

PERCEIVED SOCIAL SUPPORT AND ACADEMIC MOTIVATION: EXPLORING THE  
MODERATING ROLE OF EXTRAVERSION IN POST-SECONDARY STUDENTS

by

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Submitted in partial fulfillment of the requirements  
for the degree of Master of Arts in School Psychology

at

Mount Saint Vincent University  
Halifax, Nova Scotia  
August 2023

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## ABSTRACT

The purpose of this study was to assess the interaction of social and individual factors that influence academic motivation in Canadian post-secondary students. Specifically, the current study examined perceived social support from three sources: family, friends, and significant others, and students' self-reported levels of extraversion as predictors of the subscales of academic motivation. The subscales of academic motivation measured were intrinsic motivation (based on individual enjoyment and interest), extrinsic motivation (based on an external reward), and amotivation (the lack or absence of motivation). Canadian post-secondary students were recruited through Mount Saint Vincent's online bonus point system, SONA, and through the primary researcher's social media platforms. 70 students from first year of study to graduate studies participated in the current study and completed demographic items, the Multidimensional Scale of Perceived Social Support, the Big Five Personality Inventory (Extraversion items only), and the Academic Motivation Scale – College Version. Descriptive statistics, correlation analyses, and multiple regressions were used to examine the data. Analysis showed that perceived social support was significant in positively predicting intrinsic motivation and negatively predicting amotivation for students low in extraversion. The relationships between perceived social support and intrinsic motivation, and between perceived social support and amotivation were moderated by extraversion. The interaction between perceived social support and extraversion was non-significant in predicting extrinsic motivation. Results from this study suggest that social support can be effective for promoting intrinsic motivation and preventing against amotivation in post-secondary students, especially those who are less extraverted. The current findings add to the literature identifying social support as an important precursor to

academic motivation that must continue to be examined and considered when developing strategies to increase motivation and prevent amotivation at the post-secondary level.

# CHAPTER ONE

## LITERATURE REVIEW

### **Introduction**

The first chapter of this thesis serves as a broad review of topics and research related to academic motivation. First, a review of motivation, its relevance in an academic setting, and a discussion of how it influences many outcomes is provided. Then, perceived social support and the impact it has on students is discussed. Personality characteristics are introduced and summarized, and research on extraversion is presented within an educational context. Finally, an overview of post-secondary education in Canada is provided and the importance of research within the post-secondary population is highlighted. The goal of this chapter is to provide context and background knowledge on topics that are mentioned in the current study.

### **Motivation**

Motivation is a complex psychological phenomenon that is generally defined as the process whereby goal-directed activities are initiated and sustained (Tezci et al., 2015). Researchers have shown that motivation is related to various outcomes, such as curiosity, persistence, learning and performance (Deci & Ryan, 1994). Many theories of motivation focus on the beliefs, values, needs, and goals that individuals adopt in achievement situations. A commonality among each theory is that they employ a social-cognitive approach to understanding motivation, emphasizing the role of students' perceptions as well as their social context (Koenka, 2020).

### ***Self-Determination Theory***

One of the most widely used theories guiding motivational research is Deci and Ryan's Self-Determination Theory (SDT) of motivation (1985). As a broad concept used in education, it

is based on “promoting in students an interest in learning, a valuing of education, and a confidence in their own capacities and attributes (Deci et al., 1991, p. 325).” In accordance with this theory, a person should not be simply characterized as motivated or unmotivated on a single dimension because there are varying types of motivation that can be experienced to a different level or degree (Brouse et al., 2010). The SDT claims there are three types of behavioural motivation: intrinsic motivation, extrinsic motivation and amotivation. Intrinsic motivation is when behaviours are done out of individual enjoyment or interest without expecting an external reward. When people are intrinsically motivated, they feel competent and self-determined (Hazrati-Viari, Rad, & Torabi, 2012). Extrinsic motivation is when behaviours are done to achieve a goal or reward beyond the activity itself. Incentives also include acquiring status, being favoured by others, or avoiding punishment (Tezci et al., 2015). For instance, an extrinsically motivated student studies for external rewards that derive from academic achievements, such as obtaining a job with a desirable salary and benefits, whereas a student who is intrinsically motivated studies for interest and enjoyment, to acquire new skills and personal knowledge (Zaccone & Pedrini, 2019). Mori and Gobel (2006) argue that intrinsic value refers to the enjoyment with engaging in a particular task, while extrinsic utility refers to the usefulness of a task in terms of an individual’s future goals. Finally, amotivation is when individuals are not motivated because they do not perceive any reward for their behaviour. It is the lack of intentionality and motivation to engage in an activity (Clark et al., 2014). For example, a post-secondary student may question whether studying still represents a worthwhile objective (Yaman, 2013). These individuals do not connect effort to attainment of an award, and instead attribute achievement to luck or natural abilities (Deci & Ryan, 1985).

## *Academic Motivation*

For many years, researchers and philosophers tried to identify the most effective teaching methods and strategies for students' optimal learning outcomes. Educational researchers realized, however, that teaching practices alone were not sufficient for student learning. Instead, students' feelings, interests, attributions, ideas, emotions, and goals, were also important considerations. Specifically, motivation was deemed a crucial component for meaningful learning (Tüysüz, Yıldiran, Demirci, 2010).

Motivation has been widely studied across fields; however, psychologists have noted the cruciality of considering it in education because of its effective relationship with learning, abilities, strategies, and behaviours (Amrai et al., 2011). Although many significant psychological components influence student behaviour, motivation is considered one of the most important foundations essential for students' academic development and functioning (Rowell & Hong, 2013). Researchers show that academic motivation is the most important factor in initiating and maintaining the learning process and is one of the strongest predictors of academic performance (Clark et al., 2014; Fortier, Vallerand, & Guay, 1995; Pintrich, 2003). Research in this area has consistently revealed that motivational beliefs and behaviours positively predict engagement, performance, and continued pursuit of academic interest (Koenka, 2020).

Academic motivation is a key determinant of academic performance and achievement, as it describes a student's willingness to put effort into their studies (Lavrijsen et al., 2021). It can broadly be defined as the factors that influence a person to attend school and obtain a degree but more specifically, it represents their desire, need, aspiration and obligation to participate in the learning process and become successful (Tezci et al., 2015). Research in this area helps predict why some students are expected to perform well or persist when confronted with academic



obstacles while others may not (Koenka, 2020). At the post-secondary level, it can also provide instructors and researchers alike with important information about how students adjust to this novel academic setting (Clark & Schroth, 2010).

Empirical findings consistently show that academically motivated students like to learn, tend to perceive school and learning as valuable, and enjoy learning-related activities (Eccles & Wigfield, 2002; Zimmerman, 2000, 2008). Alternatively, lack of motivation not only leads to disengagement with school in general, but studies have identified it as the primary reason for underachievement (Scheel, Madabhushi, & Backhaus, 2009; Wigfield, Lutz, & Wagner, 2005). In a study examining motivation among university students, Askari (2006) also found that motivational deficiencies contributed to pessimism, anxiety, depression, and academic performance failure. When it comes to learning, students with lower levels of motivation may be at an educational disadvantage (Nicholls, 1979).

