the same group of coping strategies (Greenaway et al., 2015). Although coping styles are often formed subconsciously (Frydenberg, 2017), if individuals are self-aware, they may intentionally choose to utilize a specific coping style because they recognize it is the best fit for the situation. These individuals draw upon previous experiences with similar stressful situations to determine appropriate coping strategies or styles that were effective in the past (Frydenberg, 2017). Because individuals habitually utilize a specific style of coping, researchers can measure coping as a stable trait across individuals; thus, revealing consistent ways each individual deals with stress over time. This is accomplished by identifying and categorizing distinct coping behaviours or strategies that are representative of specific coping styles (e.g., task-, emotion- or avoidance-oriented coping; Greenaway et al., 2015).

The study of coping styles as trait-based has been criticized for not considering the context in which the individual attempts to cope (Folkman & Lazarus, 1985; Lazarus, 1991). Even though individuals tend to use similar coping strategies, environmental factors may play a role in the type of coping strategies they chose to implement. To address this criticism, some theorists moved to state-based theories of coping.

State-Based Classifications of Coping. State-based classifications of coping view coping as a dynamic process that changes across various situations (Daniels & Harris, 2005). Rather than viewing individuals as stuck on one style of coping, their response can change depending on

the specific problem; therefore, it is a more fluid method of coping. As a result, hundreds of coping strategies are possible, which make it difficult for researchers to identify clusters of coping strategies that represent coping styles.

Models of Coping

Coping models can be divided into two main categories: transactional or multidimensional. Both types of coping models focus on integrating macro- and micro-analytic theories of coping. However, they differ in the degree to which they each emphasize state and trait coping.

Transactional Models. Transactional models are microanalytic and state-based in that they focus on the interplay between situational and cognitive processes rather than the result of specific innate personality traits. Lazarus and Folkman (1984) are the pioneers of transactional stress and coping research. Their Transactional Theory of Stress and Coping informs the majority of coping and stress research that is conducted today (Lazarus, 1966; Lazarus & Folkman, 1984). The transactional model seeks to explain how individuals' perceptions of stimuli in the environment can activate a stress response that leads to the initiation and implementation of specific coping strategies. First, during *primary appraisal* individuals assess and evaluate stimuli within their environment to determine if they are threatening. If so, they are considered stressors. Then during *secondary appraisal* individuals use coping strategies to manage their emotional response and to manage the situation. Positive emotions reduce stress and negative emotions (distress) are associated with unresolved or unfavourable resolutions. If coping strategies do not successfully eliminate the stressor, this results in distress (Lazarus & Folkman, 1984).

The meaning ascribed to an event mediates the intensity and duration of a stress response (Boyd et al., 2009; Lazarus & Folkman, 1984; Oliver & Brough, 2002). Due to variation in individuals' perceptions, there is "great variation in the appraisals people make in the same environmental context" (Lazarus, 1991, p. 6). Therefore, whether or not coping strategies are initiated and whether the stressor is resolved is directly linked to an individual's perception of the stressor rather than if the stressor is a real threat.

There are two primary courses of action for responding to a stressor: emotion- and problem- focused coping. Emotion focused coping occurs when individuals believe they have insufficient resources to remediate the stressor. As a result, they respond by avoiding the stressor. This can be beneficial in short-term situations; however, when emotion focused coping is used for prolonged periods of time it has a direct negative effect on individuals' stress levels.

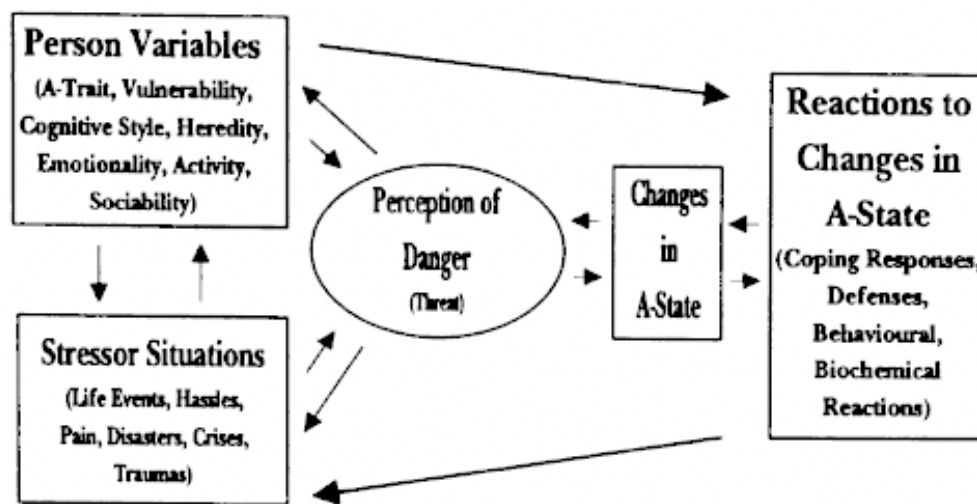
Problem focused coping occurs when individuals actively create and implement a plan to decrease or stop the effects of a stressor within the environment. Consequently, as individuals utilize problem-focused coping, their stress levels decrease (Lazarus & Folkman, 1984). This suggests that problem-focused coping has greater long-term benefits for student wellbeing than emotion-focused coping.

Multidimensional Models. Multidimensional models also evaluate coping from a microanalytic and state-based perspective. However, they incorporate trait-based features (i.e., personality attributes) within their framework (Endler, 1997). These models focus on the dynamic interactions between coping, personality, cognitive appraisal, and environmental contexts. (Suls et al., 1996). Endler and Parker (1990a,b) argued that interaction models of coping (e.g., Lazarus & Folkman's Transactional Model of Stress and Coping) are insufficient because they do not account for the influence of personal factors (e.g., personality characteristics like state and trait anxiety) on coping and perceptions of stress. Their Multidimensional Model of

Stress, Anxiety and Coping (1990a,b) explores the interplay between stress, trait and state anxiety and coping. *Trait anxiety* is the predisposition to feel nervous or anxious in stressful situations, whereas *state anxiety* is an emotional response to stressful situations. The latter is characterized by a physiological reaction, cognitive worries and feelings of apprehension, dread, or tension (Spielberger, 1966). Figure 2 outlines the multidimensional relationships within and between each component of Multidimensional Model of Stress, Anxiety and Coping.

Figure 1

The Interaction Model of Stress Anxiety and Coping



Note: Material from “Stress, Anxiety and Coping: The Multidimensional Interaction Model,” by N. S., Endler, 1997, *Canadian Psychology = Psychologie Canadienne*, 38(3), p. 140 (<https://doi.org/10.1037/0708-5591.38.3.136>).