Educational researchers generally agree on four major dimensions that contribute to student motivation (Bandura, 1996; Dweck, 2010; Murray, 2011; Pintrich, 2003; Ryan & Deci, 2000; Seifert, 2004). The first dimension is competence and refers to the students' belief that they can complete the task. The second dimension is control/autonomy, which refers to the student recognizing the direct link between their actions and an outcome. The student retains autonomy by having some choice about whether or how to undertake the task. The third dimension is interest/value and refers to the students' interest in the task or being able to see the value of completing it. The fourth dimension is relatedness, which represents the social reward for completing the task. For example, a sense of belonging to a classroom or other desired social group, or approval from a person of social importance to the student. Students' motivation levels vary depending on the number and strength of dimensions met. The interplay of these

dimensions varies between students, as well as within students across different situations (Usher & Kober, 2012).

### ***Extrinsic and Intrinsic Motivation***

Researchers have examined students' academic motivation and the ways in which it is connected to outcomes such as persistence and academic achievement (Trolan & Jach, 2020). There is some evidence to suggest that students, particularly at the post-secondary level, are extrinsically motivated. For example, in a study conducted by Van Etten and colleagues (1998), college freshmen were interviewed about their academic motivation, and all students reported that getting good grades was their overriding motivation in their courses. Similarly, Howard Becker and colleagues (1968) conducted a landmark study on the nature of undergraduate studentship and found that students were extrinsically motivated by grade point average (GPA). Specifically, participants reported being constantly concerned about their grades and fearing that low grades would exclude them from graduate programs or prevent them from obtaining the best available jobs. While some of the participants thought that learning for its own sake and personal and intellectual development was important, most students valued grades above all else (Becker et al., 1968, 1995).

Although there is evidence that post-secondary students are extrinsically motivated, the relationship between extrinsic motivation and academic performance is not consistent. Among broadly defined samples of college students, some researchers have reported no relationship between extrinsic motivation and academic performance (Baker, 2003; Próspero & Vohra-Gupta, 2007; Turner, Chandler, & Heffer, 2009). Alternatively, researchers have consistently linked intrinsic motivation to academic achievement. Specifically, when compared to students characterized by extrinsic motivation, it has been found that students characterized by high

intrinsic motivation display higher levels of learning outcomes and are more likely to persist when experiencing an academic challenge (Vansteenkiste et al., 2009; Vallerand & Bissonnette, 1992).

From childhood to adolescence, across varied populations, those with higher intrinsic motivation are generally more successful in school, evidencing higher grades, more positive perceptions of their academic competency, and lower academic anxiety (Ayub, 2010). These findings are widely proposed to be because intrinsic motivation reflects deeper engagement and higher persistence, generating a lasting personal commitment to learning activities (Zaccone & Pedrini, 2019). To illustrate, Gottfield and colleagues (2005) examined academic motivation in a longitudinal study that followed students from elementary school through to early adulthood. In their study, students with high intrinsic motivation were compared to their cohort peers and cross-time differences were observed, favouring the intrinsic group on levels of achievement, classroom functioning, intellectual performance, self-concept, and post-secondary educational advancement. Results revealed that those who were intrinsically motivated were significantly more likely to pursue post-secondary studies directly out of high school than the cohort comparison group. The researchers concluded that from school entry through post-secondary education, intrinsically motivated individuals are more likely to be more successful in their academic competence and performance.

A study by Clark and colleagues (2014) examined the indirect effects of academic motivation on academic performance by surveying 81 first-year college students and obtaining the students' grade point averages from their institution. The researchers found a relationship between intrinsic motivation and GPA, suggesting that students who attend college to gain enjoyment, a sense of accomplishment, and intellectual development perform better

academically. Similarly, Özder and Motorcan (2013) interviewed college students about their academic motivation levels and obtained their GPAs from their post-secondary institution, finding a significant correlation between academic motivation and academic achievement. The researchers found a negative correlation between levels of amotivation and academic achievement and reported higher levels of achievement being associated with intrinsic factors, while lower levels of achievement were associated with external factors. Their findings suggest that getting pleasure from academic activities is a greater predictor of academic achievement than participating in activities for external reward.

Throughout motivational research, there is also evidence to show that a combination of intrinsic and extrinsic motivation may lead to favourable academic performance. For example, Amrai and colleagues (2011) explored the relationship between academic motivation and academic achievement among university students by surveying students about their motivational levels, as well as their grades. Data analysis revealed a positive and significant correlation between the variables. Specifically, they found that learners who believed that tasks were worthwhile and valuable were more motivated to complete academic activities and ultimately reported higher levels of academic achievement. The researchers add that when learners inherently value learning, their self-discipline and self-efficacy will be positively impacted. Additionally, they found that competitiveness (i.e., achieving high grades and surpassing other classmates) increased students' level of academic achievement, suggesting intrinsic motivation combined with extrinsic motivation may be most likely to predict academic success (Amrai et al., 2011). Similarly, Scifres and colleagues (2021) found that undergraduate students were motivated extrinsically by rewards *and* intrinsically by a pure desire to perform well. The participants in their study were motivated by external “regulators,” such as going to college to

make a better salary, obtain a more prestigious job, and have “the good life.” Students also endorsed items relating to pleasure from surpassing oneself in studies and personal accomplishments, gaining satisfaction from accomplishing difficult activities, and excelling in studies. These results are in line with findings from Husman and Lens (1999), who found that highly intrinsically motivated students can simultaneously be extrinsic in terms of future goal orientations. Moreover, Van Calster, Lens, and Nuttin (1987) explained that students’ extrinsic motivational factors combined with positive future goals could actually facilitate their present value and intrinsic motivation. Taken together, this research suggests that intrinsic motivation predicts academic achievement. While extrinsic motivation does not appear to be independently correlated with academic achievement, when combined with intrinsic motivation, it can be beneficial to academic performance.

### ***Factors Influencing Motivation***

At the post-secondary level, there are numerous factors affecting motivation, including the school environment, involvement in extracurricular activities, and interactional experiences such as relations with faculty members (Van Etten et al., 2008; Komarraju, Musulkin, & Bhattacharya, 2010; Trolian et al., 2016). Additionally, student beliefs can influence motivation. For example, students commonly struggle with motivation when they believe that they have a limited capacity to learn or feel like they are unlikely to succeed. Similarly, students who view intelligence as a fixed quality that they either possess or don’t, tend to be less motivated when compared to students who believe that knowledge is something that can change and grow (Usher & Kober, 2012). Research by Trolian and Jach (2020) also showed that opportunities for applied learning, such as out-of-class experiences that help to translate knowledge from the classroom into a practical setting, can influence academic motivation in post-secondary students.

Deci and Ryan (1994) stated that both internal and external motivations were determined by social factors. Factors like families, teachers, friends, and peers with whom an individual interacts are significant promoters of intrinsic and extrinsic motivation. Research by Tezci and colleagues (2015) supports these findings, adding that social support promotes the motivation required to overcome challenges and achieve success. Additionally, both high school and post-secondary students' motivations have been shown to be influenced by peer groups and peers' academic behaviours (Ryan, 2000; Van Etten et al., 2008). Van Etten and colleagues (2008) explain that individuals who are motivating are those who support students' academic engagement, provide strategies for dealing with academic demands, and are willing to listen and help resolve students' personal and academic problems.

In a study investigating the dynamics of university students' academic motivation, Graciani Hidajat and colleagues (2020) examined the factors that influence academic motivation, including social support, achievement anxiety, self-efficacy, and goal orientation. Through interviews with the participants, results revealed that social support was the dominant factor influencing motivation. Importantly, the results of this study suggest that students' academic motivation is dynamic and that with social support, it can shift from amotivation conditions towards intrinsic motivation. These findings suggest that social support can increase students' intrinsic motivation and, thus, help them achieve their academic potential.

Much of the research regarding academic motivation focuses on its relationship with academic performance, thinking styles, and approaches to learning (Komarraju & Karau, 2005). Previous motivational research has also considered whether student characteristics lead to increased or decreased academic motivation. There are several researchers who suggest that personality factors are related to motivation and have great implications for how students learn

scholastic material. For example, Clark and Schroth (2010) examined the relationship between personality and academic motivation in 451 first-year college students and found that students with different personality characteristics have different academic priorities and reasons for pursuing college degrees. Specifically, students who were intrinsically motivated to attend college tended to be extraverted, agreeable, conscientious, and open to new experiences. Those who were extrinsically motivated also tended to be extraverted, agreeable, and conscientious, in addition to being neurotic. Finally, those who lacked motivation tended to be disagreeable and careless. Similarly, Kamaraju and colleagues (2009) found that intrinsically motivated college students tended to be conscientious and open to new experiences, while extrinsically motivated students were conscientious, extraverted, and neurotic. The researchers found that those who lacked motivation were disagreeable and lacked conscientiousness. Taken together, these results show that the relationship between personality traits and academic motivation merits further examination.

### **Social Support**

Social support is a psychological coping resource that positively affects individuals' personal resources, such as self-esteem and self-efficacy. It can buffer the negative influences of stress and promote health and wellness (Hefner & Eisenberg, 2009). Alternatively, researchers have shown that low social support is a predictor of various psychological challenges and is associated with depression, anxiety, attention difficulties, social problems, somatic complaints, and low self-esteem (Roohafza et al., 2014). These findings were supported by Demaray and Malecki (2002), who examined the relationship between social support and a variety of positive and negative outcomes. The researchers found significant positive relationships between social support and a variety of positive indicators, including social skills, academic competence,

leadership, and adaptive skills. In addition, significant negative relationships were found between social support and a variety of negative indicators such as conduct problems, depression, hyperactivity, anxiety, depression, and withdrawal. Social support includes inter-personal and inter-group interactions and is commonly used in socio-psychological and socio-educational research to emphasize the importance of social relationship among community members (Awang et al., 2014).

### ***Perceived Social Support***

Social support can consist of multiple types, such as informational, appraisal, and instrumental and can come from multiple sources, such as parents, teachers, close friends, classmates, and significant others (Awang, Kutty, & Ahmad, 2014). It can also be both received and perceived. Received support refers to the quantity of supportive behaviour received by an individual or the frequency of support actions that are provided by others. Perceived social support refers to both the satisfaction with support and the availability of it if needed. It reflects the perception of being cared for by others and having a reliable support network when needed, for example, in everyday situations or moments of crisis (Cobo-Rendón et al., 2020, Coffman & Gilligan, 2002). Several researchers agree that the perception of social support is more relevant and has a greater impact during stressful circumstances. Therefore, the assessment of social support is usually based on the perception of the potential support available (de la Iglesia, Stover, & Fernández Liporace, 2014).

In a study to examine the effects of perceived social support on the well-being of university students, Cobo-Rendón and colleagues (2020) found that higher perceptions of social support were associated with greater emotional well-being when compared to groups with lower levels of emotional well-being. A study by Sieflecki and colleagues (2014) similarly found that



people who have satisfactory relationships report more frequent feelings of happiness with their lives than those who do not have satisfactory relationships. Meaningful relationships have positive effects on people's physical and mental health and the perception of social support is vital for well-being (Diener & Oishi, 2005).

### ***Social Support for Students***

The concept of social support is considerably vague, however, within an educational context, Jindal-Snape (2010) highlights the importance of social support for promoting well-being and successful transition among students across ages, cultural identities, and education levels. Students are significantly influenced by their surrounding social contexts and social support is positively related to students' satisfaction with their schooling experience (DeSantis King et al. 2006). Social support is also associated with many positive indicators for students. There are strong associations between perceived support and student well-being, including academic attainment, happiness and enjoyment, and social life in and out of school (Awang, Kutty, & Ahmad, 2014; Li et al., 2018). Social support networks also provide stability and predictability and can promote students' ability to adapt and adjust to educational transitions, for example, across grades or between schools (Awang, Kutty, & Ahmad, 2014; Coffman & Gilligan, 2002). To illustrate, Coffman and Gilligan (2002) reported that first-year college students who were satisfied with their support networks indicated higher levels of life satisfaction than students who were less satisfied with their support networks. On the other hand, low levels of social support were predictive of homesickness and poor psychosocial and academic adjustment to college life.

### *Types of Social Support*

The perceived support offered by each social agent makes a unique contribution to student motivation. It is important to recognize that the same social agent can provide different types of support and thus, have deferring effects of students' motivation and performance. For example, perceived social support that is mainly academic in nature may involve providing study tips and strategies, while purely emotional support may involve showing empathy and encouragement (Song et al., 2015).

Although many studies assess perceived social support as a unitary construct, some educational researchers argue that the type of support can be further distinguished (Winemiller et al., 1993). Educational and emotional support represent two forms of social support that students typically receive within an academic context. A student perceives academic support when they believe that significant others value and encourage their learning and will model, help, and provide guidance and information when necessary. A student perceives emotional support when they believe that significant others show respect and attend to their feelings and needs by expressing empathy and concern for their personal well-being. It is generally agreed that academic support contributes more directly to academics by enhancing positive motivational and behavioural responses, whereas emotional support helps students more indirectly by reducing negative psychological responses (Song et al., 2015).

Both academic and emotional support play unique roles in the prediction of student motivation, emotion, and learning. For example, perceived emotional support from parents significantly reduces the levels of anxiety experienced by students (Ahmed et al., 2010; Leung, Yeung, & Wong, 2010), and academic support from teachers enhances subject matter interest and achievement (Ahmed et al., 2010; Wentzel, 1998). Although academic and emotional

support often correlate strongly with each other, they are two independent forms of social support. Rating scales used for research in this area demonstrate that students are capable of distinguishing between the two forms (Song et al., 2015). Despite the recognition that the two types of support may play different roles in student motivation and performance, it is still common practice to measure perceived social support as a single construct (Patrick, Ryan, & Kaplan, 2007; Wentzel, 1997).

### ***Sources of Social Support***

Home and school are the two most important social environments for students. The three primary social agents influencing their development and learning are parents, teachers, and peers. At home, parents have a wide-reaching influence on their children's attitudes towards learning. At school, support from teachers and peers influence students' level of academic interest and pursuit of academic and social goals (Song et al., 2015). Evidence suggests, however, that these social agents differ in the social support they provide. For example, Wentzel (1998) studied student motivation and found that perceived social support from different social agents predicted slightly different motivational outcomes. Perceived support from family positively predicted school interest and mastery goal orientation. Perceived social support from teachers positively predicted school interest, class interest, and prosocial goals. Finally, perceived support from peers positively predicted only the pursuit of prosocial goals.