Personal variables (e.g., trait anxiety and/or cognitive style) interact with situational variables (e.g., stressful events) to influence the perception of a situation (e.g., interpreting the situation as threatening, dangerous, or pleasurable). This in turn causes changes in individuals state anxiety. Following this change in state anxiety, individuals will demonstrate cognitive, behavioural and/or biochemical/physiological reactions. For example, individuals who have an

intense fear of being evaluated by others would exhibit trait anxiety because they would have a predisposition to feel worried, anxious, or apprehensive if they had to give a presentation to a class. If they perceived this situation as threatening, it would signal changes in their state anxiety and cause them to react by initiating coping responses such as internal positive self-talk (e.g., “I can do this”), behavioural responses (e.g., speaking quietly and/or rapidly) and biochemical/physiological reactions (e.g., sweating profusely, shaking, or avoiding eye contact). Endler and Parker (1990a,b) developed the Coping Inventory for Stressful Situation to measure how individuals manage or cope with changes in their state anxiety. They identified three types of coping styles (i.e., task-, emotion-, and avoidance-oriented coping) to deal with stress.

Task-Oriented Coping. This form of coping decreases feelings of anxiety and helps de-escalate stressful situations by seeking solutions to problems (Endler & Parker 1990a,b). Considered an adaptive form of coping, the use of task-oriented coping is associated with decreased stress in students (Lazarus & Folkman, 1984; Zeidner & Saklofske, 1996) and enhanced satisfaction with life (Deniz, 2006; Pavot & Diener, 2007). However, there are mixed findings regarding task-oriented coping’s ability to predict student stress. Some researchers (e.g., Cummings & Dwyer, 2001; Endler & Parker, 1990a,b) found that task-oriented coping significantly predicts reduced stress, whereas others (e.g., Mahmoud et al., 2012; Renk & Smith, 2007) did not find it to be a significant positive predictor of reduced student stress. Due to these conflicting findings future research should seek to clarify whether or not the use of task-oriented coping strategies can significantly predict reduced student stress.

Emotion-Oriented Coping. This coping style results from the elicitation of an emotional response amid a stressful situation (Endler & Parker, 1990a,b). Emotional responses may not be adaptive because they can involve self-preoccupation and fantasizing. For example, students who

utilize emotion-oriented coping might fantasize about alternative pleasurable experiences instead of studying for their exams. Alternatively, they may become preoccupied with their feelings of anxiety or stress and focus on regulating their emotions rather than starting tasks.

Avoidance-Oriented Coping. This form of coping involves actively ignoring stressful situations (Endler & Parker 1990a,b). Strategies include seeking social interactions with others or completing alternate tasks to distract oneself from the situation. Like emotion-oriented coping, avoidance-oriented coping can also be a maladaptive response to a stressor because it involves retreating or withdrawing from a stressful situation instead of seeking a solution (Mahmoud et al., 2012; Renk & Smith, 2007). Students who use these passive forms of coping are more likely to report heightened levels of psychological distress (Cummings & Dwyer, 2001; Endler & Parker, 1990a,b; Lazarus & Folkman, 1984).

Although task-oriented coping is considered the most adaptive approach for alleviating a stressor, the type of coping strategy chosen is influenced by individuals perceived control of a situation and their available coping resources. Those who believe they have a high level of control over their current situation and also have sufficient resources to manage the stressful situation tend to employ more task-oriented coping methods, whereas those with less perceived control and insufficient coping resources typically utilize more emotion- or avoidance-oriented coping methods (Arslan et al., 2009; Nogaj, 2017). However, at times, when there is limited control of a situation and individuals have minimal resources to cope with the stressor, emotion-oriented and avoidance-oriented coping can be a beneficial response to a situation (Austenfield & Stanton, 2002). Instead of experiencing failure when attempts at problem solving do not work, the stressor is temporarily attenuated through the use of emotion or avoidance coping. This is advantageous as it allows individuals a temporary reprieve from the stressor, which can help them focus on enhancing their coping resources. Once this occurs these individuals will likely

feel more control over the situation in the future and thus will be more likely to use task-oriented coping.

Due to the comprehensive nature of Endler and Parker's (1990a,b) Multidimensional model of anxiety, stress, and coping, it will be utilized within the current study to assess how first-year students cope during their transition to postsecondary studies. This measure assesses which coping style(s) individuals habitually utilize in times of stress. It explores all three of the previously mentioned coping styles (task-, emotion-, and avoidance-oriented). Utilizing this scale, will allow researchers to understand how first-year students' respond to stressful situations within a postsecondary educational environment.

Self-Efficacy

Self-efficacy refers to individuals' beliefs in their ability to achieve a desired outcome even if it is challenging (Bandura, 1977). According to Bandura, self-efficacy consists of two major parts. The first, *outcome expectancies*, are the perception that a particular behaviour will result in certain outcomes. The second part, *efficacy expectations*, are individuals' perceptions of how successful they will be at executing behaviours necessary for producing positive outcomes. Taken altogether, individuals who are self-efficacious will believe they can execute a behaviour *and* generate a successful outcome.

To fulfill both aspects of self-efficacy, individuals tend to attempt activities they feel confident they can complete successfully and avoid activities beyond their skill set. Furthermore, individuals' efficacy expectations influence how much effort they put into an activity, as well as how long they will persevere if faced with challenges and/or other aversive experiences. Repeated success or failure at a task, influences the likelihood that individuals will attempt a similar task in the future and are based on the ability to master specific skills or activities.

Feelings of accomplishment are influential in the development of self-efficacy. However, self-efficacy is also influenced by the observation of others' successes at a task, from receiving encouragement, or experiencing negative emotional arousal (e.g., sweating; Bandura, 1977).

Self-Efficacy and Stress

There is a negative association between self-efficacy and stress (Torres & Solberg, 2001; Zajacova et al., 2005) such that those with higher self-efficacy tend to report lower stress (Au, 2015). A similar finding is found within the postsecondary context (Saleh et al., 2017). Furthermore, Soysa and Wilcomb (2015) found that high self-efficacy was predictive of decreased stress in postsecondary students. This demonstrates how self-efficacy can act as a protective factor to buffer individuals perceived stress. Those with greater self-efficacy feel they have the cognitive resources required to cope with a stressful situation (Lazarus, 1966) and this reduces the severity of their stress response when they encounter a stressor. That is, the appraisal of the threat is reduced by the belief that if effort is put into overcoming the challenging situation, the stressor will be lessened and/or removed.

Self-Efficacy and Coping

Although there is strong empirical evidence connecting the three different types of coping styles (task-, emotion-, and avoidance-oriented) and stress, there is considerably less known about the relationship between these coping styles and self-efficacy. Luzzo and McWhirter (2015) found that individuals who maintain a strong sense of self-efficacy are better equipped to overcome obstacles that are associated with stress (i.e., they are better equipped to directly cope with stress). Furthermore, there is a positive relationship between academic self-efficacy and task-oriented coping (Konaszewski et al., 2019). Those who have strong beliefs in their abilities utilize problem focused coping strategies to meet their goals.

Conversely, there is some evidence to suggest that individuals with low self-efficacy may label certain stressful situations or issues as being more difficult than they actually are, which may lead to increased stress, burnout and inefficiency in problem solving (Yang, 2015). Individuals who have low self-efficacy may be prone to utilizing coping styles such as emotion- or avoidance-oriented coping that do not require active planning or problem solving. This is supported by additional studies that have found a negative relationship between self-efficacy and emotion-oriented coping (Chwalisz et al., 1992; Dahlbeck & Lightsey Jr 2008; Konaszewski et al., 2019). Furthermore, researchers (e.g., Cummings & Dwyer, 2001; Konaszewski et al., 2019) found evidence that there is no significant association between academic self-efficacy and avoidance-oriented coping.

Academic Self-Efficacy. In the early 21st century, research on self-efficacy shifted to the academic context. Since then, researchers have focused on exploring *academic self-efficacy*. This refers to students' perceptions of their abilities to learn and implement strategies or skills to achieve specific academic goals (Schunk & Pajares, 2002; Zimmerman & Schunk, 2008). The primary focus has been on evaluating the impact of academic self-efficacy on academic performance (e.g., Honicke & Broadbent, 2016; Richardson et al., 2012; Talsma et al., 2018). After accounting for measures of general cognitive and academic abilities, academic self-efficacy is one of the most critical factors accounting for student achievement (Hsieh et al., 2007). Specifically, greater academic self-efficacy is associated with higher grade point averages during postsecondary studies (Jansen et al., 2015; Liem et al., 2008; Travis et al., 2020). A strong sense of academic self-efficacy is also highly associated with elevated levels of motivation and increased student retention (Džinović et al., 2019; van Herpen et al., 2017).

Given the evidence for the beneficial association that self-efficacy and coping appear to have on how students respond to stressful situations, the current study examined the combined

effect that self-efficacy and coping may have in postsecondary students perceived stress. Furthermore, even though previous studies have linked general self-efficacy to different coping styles (i.e., task-, emotion- and avoidance-oriented coping), there is a paucity of research on the relationship between coping styles and academic self-efficacy. The current study aims to address this gap in the literature.

The Effect of Gender on Perceived Stress, Coping Style, and Academic Self-Efficacy

Within the literature on self-regulated learning and academic stress, gender has been considered a possible factor in how students cope and view their ability to achieve tasks. There have been mixed findings on gender reports of stress in the academic context. Some studies found that female students reported higher levels of stress (Fornés-Vives et al., 2012; Karaman et al., 2019; Shamsuddin et al., 2013), and others found that male students reported higher levels of stress (Acharya, 2003; Ahern & Norris, 2011). However, the predominant trend was that females reported higher stress than females.

There appear to be more definitive trends regarding gender differences in coping styles. Multiple studies have found that females were more likely to endorse using emotion-oriented coping and males were more likely to endorse using task-oriented coping (e.g., Folkman & Lazarus, 1980; Ptacek et al., 1992; Renk & Smith, 2007). Studies have been mixed on gender differences in avoidance-oriented coping. Berzonsky (1992) found that males have a higher propensity to use this coping style and other researchers have found females are more likely to engage in avoidance-oriented coping (Haarr & Morash, 1999). Even though there are mixed results regarding the effect of gender on individuals use of specific coping styles, the overall trend in the literature emphasized that females typically engage in emotion-oriented coping, whereas males typically engage in problem- and/or avoidance-oriented coping.

Another popular area of research is exploring potential gender differences in self-efficacy. Bandura (1997) and Gecas (1989) have proposed that self-efficacy is affected by the socialization of gender. Males and females may feel pressure to conform to societal views of gender and see some tasks as better done by males or females (Bussey & Bandura, 1999). To illustrate, males supposed to be better at math; therefore, females develop low perceptions of their mathematical abilities and overestimate how difficult mathematics actually are (e.g., Buchanan & Semon, 2008; Diseth et al., 2014; Eccles, 1989; Saleh et al., 2017). Indeed, some studies have found that students' self-efficacy changes in accordance with subject (e.g., language arts or mathematics). Females have higher academic self-efficacy in language arts and males have stronger beliefs in their abilities to complete mathematical tasks. However, with some exceptions (e.g., Guvercin, 2008), males tend to report higher academic self-efficacy than females regardless of subject area (Anderman & Young, 1994; Huang, 2013). Since males tend to report higher academic self-efficacy across all subjects, it was hypothesized that they would report greater self-efficacy than females in the current study. Furthermore, based on the predominant trends regarding gender differences in stress and coping styles in this previous research, the current study explored how gender might influence first-year postsecondary students' perceived stress, coping styles and academic self-efficacy.

Present Study

The primary goal of the current study is to explore the relationships between perceived stress, coping styles and academic self-efficacy in first-year postsecondary students. Furthermore, based on these results, the current study will investigate if, how and to what degree coping styles and academic self-efficacy cumulatively effect first-year postsecondary students perceived stress. Due to previous research findings regarding the effect of gender on perceived

stress, coping styles and academic self-efficacy, gender differences across these variables were also explored in the current study.

This study seeks to answer the following research questions:

1. *Are there gender differences in students' perceived stress, use of coping styles and academic self-efficacy?*

Based on the extant research on gender differences that demonstrated consistent trends where females reported heightened stress and use of emotion-oriented coping styles, and lower academic self-efficacy than males, it is predicted that females in the current study will report higher levels of stress than males and they will be more likely to endorse using emotion-oriented coping. Females will also likely show lower levels of academic self-efficacy than males.

Furthermore, based on research trends that showed males were predominantly more likely to use task- and avoidance-oriented coping than females and report higher academic self-efficacy than females, it is also predicted that, in the current study, males will report using task- and avoidance-oriented coping styles more than females, and they will demonstrate stronger academic self-efficacy.

2. *What are the relationships between first-year postsecondary students' perceived stress, coping styles, and academic self-efficacy?*

Due to the positive relationships between both emotion- and avoidance-oriented coping and stress, it is hypothesized that as students' use of emotion- and avoidance-oriented coping increase so will be related to increased perceived stress. Conversely, it is hypothesized that there will be an inverse relationship between task-oriented coping and perceived stress. This is likely to occur as task-oriented coping is often associated with decreased stress and enhanced wellbeing.

Based on the extant research, it is predicted that, students' who have high academic self-efficacy will be more likely to report lower levels of stress. It is also hypothesized that as students' academic self-efficacy increases, so will their use of task-oriented coping styles. Conversely, it is hypothesized that students who have low academic self-efficacy will utilize emotion and/or avoidance-oriented coping styles. This is likely to occur as students who lack strong convictions of their academic capabilities will likely gauge specific academic tasks as being more difficult than they actually are, which may prevent them from utilizing task-oriented coping.