A study by Awang, Kutty, and Ahmad (2014) explored perceived social support and its relation to first-year students' ability to adapt to university. The researchers gathered qualitative data from the university students using semi-structured interviews about social support from the university community, peers, and family members. Students generally agreed that interaction with others was a crucial part of the learning process that contributes immensely to academic

adjustment. They believed that learning occurs through communication and exchange both in and outside of school. Participants considered peer support at school to be useful in terms of study, as resources of discovery and sharing, and group discussion. In addition, students agreed that their higher achieving peers helped them increase their own understanding of subject areas that were new and confusing. Many students reported approaching their peers or seniors first when they had questions about academic matters, rather than faculty members. Participants considered peer support outside of school to be a source of psychological assistance, helping them build autonomy and overcome barriers in academic life through advice and guidance. Senior students offered modelling, mentoring, and friendship to new students, helping reduce their stress and uncertainty and develop a strong sense of being a university student. Consistent with results from Dennis, Phinney, & Chuateco (2005) and Lohfink & Paulsen (2005), study results revealed that students felt more successful at university with the support they received from their parents. Furthermore, perceived social support from parents was a positive indicator of student psychological well-being. This study indicates that students communicate and discuss university related issues with their parents and when parents are involved in their child's educational process, the students have more positive attitudes and behaviours, stronger motivation, and greater participation in university life. Students received significant emotional support from their parents, which was represented by encouragement, support, and guidance. Even when parents could not be supportive in academic situations, for example, helping their child with assignments or to understand a subject, their support in other areas had a positive effect on students' university experiences. Students also obtained support from their siblings, particularly when their siblings were studying at university, had graduated, and had a successful career. This cross-family network allowed an exchange of information and resources about

university. Overall, the researchers highlight the importance of a student community, senior students, and family networks in adapting to a new, post-secondary learning environment.

There is evidence to suggest that support from parents is most predictive of motivation and achievement. For example, Cobo-Rendón and colleagues (2020) found that for post-secondary students, parents represent integral support in different aspects of life. The researchers explained that even though these students are entering a stage where the development of a progressive autonomy is encouraged, they continue to consider parents as a valuable source to support them in their needs.

Demaray and colleagues (2005) studied adolescent adjustment and examined the predictive utility of perceived support from parents, teachers, classmates, close friends, and school. Their research revealed that parental support had the most significant effects and positively predicted measurements of personal adjustment, such as relationships with others, self-reliance, and self-esteem. Parental support also negatively predicted measurements of clinical and emotional maladjustment, such as stress, anxiety, depression, and feelings of inadequacy. Support from teachers and close friends were not found to predict the adjustment indexes, however, support from school negatively predicted measurements of school maladjustment, including negative attitudes and dissatisfaction with school, teachers, personnel and structured within the school. Consistent with these results, Song and colleagues (2015) investigated the role of perceived social support in adolescents' academic motivation and achievement and found that parental support has the greatest impact on adolescents' overall adjustment to school, both academically and emotionally when compared to other social agents.

Usher and Kober (2012) suggest that parents who are actively involved in their children's education, expose them to new experiences, and support learning opportunities at home can help

their children develop feelings of competence and curiosity and can foster positive attitudes about academics. Similarly, parents who hold high expectations for their children's learning encourage persistence and problem-solving which, in turn, helps develop an intrinsic motivation to learn. Alternatively, parents who seek control over their children's academic performance, use punishment for undesired performance, or display negativity about academics can discourage children from developing intrinsic motivation.

Although there is evidence to suggest the important role of parents in student motivation, motivational research is currently limited in terms of the various family background and cultural factors, as well as parents' attitudes and actions, that can influence their children's motivation to learn and succeed in school (Usher & Kober, 2012).

### ***Social Support and Academic Performance***

Social support provided by the teacher in class, the family at home, or by peers or friends in the environment empowers success-oriented and risk-taking behaviours among students. Several studies have shown that those who are more socially integrated into their academic environments are better positioned to improve their academic achievements (Tezci et al., 2015; DeBerard, Spielmans, & Julka, 2004). For example, Li and colleagues (2018) surveyed 262 university students and found social support to be an important factor in mitigating social exhaustion and in promoting academic achievement. Similarly, de la Iglesia, Stover, and Fernández Liporace (2014) investigated perceived social support and its relation to academic achievement in a sample of 760 college students. In their study, perception of social support was assessed through four possible sources: parents, teachers, classmates, and significant others, and academic achievement was measured using three different indicators: the number of passed, failed, and dropped courses in the period the student attended the university. Results showed that

a higher perception of social support was associated with better academic achievement. Moreover, Robbins et al. (2004) have confirmed the positive relationship between social support and the GPA of university students by meta-analyzing 109 studies. These findings are not only observed in undergraduate students. Different studies found that a high perception of support favours academic achievement throughout education. For example, studies show improved academic accomplishments in elementary, middle school, and high school when perceived support from parents, teachers, friends, and social support, in general, was higher (Rosenfeld, Richman, & Bowen, 2000; Crean, 2004; Perry, Liu, & Pabian, 2010).

### ***Social Support and Academic Motivation***

Social support provides students with a sense of security and competence, which is valuable in helping them address intellectual challenges more effectively. Alternatively, there is evidence that low perceived social support is related to non-persistence (DeBerard, Spielmans, & Julka, 2004; Li et al., 2018). The embedded resources in social networks can benefit individuals in achieving various goals (Li et al., 2018). Directly and indirectly, social support contributes to student outcomes via student motivation (Song et al., 2015; Tezci et al., 2015). Wentzel (1999) argues that the socialization experiences of students with their parents, teachers, and peers shape their social and motivational processes. In turn, these motivational processes lead students to certain academic outcomes, most notably academic achievement. For example, Patrick, Ryan, and Kaplan (2007) found that a sense of emotional support from students' teachers, academic support from their peers, and encouragement from their teachers to discuss their work, influenced students' motivational beliefs (mastery goals, academic and social efficacy). In turn, students were more likely to use self-regulatory strategies and engage in task-related interactions. To further illustrate, Emadpoor and colleagues (2016) surveyed 371 high school students about

their perceptions of social support and academic motivation. Results showed that perceived social support directly and positively influenced significant psychological well-being and academic motivation. Similar findings were observed by Tezci and colleagues (2015), who surveyed 716 university students about perceived social support (from family, friends, and special people), and motivation for learning and found a significant positive correlation between the two variables. The researchers explain that the social support received by students may encourage them to take responsibility for assignments and activities in school and to achieve success with academic tasks. They suggest that providing students with social support increases their eagerness to learn.

### ***Factors Influencing Perceived Social Support***

Various factors could predict an individual's level of perceived social support, including their proportion of supportive relationships, the nature or type of interactions in which they engage, and the frequency of contact with those in their social network (Cutrona, 1986). Studies have also revealed racial, ethnic, and gender differences in perceived social support and have shown that individual experiences can shape one's social perceptions. For example, lower levels of social support have been reported among individuals with insecure attachment styles and those who have experienced maltreatment compared to other individuals. Additionally, higher internalizing and externalizing behaviours are related to lower levels of perceived social support among children and adolescents (Zinn, Palmer, & Nam, 2017).

Various personality dimensions are also related to perceived social support, including the Big Five Personality traits (agreeableness, conscientiousness, extraversion, neuroticism, and openness to experience). Research that has examined this relationship has found that agreeableness, extraversion, and neuroticism seem to be most strongly related to the perceived



availability of social support (Swickert, Hittner, & Foster, 2010). This is not surprising, as these traits have an important influence on one's social relationships. Studies in extraversion and social support further show that compared with introverts, extraverts are more likely to seek out social support, seem to have larger and more diverse social support networks, and utilize social support more frequently (Swickert et al., 2002). From an educational lens, students high in extraversion may utilize social support during the learning process. To date, however, there has not been an investigation into how this personality trait interacts with social support and academic motivation.