3. *Do first-year postsecondary students' coping styles and academic self-efficacy cumulatively predict perceived stress?*

Previously, it has been shown that academic self-efficacy and coping style are significant predictors of students' stress. Based on these findings, it is hypothesized that task-oriented coping and self-efficacy will predict lower stress in first-year postsecondary students. Conversely, it is hypothesized that emotion oriented and avoidance-oriented coping will predict higher stress within this sample.

Chapter 3: Method

Participants

First-year students from the University of Calgary were recruited to participate in this study. The University of Calgary is a large university located in Western Canada. It had a student body of 33,000 students of which 26,000 were enrolled in undergraduate programs (University of Calgary, 2021). Of the first-year students completing undergraduate degrees (approximately 6,500), 354 students participated in this study. Of the 354 students who responded, 30 were removed for one of the following reasons: a) they were not in their first year of university, (b) they were not a student at the University of Calgary, or (c) they did not complete 80% or more of the online survey. A total of 324 students remained. Students in the sample identified as male ($n = 127, 39.1\%$), female ($n = 194, 59.7\%$), nonbinary ($n = 2, 0.6\%$), and transgender ($n = 1, 0.3\%$). One student did not disclose their gender identity. The mean age of participants was 18.08 years ($SD = .39$, range 17-20), and participants' grade point averages (GPAs), on a 4-point scale, ranged from 1.2-4.0 ($M = 3.30, SD = .53$).

Measures

Participants completed a survey that contained demographic questions along with standardized questionnaires. The data were part of a larger study. For the purposes of this research study, measures of academic self-efficacy, coping styles, and perceived stress are included in the analysis.

Perceived Stress

The Perceived Stress Scale (Cohen et al., 1983) is 14-item instrument consisting of a five-point Likert scale ranging from zero (*never*) to four (*very often*). On each item, respondents rate the degree to which they have experienced specific thoughts or feelings during the last

month (i.e., “In the last month, how often have you been upset because of something that happened unexpectedly?”). Seven items in this measure were reverse coded prior to summing the responses to calculate a total score out of a possible 70. Larger scores are indicative of greater perceived stress.

Cohen and colleagues (1983) reported that the perceived stress scale had strong test-retest reliability ($r = .86$) and adequate internal consistency ($\alpha = .78$). Cohen et al. also tested the scale for construct validity using two samples of undergraduate students. They correlated students perceived stress scores with a) the number of stressful life events students had experienced, b) the impact these stressful life events had on students daily functioning and c) students reported mental health symptomatology. Although scores on the perceived stress scale were weakly associated with the number of stressful life events students experienced ($r = .17 - r = .20$), perceived stress scores were moderately correlated with the impact these stressful life events had on their daily functioning ($r = .24 - r = .35$). In addition, there were strong correlations between perceived stress and depressive symptomatology ($r = .65 - r = .76$), as well as between perceived stress and physical symptomatology ($r = .52 - r = .65$).

Coping

The Coping Inventory for Stressful Situations (Endler & Parker, 1990a,b) is a 48-item scale consisting of a five-point Likert scale ranging from 1 (*not at all*) to 5 (*very much*). On each item, individuals indicate the degree to which they engage in a specific behaviour when they encounter a stressful, difficult, or upsetting situation. Responses to these items are tallied to create three separate subscales (task-, emotion- and avoidance-oriented coping) that consist of 16-items each. Avoidance-oriented coping can also be divided further into social-diversion and distraction-oriented coping. However, in accordance with previous research that did not

investigate social-diversion and distraction-oriented coping, this study will analyze avoidance-oriented coping as one variable. There is no total score for this measure; instead, items in each subscale are summed for a total possible score of 80. Higher totals in each subscale demonstrate greater task-, emotion-, or avoidance-oriented coping strategy use in response to stressful situations.

The Coping Inventory for Stressful Situations has been evaluated for its reliability and validity. Endler and Parker (1994) found strong test-retest reliabilities for each subscale, $r = .74$ (task-oriented coping), $r = .66$ (emotion-oriented coping), and $r = .68$ (avoidance-oriented coping). Each of the coping subscales on the Inventory has a different internal consistency for both male and female undergraduate students (Endler & Parker, 1990a,b). The internal consistency across the three subscales ranged from $\alpha = .76-.88$ for males and $\alpha = .81-.91$ for females.

Although the task-, emotion-, and avoidance-oriented coping scales are representative of different and potentially conflicting coping styles, they still are associated with one another (Endler & Parker, 1990a,b). The intercorrelation between the task- and emotion-oriented coping scales is low ($r = -.12$). Additionally, there is a weak association between the task- and avoidance-oriented coping scales ($r = .10$), as well as between the emotion- and avoidance-oriented coping scales ($r = .06$). The two avoidance subscales (social distraction- and diversion-oriented coping) were moderately correlated ($r = .36$). Endler and Parker also demonstrated that each subscale of the Coping Inventory for Stressful Situations is correlated with another measure of coping, The Ways of Coping Questionnaire ($r = .37-.68$; Folkman & Lazarus, 1988); thus, suggesting that this measure has acceptable convergent validity.

Academic Self-Efficacy

The College Academic Self-Efficacy Scale (Owen & Froman, 1988) is a 33-item scale consisting of a five-point Likert scale ranging from 1 (*quite a lot*) to 5 (*very little*). Each item is a statement regarding students' beliefs in their academic abilities (e.g., "taking well organized notes during a lecture") and students rate their confidence in their personal ability to perform the described task. Students' responses to all items were reverse coded prior to tallying so larger totals indicate greater academic self-efficacy. Items are summed for a total possible score of 165.

This measure has demonstrated strong reliability and validity. Owen and Froman (1988) found strong test-retest reliability ($r = .85$) and excellent internal consistency ($\alpha = .90-.92$). They also found that the measure has moderate to very strong concurrent validity, $r = .62-.81$.

Procedure

Following ethics approval, first-year students at the University of Calgary were recruited to complete an online survey via Qualtrics, an online survey platform that facilitates data collection. Recruitment occurred during the winter 2020 semester from January through March. Data collection stopped prior to the onset of COVID-19 restrictions. Participant recruitment involved advertising the study in undergraduate introductory courses with brief, five-minute information sessions at the beginning of the professor's lecture. Following the information session, students were provided information pamphlets that contained a link to the survey. Additionally, posters advertising the study were posted on bulletin boards around the university campus and the interactive sign at the Taylor Digital Family Library displayed the poster intermittently throughout the day for a period of two weeks. Postcard flyers were placed in common student areas in buildings. Lastly, a link to the survey was also posted on the

University's research site. Participants who completed the online survey were offered the opportunity to be entered in a draw to win prizes (e.g., tablet, or headphones).

Plan for Analysis

Data Preparation

Statistical Package for Social Sciences (SPSS) v.27 was utilized to conduct the analyses for this study. Prior to conducting the analyses, the data were screened for accuracy, missing data, and outliers. According to z-scores and boxplots, there were no univariate outliers defined as scores greater than 3.25 standard deviations away from the mean. Multiple imputation was performed to fill in missing values for ten cases. All the missing data were determined to be missing completely at random according to Little's (1988) Missing Completely at Random Test.

Statistical Assumptions (Normality, Multicollinearity, Homoscedasticity, and Equality of Variance). A visual inspection of Q-Q plots and histograms for normality of the data determined the data were normally distributed, and both the skewness and kurtosis fell within the acceptable range. Table 1 below details the descriptive data (i.e., means, standard deviations, kurtosis, and skewness values) for perceived stress, coping style and academic self-efficacy.

Table 1*Descriptive Data for Perceived Stress, Coping Style and Academic Self-Efficacy*

Variable	Mean	Standard Deviation	Skewness	Kurtosis
Perceived Stress	28.67	7.45	-.03	.22
Task-Oriented Coping	53.95	11.59	-.23	.21
Emotion-Oriented Coping	47.60	11.67	.05	-.40
Avoidance-Oriented Coping	43.31	11.71	.20	-.18
Academic Self-Efficacy	108.75	19.61	-.05	-.19

Note. $N = 325$ participants across all variables

P-P plots showed a linear relationship between all the variables, and autocorrelation (multicollinearity) did not occur as all correlations between the variables were less than .80 and the variance inflation factor was below ten. A scatterplot of the residuals versus predicted values for all the variables illustrated that the data were homoscedastic (the error term in the regression remained constant). Finally, Levene's test for equality of variance was not significant. Assumptions of linearity, normality, multicollinearity, independence of residuals, and homoscedasticity were investigated for the subsequent analyses and were deemed to be satisfactorily met. Lastly, the Bonferroni correction was employed for the multiple *t*-tests conducted to identify gender differences. As a result, *t*-tests were considered significant at the .01 level.

Proposed Statistical Analyses

To answer the first research question, a series of five independent samples *t*-tests were conducted to assess whether or not there was a significant effect of gender on postsecondary students' perceived stress, their use of specific coping styles and their academic self-efficacy.

This was followed by a series of zero-ordered correlations to explore the relationships between first-year postsecondary students' perceived stress, coping style and academic self-efficacy. Finally, a multiple regression was conducted to address the last research question regarding the collective ability of coping style (task-, emotion-, and avoidance-oriented coping) and academic self-efficacy to predict first-year postsecondary students perceived stress. A power analysis was conducted a priori to determine the minimum sample size required to detect effect sizes for the proposed inferential analyses at significance (alpha) level .05. According to the levels of convention set for a multiple regression analysis that uses four predictor variables (i.e., academic self-efficacy and the three coping styles), with power level .95, alpha level .05, and effect size $f^2 = 2.13$, G*Power (3.1.9.6) indicates that a minimum sample of 15 participants is sufficient to meet the power requirements for the statistical analyses in the current study.

Chapter 4: Results

Gender Differences

A series of independent samples *t*-tests compared male and female scores on measures of students' perceived stress, coping style (task-, emotion- and avoidance-oriented coping) and academic self-efficacy. Students' who identified as non-binary, transgender, or did not disclose their gender identity were removed from these analyses ($N = 324$). Table 2 displays the means, standard deviations, and test statistics for the measures. The means and standard deviations are displayed in three separate columns: 1) females only, 2) males only and 3) females and males combined. Gender differences across the study variables were not significant, $p > 0.01$.

Table 2

Mean, Standard Deviation and Test Statistics of Perceived Stress, Coping Style, and Academic Self-Efficacy

Variable	Males (<i>n</i> = 127)		Females (<i>n</i> = 194)		Combined (<i>N</i> = 321)		<i>t</i> (321)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Perceived Stress	28.19	7.37	29.04	7.43	28.67	7.45	-1.01	.313	-.115
Task-Oriented Coping	54.85	10.38	53.30	12.37	53.95	11.59	1.165	.245	.133
Emotion-Oriented Coping	45.01	11.19	48.69	11.97	47.60	11.67	-2.04	.042	-.230
Avoidance-Oriented Coping	44.28	11.91	42.84	11.45	43.31	11.71	1.08	.282	.124
Academic Self-Efficacy	109.80	19.95	108.03	19.37	108.75	19.61	.790	.433	.090

Note. Mean parameter values for each of the analyses are shown for males, females and both genders combined, as well as the results of *t*-tests (assuming unequal variance) comparing the parameter estimates between the two genders (male and female).

Relationships Amongst Study Variables

A series of zero-order correlations explored the relationships between perceived stress, coping style and academic self-efficacy. Table 3 lists the correlations between study variables. They were evaluated according to Cohen's (2013) guidelines which stipulate: large correlations are 0.50 and above, moderate correlations are 0.30, and small correlations are 0.10.

Correlations Between Perceived Stress, Coping, and Academic Self-Efficacy

There was a large positive correlation between perceived stress and emotion-oriented coping. Students who used more emotion-oriented coping strategies were more likely to report higher stress levels. Conversely, there was a moderate negative association between perceived stress and task-oriented coping, and a moderate negative relationship between perceived stress and academic self-efficacy.

Correlations Between Coping and Academic Self-Efficacy

There was a large positive correlation between task-oriented coping and academic self-efficacy, and a small positive correlation between avoidance-oriented coping and academic self-efficacy. Therefore, students who reported greater academic self-efficacy were more likely to use avoidance- and task-oriented coping strategies in response to stressful situations. In contrast, there was a small negative correlation between emotion-oriented coping and academic self-efficacy.

Table 3*Correlations for Study Variables (N = 325)*

Variable	1	2	3	4	5
1. Perceived Stress	—				
2. Task Oriented Coping	-.333**	—			
3. Emotion Oriented Coping	.610**	-.136*	—		
4. Avoidant Oriented Coping	-.090	.271**	.120*	—	
5. Academic Self-Efficacy	-.435**	.500**	-.267**	.134*	—

* $p < .05$. ** $p < .01$.**Predictors of Perceived Stress**

A multiple regression was run to evaluate if coping styles, and academic self-efficacy predict perceived stress. The regression significantly predicted first-year postsecondary students perceived stress, $F(4, 320) = 72.83, p < .001$, accounting for approximately 47% of the variance in perceived stress. All four variables were statistically significant predictors ($p < .05$).

Regression coefficients and standard errors can be found in Table 4.