### **The Big Five Personality Traits**

The Big Five framework is a hierarchical model of personality with five broad factors: neuroticism, extraversion, openness, agreeableness, and conscientiousness. Neuroticism is associated with insecurity, emotional instability, and immaturity. Extraversion is characterized by spontaneity, adventurousness, and sociability. Openness to new experiences is characterized by imagination, intellect, and preference for variety. Agreeableness is associated with courtesy, honesty, and kindness. Conscientiousness is characterized by responsibility, reliability, and organization. Each factor (e.g., extraversion) summarizes several more specific facets (e.g., sociability), which, in turn, subsume many more specific traits (e.g., talkative, outgoing). It is not uncommon, however, to assess personality using these five broad constructs (Clark & Schroth, 2010). It is widely acknowledged that these traits reflect core aspects of human personality and have strong influences on behaviour (Feyter et al., 2012).

### ***Personality and Academic Performance***

The Big Five traits have been related to a wide range of behaviours, including academic achievement and job performance (Costa & McCrae, 1992; Judge et al., 2007). It is important to

note that the predictive power of personality is not associated with intelligence or other aspects of cognitive ability. Research in this area shows that even when intelligence and cognitive ability are controlled for, the relationships between personality and academic performance and occupational success are still observed (Duckworth & Seligman, 2005; Hogan, 2005; Wagerman & Funder, 2007). The clear distinction between intelligence and personality traits was made by early researchers but persists to this day, as most contemporary personality inventories exclude explicit intelligence content (Allport & Odbert, 1936; Nofle & Robins, 2007).

O'Connor and Paunomen (2007) note the importance for the evaluation of personality as predictors of post-secondary students' academic achievement, explaining that there are behavioural tendencies reflected in personality traits that can influence study habits and performance. The scholars argue that the evaluation of personality traits can be more informative than that of cognitive proficiency because the cognitive profile reveals what a student *can* do, while personality dimensions reflect what a student *will* do.

There are many traits beyond those explained by the Big Five that contribute to academic success. For example, traits representing grit, self-discipline, self-control, commitment to college, and perfectionism are significant predictors of GPAs and remaining in school (Komarraju, Karau, & Schmeck, 2009). However, certain aspects of personality and motivational orientations contribute to academic success. For example, Nofle and Robins (2007) examined relations between the Big Five personality traits and academic outcomes in high school and college students and found that openness and conscientiousness were the strongest predictors of academic achievement. Research by Lounsbury and colleagues (2003) found that openness is positively related to final grades and that individuals who score high on this trait use learning strategies that emphasize critical thinking. Furthermore, Farsides & Woodfield (2003) found that

besides conscientiousness, both openness and agreeableness were positively related to academic performance and Furnham and Medhurst (1995) showed a significant positive correlation between extraversion and performance in a seminar class. On the contrary, neuroticism has been found to be associated with impaired academic performance (Chamorro-Premuzic & Furnham, 2003; Heaven et al., 2002).

### ***Personality and Academic Motivation***

In an educational context, empirical studies have explored the relationship between the Big Five personality factors and academic performance, and across various educational settings, personality traits have been linked to individual differences in academic performance (O'Connor & Paunonen, 2007; Feyter et al., 2012). In contrast to the rich literature on personality and academic achievement, research linking personality and motivation is limited. A study by Payne, Youngcourt, & Beaubien (2007) revealed that students high in conscientiousness, extraversion, and openness show the strongest learning goal orientation, while students high in neuroticism and low in extraversion are most likely to pursue avoidance performance goals and a fear of failure. A study by Komarraju and Karau (2005) examined the relationship between the Big Five personality traits and individual differences in college students' academic motivation. The researchers defined engagement motivation as thinking and desire for self-improvement and found that this measure was best explained by openness and extraversion. Achievement motivation was defined as persisting and competing and was best explained by conscientiousness, neuroticism, and openness. Avoidance motivation was defined as debilitating anxiety, withdrawing, and disliking school. This measure was positively associated with neuroticism and extraversion, and negatively with conscientiousness and openness.

## ***Extraversion***

Of the personality traits, researchers often attend to the tendency of extraversion, which generally reflects the social needs of an individual and refers to traits of sociability, assertiveness, and talkativeness (Komarraju & Karau, 2005). Barańczuk (2019) explains that individuals who score high on extraversion measures experience more positive emotions and seek social interactions. They tend to be more cheerful, sociable, and friendly when compared to those low on extraversion. In the classroom, a student with a tendency to extraversion may be engaged with their social environment and could present as outgoing, talkative, and energetic. Alternatively, a student with a tendency to introversion may prefer to work independently and could be somewhat calm, quiet, and reserved in nature.

## ***Extraversion and Academic Motivation***

Researchers have examined the relationship between personality variables and aspects of academic motivation, such as achievement motivation, performance goals, and test anxiety. Through this exploration, there is preliminary evidence to suggest a relationship between extraversion and academic motivation. For example, De Feyter and colleagues (2012) found that extraversion is significantly associated with academic motivation and reflects positive affect, enthusiasm, a high energy level, and a desire to learn. Heaven (1990) reported that achievement motivation was positively correlated with extraversion, and research by Payne, Youngcourt, and Beaubien (2007) revealed that individuals high in extraversion show stronger learning goal orientation. Students low in extraversion, however, were more likely to experience a fear of failure and pursue performance-avoidance goals. Additionally, Rothstein et al. (1994) reported that extraversion was positively associated with classroom participation grades in an MBA program, and Furnham and Medhurst (1995) showed a significant positive correlation between

sociability and performance in a seminar class. Similarly, Komarraju and Karau (2005) found that students with higher levels of extraversion were more engaged in learning, suggesting that students who are sociable and enjoy exposure to new ideas are likely to be involved in the educational experience, contributing to discussions and interactive learning.

### ***Extraversion and Perceived Social Support***

In addition to its role in education, personality researchers suggest that extraversion is closely related to social relationships and one's perception of social support (Boyratz, Horne, & Sayger, 2010). Furthermore, studies show that extraversion is positively related to both giving and receiving social support within one's social context (Tan, Low, & Viapude, 2018; Bowling, Beehr, & Swader, 2005). When evaluating the relationship between the Big Five personality traits and social support, Barańczuk (2019) found that higher extraversion is linked to better social functioning and is associated with greater perceived availability of social support. Swickert and colleagues (2010) explain that extraversion influences the construction of one's social support network. For example, very extraverted individuals enjoy being around others and typically have a wide circle of friends. Resultantly, they have a larger number of individuals to turn to for support when they find themselves in stressful situations.

### **Post-Secondary Education in Canada**

Post-secondary education refers to any education after graduation from high school. In Canada, there are four main categories or types of public post-secondary institutions: universities, one- and two- year professional and vocational colleges, polytechnics and institutes of technology, and CEGEPs (general and vocational colleges) in Quebec (Bates, 2018). Obtaining some form of advanced education has become the norm for many Canadians (Knighton et al., 2009). For example, in 2008, Andres and Adamuti-Trache found that 86% of

their large sample of British Columbia youth had obtained some form of post-secondary credential within 15 years after graduating high school. More recently, Statistics Canada (2021) reported that in 2019, an all-time high of 73% of Canadians aged 25 to 34 had earned post-secondary qualifications. This may be partially due to Canada's shift from a resource-based to a knowledge-based economy, which requires post-secondary credentials for most occupations (Anisef & Sweet, 2005).

### ***The Decision to Attend Post-Secondary***

There are a variety of factors that influence an individual's decision to pursue a post-secondary education. For example, Fermin and Pope (2003) surveyed college students regarding the factors most influential in their decision to attend post-secondary education and found that the top reason for attending was the possibility of achieving a personal career goal upon the completion of college. Other highly rated factors included the personal goal to obtain a college degree, the possibility of getting a better job upon completion of college, the possibility of making more money upon the completion of college, and parents' encouragement to attend. Students also reported the encouragement of friends who are attending/have attended college, and teachers' support and encouragement. The researchers noted that these social agents played a significant role in students' decision to attend college.