Table 4*Academic Self-Efficacy and Coping Style as predictors of Perceived Stress*

Variable	<i>B</i>	β	<i>SE</i>	<i>t</i>	<i>p</i>	95 % CI
Constant	27.827		2.562	10.861	<.001	[22.78, 32.868]
Task-Oriented Coping	-.081	-.127	.031	-2.630	.009	[-.142, -.021]
Emotion-Oriented Coping	.349	.546	.027	12.834	<.001	[.295, .402]
Avoidance-Oriented Coping	-.058	-.092	.027	-2.154	.032	[-.112, -.005]
Academic Self-Efficacy	-.081	-.214	.018	-4.455	<.001	[-.117, -.045]

Note. $N = 325$; B = unstandardized regression coefficient; β = standardized coefficient; SE = standard error; t = test statistic; p = statistical significance; CI = confidence interval.

Chapter 5: Discussion

The transition to postsecondary studies can be a period of increased stress for students as they experience newfound autonomy and independence (Baghurst & Kelly, 2014; Bistricky, 2018; Linden & Stuart, 2020a). Students must learn to be financially responsible, create new social relationships and adjust to increased academic demands. The heightened stress postsecondary students experience is associated with many negative outcomes (e.g., goal failure, premature program withdrawal, and reduced physical and mental wellbeing; Bistricky et al., 2018; Pritchard et al., 2007; Misra & McKean, 2000). As such, the current study sought to explore factors (i.e., coping styles, academic self-efficacy, and gender) that might be associated with, and predictive of, students' perceived stress.

Predicting Postsecondary Students' Stress

Based on other research that has found coping and self-efficacy are associated with decreased student stress (Au, 2015; Saleh et al., 2017; Zeidner & Saklofske, 1996), the current study predicted that they would have the same positive effect on stress levels in postsecondary students in their first year. The results confirmed that together, coping, and self-efficacy accounted for almost half of the variance in students' stress levels. The more students relied on effective coping strategies and the higher their self-efficacy, the more likely they were to report less stress in their first year.

Coping

Of the three coping styles measured by the Coping Inventory for Stressful Situations, task-oriented coping had a negative relationship with stress in students. Students who use task-oriented coping often believe they have at least partial control over their situation (Kariv & Heiman, 2005) and utilize proactive behaviours such as problem solving to manage stressors

(Lopez et al, 2001; Misra & McKean, 2000). This form of coping relies on cognitive based strategies to actively and directly create plans to manage emotional and behavioral reactions to stressful situations (Ramya & Parthasarathy, 2009). Students who use task-oriented coping can remain emotionally composed and critically evaluate stressful situations to determine the cause of their stress (Heppner et al., 1995). This allows them to recognize that they are experiencing an emotional response to a stressful stimulus, and aides in initiating proactive behaviours such as planning to systematically alleviate their stress.

In conjunction with task-oriented coping, avoidance-oriented coping also predicted lower stress but its contribution to the amount of variance in the model was small. In general, avoidance-oriented coping is associated with increased psychological symptoms in students (Ni, et al., 2010), decreased wellbeing (Conway & Terry, 1992; Folkman & Lazarus, 1988; Yilmaz et al., 2013) and heightened levels of distress (Cummings & Dwyer, 2001; Endler & Parker, 1990a; Lazarus & Folkman, 1984). Avoiding stressors prevents students from learning adaptive strategies for managing their stress (Mahmoud et al., 2012; Renk & Smith, 2007); therefore, repeated exposure to the same stressor may lead to increased distress (Lazarus & Folkman, 1984). Although avoidance-oriented coping is considered a maladaptive coping strategy (Credé & Niehorster, 2012), some researchers have found that it can be advantageous to student wellbeing in some situations (Chen, 2016; Muyan-Yilik & Demir, 2020; Odaci & Cikrikci, 2012). For instance, when students experience a lack of control over their circumstances, avoidance of stressors can allow them to accept their circumstances if they feel they do not have the appropriate coping resources needed to alleviate the source of their stress (Austenfield & Stanton, 2002). In the postsecondary context, students can face situations for which they have little control such as the scheduling of exams close together or financial constraints. In these

special circumstances, avoidance-oriented coping may be advantageous and could explain why it was a small predictor of reduced stress in the regression.

Unlike task-oriented and avoidance-oriented coping, emotion-oriented coping was associated with increased student stress. This method of coping is often unhelpful in the postsecondary context because it prevents students from proactively managing their stress. Students who use emotion-oriented coping focus on regulating their emotions rather than attempting to alleviate the source of their stress. (Rice et al., 2021). As their stress levels increase, students no longer have the coping resources necessary to engage in higher order executive functioning activities such as organization and planning; thus, they start to panic and become overwhelmed (MacCann et al., 2011; Rice et al., 2021). Negative emotional reactivity (e.g., anger, frustration, fear, or panic) is associated with decreased academic performance because these emotional reactions reduce students' abilities to engage in problem solving (Blair, 2002; Pekrun et al., 2009). Therefore, if students consistently focus on regulating their negative emotions, they are unable to effectively allocate enough cognitive resources to engage in adaptive and proactive behaviours such as active listening, note taking, or study strategies to enhance learning.

In sum, students who utilized more task-oriented and fewer emotion-oriented coping strategies were more likely to report reduced stress in their first year. Avoidance-oriented coping, although predictive of reduced stress, had a smaller association compared to task-oriented coping and may not be beneficial in all situations. These findings are in alignment with previous research that has found task-oriented coping to be beneficial to student wellbeing and emotion-oriented coping to be unfavourable for student learning.

Academic Self-Efficacy

Like task-oriented coping, self-efficacy appears to reduce student stress. Students who hold higher views of their academic abilities are more motivated to learn (Džinović et al., 2019) and as such are more likely to attempt more challenging tasks (Bandura, 1977). They also are more likely to persevere when they encounter a challenging situation (Luzzo & McWhirter, 2015) as they tend to utilize adaptive strategies that involve problem solving to alleviate their stress (Cabanach et al., 2010; Konaszewski et al., 2019). Thus, academic self-efficacy can influence the types of coping strategies that students employ (Vanderclayen et al., 2014).

In the current study, a correlation analysis of task-oriented coping and self-efficacy found a strong association between the two variables. The higher students' self-efficacy, the more likely they were to use task-oriented strategies. This finding is congruent with previous research (Chan et al., 2009; Zhao et al., 2015). Dominguez-Lara (2016) posited that students high in self-efficacy believe they have the academic abilities to meet their goals. To overcome challenges, they employ task-oriented coping because they can then readily focus on preparing for, and completing, academic tasks.

Although there was also a positive relationship between self-efficacy and avoidance-oriented coping, the association was small. Similar, to the earlier discussion on the relationship between avoidance-oriented coping and stress, use of these types of coping strategies may be beneficial in the postsecondary context in some stressful situations. However, considering that avoidance-oriented coping is associated with impaired mental health (Ni et al., 2010) and increased stress (Deasy et al., 2014) it is recommended that students are selective in their use of these strategies.

In contrast to task-oriented coping, emotion-oriented coping was negatively associated with self-efficacy, but the strength of the relationship was also small. Given, that emotion-oriented coping is correlated with increased stress and lower self-efficacy, it appears to be an ineffective method of dealing with stressful situations. Students who rely on these strategies are more likely to struggle to manage the demands of postsecondary when they encounter demands on their time and other challenges. In sum, students with high self-efficacy are more likely to use task-oriented strategies. Together, they benefit student learning in postsecondary by providing students with the tools they need to overcome academic challenges.

Gender Differences Across Study Variables

Previous research has demonstrated that gender might influence students' academic self-efficacy, perceived stress, and use of specific coping styles. Findings regarding the effect of gender across these variables have been mixed. Some researchers have reported gender differences (Folkman & Lazarus, 1980; Fornés-Vives et al., 2012; Renk & Smith, 2007; Saleh et al., 2017; Shamsuddin et al., 2013), but others have not (e.g., Dyson & Renk, 2006). A second aim of the current study was to investigate if there were gender differences across these variables in a sample of first-year postsecondary students.

Based on the extant literature, it was predicted that males would report higher self-efficacy than females (Anderman & Young, 1994; Huang, 2013). Theorists have proposed that the socialization of gender has influenced self-efficacy (Brownlow et al., 2000). Specifically, teachers and parents hold specific views about males and females differing abilities across curriculum subjects. For instance, mathematics and science have historically been promoted as male dominated fields (Golombok & Fivush, 1994), which has influenced students' perceptions of their abilities within these areas (e.g., males tend to believe they are good at math and report

more academic self-efficacy in the subject, whereas females feel less confident in their mathematical abilities and report lower levels of academic self-efficacy; Oakes, 1990; Catsambis, 2005). The results of the current study did not support this hypothesis.

When students enrol in postsecondary, they self-select their program of study. They are likely to enroll in programs where they feel more self-efficacious because they have experienced previous success in that area. In the example of mathematics, there may be females who have chosen to major in mathematics because they were good at math in high school. Therefore, they would have similar levels of self-efficacy as their male peers. The self-selection of program might explain the lack of gender differences in self-efficacy in the current study. Furthermore, although males and females may take courses within a program where they feel less self-efficacy (e.g., statistics in psychology), the rating scale used in this study measured general academic self-efficacy instead of self-efficacy within specific courses. If students have been asked to report self-efficacy about specific courses within academic subjects, gender differences may have been more pronounced (Huang, 2013).

Perceived Stress and Coping

On measures of stress and coping, it was expected that females would report higher stress levels and use more emotion-oriented coping strategies than males. The results found no significant gender differences in coping styles and reported stress levels. A lack of gender differences suggests that both females and males find the first year of postsecondary equally stressful and cope with stressors in a similar manner.

A visual inspection of the mean differences between coping styles showed that cumulatively, both male and female students were more likely to report using task-oriented coping, followed by emotion-oriented coping, and then avoidance-oriented coping. The heavier

reliance on task-oriented coping in postsecondary is a positive finding. Perhaps students entering postsecondary studies already have developed skills to mitigate stressors such as time management, goal setting, and progress monitoring. The use of these strategies in grade school may have resulted in greater academic performance; thus, they were more likely to have a grade point average high enough to meet entrance requirements for postsecondary. Without a comparison group it is difficult to know for certain, but students who are not task-oriented may be less likely to seek postsecondary education. Therefore, with these skills already in place, students in this study continued to use task-oriented coping over the less adaptive emotion- or avoidance-oriented coping (Chen & Hung, 2013; Hamaideh et al., 2016; Shaban et al., 2012).

In the current study, females reported using more emotion-oriented coping strategies to manage stressful situations than males. Although the comparison was not significant, it is worth exploring gender differences in more depth in the future because it has been a finding found in previous literature (Folkman & Lazarus, 1980; Ptacek et al., 1992; Renk & Smith, 2007). It has been suggested that the emotion-oriented coping subscale from the Coping Inventory for Stressful Situation is highly correlated with type A personality traits (e.g., hard-working, competitive, driven, ambitious, organized, timely, impatient, and anxious; Endler, 1997; Endler & Parker, 1990a,b). Bessette et al. (2020) demonstrated that these types of neurotic thoughts and behaviours are associated with internalizing symptoms such as rumination (i.e., continuously perseverating or focusing on negative feelings or thoughts; Nolen-Hoeksema, 1991), and females engage in this behaviour more than males (Calmes & Roberts, 2007; Johnson & Whisman, 2013; Tamres et al., 2002). Gross and John (1998) propose that this gender difference can be explained via gender role socialization. Females have historically been taught to pay attention to their emotions, whereas males have been taught to suppress their inner feelings (Gross & John, 1998).

Consequently, when females believe in gender role socialization, they report that they frequently engage in rumination (Yoder & Lawrence, 2011). This suggests that females have been primed and predisposed to analyze their emotions and as a result constantly re-evaluate their negative feelings. Furthermore, females heightened use of rumination is concerning because it is associated with increased negative affect (Gross & John, 2003) and mental health difficulties (Eisma et al., 2014). Furthermore, Type A personality characteristics are associated with increased stress in students (Ghasemian & Venkatesh Kumar, 2017). Future research should explore how gender socialization and Type A personality characteristics interact with students coping styles and academic self-efficacy to influence their perceived stress.

Limitations

The findings of this study must be evaluated based upon its limitations. First, data for this study were from a single postsecondary institution in western Canada. Consequently, the findings may not be generalizable to first-year students attending other postsecondary institutions. Collecting data from a range of institutions including colleges and professional programs would be beneficial. Furthermore, the sample for this study was relatively small percentage of the total number of first-year students enrolled at the postsecondary institution where data was collected. In order for the results to be representative of the of first-year student experiences during the transition from high school to postsecondary studies, future studies should aim to collect a larger sample from the target population.

Second, this study relied on quantitative data which may not have captured the full depth and breadth of students' experiences. Research shows that mixed method studies tend to provide a richer understanding the perspectives of individuals (Adam et al., 2006). The inclusion of

qualitative methods such as interviewing, and journaling may have provided more insight into the first-year student experience.

Third, this study utilized the College Academic Self-Efficacy Scale (Owen & Froman, 1988). Because this measure has not been updated in 33 years the questions asked on the survey may not directly relate to the current learning environment. For instance, over the past three decades technology has been integrated into classroom learning through the use of tablets and computers. However, none of the items on the College Academic Self-Efficacy Scale Address students' perceptions of their abilities to utilize modern technology to successfully accomplish academic tasks.