### ***Adjustment to Post-Secondary Lifestyle***

The transitions from high school to post-secondary is a major milestone. Many new post-secondary students are living on their own for the first time and must learn to navigate a new set of academic and social demands. This is a period of personal and social growth where students learn to become self-starters for completing assignments on time and attending class. Not only are they required to develop more independence, but there is an increase in academic

expectations and workload (Clark & Schroth, 2010). Students have identified several academic stressors, including the amount of coursework or research, lack of time to complete assignments, difficulty of course content, test anxiety, fear of failure, lack of motivation, and an inability to concentrate (Monk, 2004; Tosevski & Milovancevic, 2010; Welle & Graf, 2011). Cairns and colleagues (2010) surveyed Canadian post-secondary students who sought help from counselling centres and found that securing a career post-graduation was one of their greatest concerns. Post-secondary students are also reportedly concerned about acceptance into graduate or professional programs (Villatte et al., 2007).

Although graduate students are typically thought of as being “hardier” than their undergraduate counterparts, researchers have shown that high levels of stress extend to graduate studies. For example, Wyatt and Oswalt (2013) found that graduate students reported lower levels of mental illness but higher levels of stress than the undergraduate participants in their study. Stressors at the graduate level pertain more to the completion of milestones, such as dissertation research, writing, and defence (Offstein et al., 2004; Van Laethem et al., 2017). Graduate students often report challenges with fulfilling the multiple roles in their lives, which for some, include being a student, parent, spouse, friend, etc. (Offstein et al., 2004).

In addition to academic stressors, post-secondary students sometimes struggle with social integration into the campus culture. This is especially true for students belonging to ethnic minorities who continue to report experiences of racism on campus, particularly Indigenous students (Currie et al., 2012; Hampton & Roy, 2002; Lindsay, 2010). Studies by Hawley and colleagues (2016) and Locke and colleagues (2012) found that when compared to their counterparts, students identifying as ethnic minorities consistently reported higher stress levels and poorer mental health. Roberston, Holleran, and Samuels (2015), suggested that the

Eurocentric nature of North American post-secondary institutes contribute to a diminished sense of belongingness on campus for international students.

Post-secondary students commonly report financial, and relationship concerns as additional area of stress. The former includes balancing their studies with part-time work, large student loan payments following graduation, and accumulations of debt (Richardson et al., 2017; Walsemann, Gee, & Gentile, 2015). The latter includes the loss of frequent socialization with old friends, having to form new friendships in a new environment, and distance from their parents and family home (Linden & Stuart, 2020). Difficulty navigating life with roommates has also been identified as a source of stress (Welle & Graf, 2011). It is important to note that stress in post-secondary students can lead to decreased healthful behaviours, such as getting enough sleep, engaging in regular physical activity, and eating a balanced diet, which are important for students' overall well-being (Linden & Stuart, 2020).

There are a variety of factors that help students manage and work through these stressful periods, and ultimately lead to better academic outcomes. For example, personal characteristics, such as sense of self-efficacy, tenacity, and optimism all contribute to a students' belief in their abilities and motivation to persevere. In addition, help-seeking attitudes and behaviours when in need of mental health care can be beneficial (Linden & Stuart, 2020). Hartley (2011) further explained that social integration is a crucial component of students' successful adjustment to post-secondary life and that seeking support from friends or family is a positive coping mechanism in response to stressors. A study by Mason, Zaharakis, and Benotsch (2014) found that post-secondary students who felt close to their peers were at decreased risk for symptoms of distress. Mattanah and colleagues (2011) found that connectedness to one's parents was significantly related to better adjustment, for example, by cultivating social relationships with



others and individual growth represented by a greater self-worth and sense of academic ability. Overall, students' academic motivation will largely influence the choices they make during this period of newfound freedom, as well as their ability to meet a new set of standards and expectations (Clark & Schroth, 2010).

## CHAPTER TWO

### PERCEIVED SOCIAL SUPPORT AND ACADEMIC MOTIVATION: EXPLORING THE MODERATING ROLE OF EXTRAVERSION IN POST-SECONDARY STUDENTS

School Psychology focuses on the research of psychological topics in education, ranging from pre-school to post-secondary education (Wijnia, 2020). Motivation is one of the most studied concepts in educational research because it is key for optimal and meaningful learning (Tüysüz, Yıldırım, Demirci, 2010). Academic motivation describes a student's willingness to put effort into their studies (Lavrijsen et al., 2021). More specifically, it represents their desire, need, aspiration and obligation to participate in the learning process and become successful (Tezci et al., 2015). Academic motivation is a critical precursor to achievement-related behaviours, and it can predict students' engagement, performance, and continued pursuit of academic interests (Clark et al., 2014; Koenka, 2020).

Research in this area helps predict why some students are expected to perform well or persist when confronted with academic obstacles while others may not (Koenka, 2020). Empirical findings consistently show that academically motivated students like to learn, tend to perceive school and learning as valuable, and enjoy learning-related activities (Eccles & Wigfield, 2002; Zimmerman, 2000, 2008). Alternatively, lack of motivation not only leads to disengagement with school in general, but studies have identified it as the primary reason for underachievement (Scheel, Madabhushi, & Backhaus, 2009; Wigfield, Lutz, & Wagner, 2005). In a study examining motivation among university students, Askari (2006) also found that motivational deficiencies contributed to pessimism, anxiety, depression, and academic performance failure.

One of the most widely used theories guiding motivational research is Deci and Ryan's Self-Determination Theory (SDT) of motivation (1985), which claims that there are three types of behavioural motivation: intrinsic motivation, extrinsic motivation and amotivation. Intrinsic motivation is when behaviours are done out of individual enjoyment or interest without expecting an external reward. Therefore, they are not based on an external stimulus. Extrinsic motivation is when behaviours are done to achieve a goal or reward beyond the activity itself. Incentives also include acquiring status, being favoured by others, or avoiding punishment (Tezci et al., 2015). For instance, an extrinsically motivated student studies for external rewards that derive from academic achievements, such as obtaining a job with a desirable salary and benefits, whereas a student who is intrinsically motivated studies for interest and enjoyment, to acquire new skills and personal knowledge (Zaccone & Pedrini, 2019). Finally, amotivation is when individuals are not motivated because they do not perceive any reward for their behaviour. It is the lack of intentionality and motivation to engage in an activity (Clark et al., 2014). For example, a post-secondary student may question whether studying still represents a worthwhile objective (Yaman, 2013).

Some researchers suggest that students at the post-secondary level are more extrinsically motivated than intrinsically motivated. For example, getting good grades, maintaining a desirable GPA, and getting accepted into graduate programs have been found to be primary sources of motivation in this population (Van Etten et al., 1998; Becker & Hughes, 1995). Other researchers argue that post-secondary students are motivated extrinsically by rewards and intrinsically by a pure desire to perform well. For examples, Scifres and colleagues (2021) found that students were motivated by external "regulators," such as going to college to make a better salary, obtain a more prestigious job, and have "the good life." Students also endorsed items relating to

pleasure from surpassing oneself in studies and personal accomplishments, gaining satisfaction from accomplishing difficult activities, and excelling in studies. These results are in line with findings from Husman and Lens (1999), who found that highly intrinsically motivated students can simultaneously be extrinsic in terms of future goal orientations. Despite these findings, it is widely agreed that students characterized by high intrinsic motivation compared to extrinsic motivation display higher levels of learning outcomes and are more likely to persist when experiencing an academic challenge (Vansteenkiste et al., 2009; Vallerand & Bissonnette, 1992). From childhood to adolescence, across varied populations, those with higher intrinsic motivation are generally more successful in school, evidencing higher grades, more positive perceptions of their academic competency, and lower academic anxiety (Ayub, 2010). These findings are widely proposed to be because intrinsic motivation reflects deeper engagement and higher persistence, generating a lasting personal commitment to learning activities (Zaccone & Pedrini, 2019).

There are numerous factors that affect learning and motivation. For example, Deci and Ryan (1994) stated that both internal and external motivations were determined by social factors. Factors like families, teachers, friends, and peers with whom an individual interacts are significant promoters of intrinsic and extrinsic motivation. Individual student characteristics, such as personality factors have also been linked to motivation and were found to have great implications for how students learn scholastic material (Clark & Schroth, 2010; Kamarraju et al., 2009).

Researchers suggest that students are significantly influenced by their surrounding social contexts and that social support is associated with many positive indicators for students. There are strong associations between perceived support and student well-being, including academic

attainment, happiness and enjoyment, and social life in and out of school (Awang, Kutty, & Ahmad, 2014; Li et al., 2018). Social support networks also provide stability and predictability and can promote students' ability to adapt and adjust to educational transitions, for example, across grades or between schools (Awang, Kutty, & Ahmad, 2014; Coffman & Gilligan, 2002). Social support can come from multiple sources, such as parents, teachers, close friends, classmates, and significant others (Awang, Kutty, & Ahmad, 2014). It can also be both received and perceived – received support refers to the quantity of supportive behaviour received by an individual, and perceived support refers to both the satisfaction with support and the availability of it if needed (Coffman & Gilligan, 2002). Several researchers agree that the perception of social support is more relevant and has a greater impact during stressful circumstances (de la Iglesia, Stover, & Fernández Liporace, 2014).

Social support provides students with a sense of security and competence, which is valuable in helping them address intellectual challenges more effectively. Alternatively, there is evidence that low perceived social support is related to non-persistence (DeBerard, Spielmans, & Julka, 2004; Li et al., 2018). The embedded resources in social networks can benefit individuals in increasing their eagerness to learn and achieving various goals (Li et al., 2018). Research in post-secondary students show that perceived social support from family, friends, and special people is positively correlated to academic motivation (Emadpoor et al., 2016; Tezci et al., 2015).

Various factors could predict an individual's level of perceived social support, including their proportion of supportive relationships, the nature or type of interactions in which they engage, and the frequency of contact with those in their social network (Cutrona, 1986). Various personality dimensions are also related to perceived social support (Swickert, Hittner, & Foster,

2010). Studies in extraversion and social support further show that compared with introverts, extraverts are more likely to seek out social support, seem to have larger and more diverse social support networks, and utilize social support more frequently (Swickert et al., 2002). From an educational lens, students high in extraversion may utilize social support during the learning process. To date, however, there has not been an investigation into how this personality trait interacts with social support and academic motivation.

Extraversion is one of the five broad factors within the Big Five model of personality. It generally reflects the social needs of an individual and refers to sociability, assertiveness, and talkativeness (Komarraju & Karau, 2005). Barańczuk (2019) explains that individuals who score high on extraversion measures experience more positive emotions and seek social interactions. They tend to be more cheerful, sociable, and friendly when compared to those low on extraversion. In the classroom, a student with a tendency to extraversion may be engaged with their social environment and could present as outgoing, talkative, and energetic. Alternatively, a student with a tendency to introversion may prefer to work independently and could be somewhat calm, quiet, and reserved in nature.

Researchers have examined the relationship between personality variables and aspects of academic motivation, such as achievement motivation, performance goals, and test anxiety. Through this exploration, there is preliminary evidence to suggest a relationship between extraversion and academic motivation. For example, De Feyter and colleagues (2012) found that extraversion was significantly associated with academic motivation and reflected positive affect, enthusiasm, a high energy level, and a desire to learn. Heaven (1990) reported that achievement motivation was positively correlated with extraversion, and research by Payne, Youngcourt, and Beaubien (2007) revealed that individuals high in extraversion show stronger learning goal

orientation. Students low in extraversion, however, were more likely to experience a fear of failure and pursue performance-avoidance goals.

In addition to its role in education, personality research suggests that extraversion is closely related to social relationships and one's perception of social support (Boyraz, Horne, & Sayger, 2010). Furthermore, studies show that extraversion is positively related to both giving and receiving social support within one's social context (Tan, Low, & Viapude, 2018; Beehr & Swader, 2005). When evaluating the relationship between the Big Five personality traits and social support, Barańczuk (2019) found that higher extraversion is linked to better social functioning and is associated with greater perceived availability of social support.

Much of the research within educational psychology, including existing motivational research, has focused on elementary, middle, and high school students rather than post-secondary students. However, researchers suggest that the effect of social support is a significant predictor of motivation in students, even at the undergraduate and graduate levels (Tezci et al., 2015). Furthermore, it appears that social support is crucial in a successful transition to the university environment (DeBerard, Spielmans, & Julka, 2004). Van Etten and colleagues (2008) explain that motivational influences for post-secondary students are complex, as these students are faced with the demands of college and the uncertainty of the post-college world. The changing nature of the relationships with parents, teachers, and peers during the transition from high school to post-secondary makes it even more important to examine the contributions of the support received from these social figures (Song et al., 2015). There is also concern that once students reach higher education, they experience a decline in motivation. For example, in a study investigating college students' academic motivation, Brouse and colleagues (2010) found that both intrinsic and extrinsic motivation declined in college years, and this finding seems to

support the statement made by Ryan and Deci (2000) that in general, levels of intrinsic motivation decrease with a progression through one's academic career, becoming less and less self-determined. These findings highlight that post-secondary students are an important population to continue studying in the field of School Psychology.

Given the significance of motivation in education, the present study aims to investigate the variables potentially influencing academic motivation in post-secondary students. While several studies have examined individual differences in academic performance, research on academic achievement is richer than research on academic motivation. Furthermore, compared to research examining the relationship between personality and attainment, research investigating the relationship between personality and motivation is more limited (McGeown et al., 2014). The current study offers a unique perspective by focusing on the interaction of participants' social and personality characteristics as the antecedents of academic motivation. Specifically, the current study seeks to investigate students' level of perceived social support and extraversion as predictors of academic motivation. Knowledge of the factors that influence academic motivation has important implications for learning and education.

### **Research Questions**

The current study has two overarching research questions:

- (1) Does perceived social support predict academic motivation in post-secondary students?
- (2) Does extraversion moderate the relationship between perceived social support and academic motivation?



## Method

### Participants

Participants consisted of Canadian post-secondary students attending various institutions across the country between the ages of 19 and 42 ( $M = 23.74$ ,  $SD = 4.84$ ). They were recruited via online advertisements on social media (22.9%) and through Mount Saint Vincent University's online recruitment system, SONA (77.1%). In exchange for their participation, participants recruited via SONA were awarded bonus points toward course credit, while those recruited through social media were not rewarded for their participation. The sample contained 70 participants ( $n = 70$ ). With respect to sex, 74.3% identified as female and 25.7% identified as male. With respect to gender, 68.6% identified as cisgender woman, 25.7% identified as cisgender man, and 5.7% preferred not to disclose their gender. 78.6% of participants were Caucasian or White, 8.6% were Asian or Pacific Islander, 7.1% were African American or Black, 2.9% were Hispanic or Latino, and 2.9% preferred not to disclose their ethnicity. Of these post-secondary students, 11.4% were in their first year of study, 17.1% were in their second year, 30.0% were in their third year, 22.9% were in their fourth year, and 18.6% were in graduate studies. Participants were mostly university students (97.1%), while 2.9% attended a college institution.