Finally, in the current study, students were asked to report on their perceived stress levels only once. Because data were collected over the first three months of the winter term, student stress levels along with their coping and self-efficacy may have been different from week to week. To illustrate, students might have experienced less stress the first week of the semester after winter break but increased in stress as they prepared for midterm exams. Þórarinsdóttir and colleagues (2019) argued that data should be collected in real time in order to assess fluctuations in students perceived stress over time and eliminate recall bias. This would allow researchers to gather a more comprehensive understanding of how students' form perceptions of their stress and the very factors such as coping style and academic self-efficacy that influence their stress perceptions.

Future Directions

Future research could explore the relationships between perceived stress, coping and academic self-efficacy by using a path analysis. Although beyond the scope of this study, a path analysis would allow researchers to better understand causal relationships between multiple

observed variables (Hatcher, 1994). If this analysis is utilized in future studies, additional variables (e.g., motivation, goal setting and time management) that have been found to influence students during their transition to postsecondary should be incorporated as part of the model in order to gather a more comprehensive understanding of students' experiences during the transitional period.

Second, future studies could explore the specific types of problem focused strategies that first-year postsecondary students utilize to systematically manage their stress. Such a study should also evaluate the effectiveness of each of these strategies. Insight regarding specific strategies students find useful and effective for managing stress during postsecondary studies can inform future preventative programs aimed at creating a positive first-year experience for students.

Third, a longitudinal mixed-method research design could be beneficial in future studies. A longitudinal research design would allow researchers to explore fluctuations in students' perceived stress, coping and academic self-efficacy as they progress through each year of their postsecondary programs (Carduff et al., 2012). Repeated sampling techniques such as momentary ecological sampling could assess how students' respond to stressors in real time and measure fluctuations in student responses (Shiffman et al., 2008). Furthermore, qualitative measures such the critical incident technique could elicit more information about student coping in specific situation. The critical incident technique has individuals recall and describe a specific situation and how they responded to it (Flanagan, 1954). Gathering this type of qualitative data may allow for a wider depth and breadth of understanding of how perceived stress, coping and academic self-efficacy influence students' experiences throughout their postsecondary studies.

Implications

Because task-oriented coping and academic self-efficacy play a crucial role in students' perceived stress, it is important to foster the development of these skills in students prior to or during their transition to postsecondary studies. This study has implications for how grade school educators, school psychologists, and postsecondary institutions can help students learn and implement strategies to increase their use of task-oriented coping and enhance their perceptions of their academic self-efficacy. As such, it also provides ideas for how these professionals can prepare students for academic challenges associated with the transition from high school to postsecondary.

For K-12 educators to incorporate strategies to bolster self-efficacy and coping in their classrooms, they would benefit from learning about these variables during pre-service training. If educators are aware of how coping styles and academic self-efficacy impact students' academic outcomes, they can be intentional in their instruction of strategies in formal and informal ways. Formally, educators could incorporate psychoeducational information about stress, coping, self-efficacy within the curriculum (e.g., types of coping, beliefs about learning, when it is appropriate to utilize specific strategies, and how these strategies might alleviate students' stress). They could then have students practice utilizing different strategies in structured situations. For instance, by setting a goal, implementing strategies to achieve the goal, monitoring their progress, and reflecting on the skills they have used and/or developed while striving towards fulfilling their goal, students will likely gain a stronger appreciation for their academic abilities. In times of stress, teachers could then prompt students to identify appropriate strategies and encourage their use.

If students are taught the aforementioned skills throughout their school years, they will likely gain experience recognizing when they are feeling stressed and learning how to employ active strategies to manage the source of their stress. Because these students will also have had previous experience using these skills successfully, they will likely have higher perceptions of their self-efficacy or their abilities to deal with stressful situations and/or tasks. Being able to navigate stressful situations will benefit students as they transition from one educational period to the next (i.e., from elementary to middle school, middle to high school, or from high school to postsecondary/the workforce). Regardless of the transitional period that students are experiencing, they can benefit from having skills to manage the stress associated with the change.

In addition to educators, school psychologists can support parents and educators with fostering these skills in students. Given the demonstrated influence of coping and self-efficacy on stress and academic performance, it would be beneficial for school psychologists to evaluate student's self-efficacy and use of coping strategies when completing psychoeducational assessments. They can then work collaboratively with parents and teachers to target skill development in students with disabilities such as those with learning disabilities and ADHD.

Another way that school psychologists might assist parents and schools in this matter is by implementing and evaluating the efficacy of psychoeducational college and career readiness interventions throughout high school and at the onset of postsecondary studies. Previous research has demonstrated that this type of intervention is integral for student success at the postsecondary level (Bouffard & Savitz-Romer, 2012; Carnevale et al., 2010; Conley, 2010). However, the breadth and delivery of career and college readiness interventions varies (National Office for

School Counselling Advocacy, 2012). Despite these disparities, multiple research teams have found: a) that college and career readiness interventions promote student success by fostering skill development (i.e., teaching various strategies such as time management, organization, goal setting, goal monitoring, and positive self-evaluation that help students cope and likely provide them with a stronger sense of academic self-efficacy), and b) these programs provide students with crucial psychoeducational knowledge about the transition to postsecondary studies (Conley, 2010; Farrington et al., 2012; Villares & Brigman, 2019). What is more, college and career readiness interventions (e.g., the College/Career Success Skills) that focus on social emotional learning have demonstrated a 6 % increase in high school graduation rates, and an 11 % increase in postsecondary graduation rates (Taylor et al., 2017). These types of programs have also been positively associated with enhanced mental wellbeing while navigating the transition to postsecondary studies (Taylor et al., 2017).

Finally, postsecondary institutions could benefit from understanding the benefit of coping styles and self-efficacy to student well being. This would allow them to develop and implement workshops that focus on helping students learn adaptive coping skills and how to enhance their academic self-efficacy. These workshops could serve as a preventative universal intervention to assist students in navigating the transition from high school to postsecondary studies. If such programs are developed and implemented, professors, academic advisors and other administrators should be aware of them, so they can recommend these programs to students who are struggling.

Conclusion

Over the last few years, the wellbeing of students in postsecondary has attracted attention as researchers have observed an increase in student stress. Postsecondary institutions have

responded by implementing workshops and seminars on time management, note taking and study skills, as well as by developing peer mentorship programs. However, it is inevitable that students will experience academic challenges, goal failure, and other negative events in addition to the added responsibilities of emerging adulthood. The results of this study suggest that interpersonal factors, including coping and self-efficacy, play a role in how students respond to the transition to postsecondary studies. Grade school educators and postsecondary institutions need to be aware that students respond differently to academic challenges depending on the strategies and beliefs they hold, and some students may need better preparation for the transition than others.

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