### Procedures

Data were collected through an online survey hosted by LimeSurvey, from March 27<sup>th</sup>, 2023, to May 27<sup>th</sup>, 2023. Attached to the study advertisement on social media, and to the study description on SONA, was a hyperlink that directed participants to the survey, which included a demographic questionnaire and three scales. The inclusion criteria for the study were that the participants must be a post-secondary student and must be attending a Canadian institution. Prior

to entering the survey, all participants were required to confirm that they met the inclusion criteria. If they indicated that they did not meet these criteria, they were directed to the end of the study. Those who met criteria were directed to the Consent Form (Appendix A) to review and sign electronically. Once consent was provided, participants were directed to the demographic questionnaire, followed by the Multidimensional Scale of Perceived Social Support, then the Big Five Inventory (Extraversion items only), and finally, the Academic Motivation Scale (College version). Upon completion of the survey, participants were thanked for their participation, and results were analyzed using SPSS software version 26.

## **Measures**

***Demographic Questionnaire.*** The demographic items (Appendix B) gathered information about participants' sex, gender, sexual orientation, age, ethnic identity, education level, and year of study.

***The Multidimensional Scale of Perceived Social Support (MSPSS).*** The MSPSS is a 12-item self-report questionnaire with ratings made on a seven-point Likert-type scale. The participants read each statement about perceived social support (e.g., "There is a special person who is around when I am in need") and indicated how they felt about each statement, from *very strongly disagree* (1) to *very strongly agree* (7). The MPSS is a widely used measure of perceived adequacy of social support from three sources: family, friends & significant others. The minimum score that can be obtained from the scale is 12, and the maximum score is 84, with higher scores reflecting greater perceptions of perceived social support. Across three subject groups, Cronbach's alpha values ranged from .81 to .90 for the Family subscale, from .90 to .94 for the Friends subscale, from .83 to .98 for the Significant Other subscale, and from .84 to .92 for the scale as a whole (Zimet et al., 1990). In a study to evaluate the psychometric properties of

the MSPSS in adolescents, Trejos-Herrera and colleagues (2018) found acceptable Cronbach's alpha values for the Family subscale ( $\alpha = .82$ ), the Friends subscale ( $\alpha = .84$ ), the Significant Others subscale ( $\alpha = .75$ ), and the Total Scale ( $\alpha = .84$ ). Similarly, Duru (2007) measured the effectiveness of the MSPSS in university students and found that the Family, Friends, and Significant Other subscales demonstrated high internal consistency (.85, .88, .90, respectively). The internal consistency coefficient of the scale was found to be .87. Overall, the MPSS is a psychometrically sound instrument with strong internal reliability, factorial validity, and subscale validity (Zimet et al., 1990).

***The Big Five Inventory (BFI)***. The BFI is a 44-item measure designed to allow efficient and flexible assessment of the Big Five dimensions of personality (John, Donahue, & Kentle, 1991). Participants respond to short phrases on a five-point Likert-type scale from *strongly disagree* (1) to *strongly agree* (5). For the current study, participants were only asked to respond to the Extraversion items on the scale. For example, they indicated the extent to which they are talkative, energetic, enthusiastic, outgoing, sociable, and have an assertive personality. Reverse-scored items include tendencies to be reserved, quiet, shy, and inhibited. Assessment of internal consistency for the Extraversion scale within a university sample revealed an acceptable Cronbach's alpha value of .87 and test-retest reliability score of .96 (Arterberry et al., 2014). In a sample of undergraduate students, internal consistency was satisfactory for Extraversion in both males ( $\alpha = .82$ ) and in females ( $\alpha = .83$ ) (Alansari, 2020). In an adolescent sample, Fossati and colleagues (2011) also reported adequate internal consistency for the Extraversion scale ( $\alpha = .86$ ). The BFI is a commonly used personality assessment, and it provides reliable and valid measurement across age, gender, and culture (Arterberry et al., 2014).

***Academic Motivation Scale College Version (AMS-C)***. The AMS-C is a 28-item measure that respondents answer on a seven-point Likert-type scale, ranging from *does not correspond at all* (1) to *corresponds exactly* (7) (Vallerand et al., 1993). The AMS-C is specifically designed for college students and measures the motivational states proposed by the Self-Determination Theory within an academic context. Participants rated intrinsic (e.g., “because I experience pleasure and satisfaction while learning new things”), extrinsic (e.g., “in order to obtain a more prestigious job later on”), and amotivation (e.g., “I don’t know; I can’t understand what I am doing in school”) items about why they attend college. In a sample of university students, acceptable Cronbach’s alpha reliability coefficients were established for all three AMS-C factors: intrinsic motivation ( $\alpha = .92$ ), extrinsic motivation ( $\alpha = .86$ ), and amotivation ( $\alpha = .87$ ) (Kapp, Mostert, & Beer, 2020). In a methodological study with undergraduate students to examine the validity and reliability of the AMS-C, Souza and colleagues (2021) also found acceptable Cronbach’s alpha for the three-dimensional model: intrinsic motivation ( $\alpha = .84$ ); extrinsic motivation ( $\alpha = .84$ ); and amotivation ( $\alpha = .84$ ). Similarly, with a sample of university students, Zurlo and colleagues (2023) found satisfactory internal consistency for Intrinsic Motivation ( $\alpha = .90$ ), Extrinsic Motivation ( $\alpha = .86$ ), and Amotivation ( $\alpha = .82$ ). Existing literature finds this instrument to have theoretical and psychometric strength that permits a valid and reliable assessment of academic motivation (Stover et al., 2012).

### **Analysis**

All quantitative data were analyzed using IBM’s Statistical Package for the Social Sciences software (SPSS) version 28. Bivariate correlations were used to explore the correlations between variables and three multiple regressions were used to examine the interaction of

Perceived Social Support and Extraversion in predicting the subscales of academic motivation: Intrinsic Motivation, Extrinsic Motivation, and Amotivation. The assumptions of the correlation and regression analyses were normality and linearity. The data set contained no missing values, as all participants responded to every item.

## **Results**

### **Correlations**

A bivariate correlation was performed between variables used in the current study to explore correlations. Correlation analysis included the predictor variables (Perceived Social Support and Extraversion) and the outcome variables (Intrinsic Motivation, Extrinsic Motivation, and Amotivation). Perceived Social Support was shown to positively correlate with Extraversion ( $r = .42, p < .001$ ) and Intrinsic Motivation ( $r = .39, p < .001$ ), and was shown to have a negative correlation with Amotivation ( $r = -.26, p = 0.030$ ). Extraversion was positively correlated with Extrinsic Motivation ( $r = .27, p = .026$ ), and Intrinsic Motivation ( $r = -.25, p = .039$ ). Visual inspection of the scatter plots did not reveal linear correlations between any variables. See Table 1.

**Table 1***Correlations between variables*

	Extraversion	Extrinsic	Intrinsic	Amotivation
Perceived Social Support	.42**	.19	.39**	-.26*
Extraversion	1	.27*	.25*	-.20

*Note.* Extrinsic = Extrinsic Motivation; Intrinsic = Intrinsic Motivation; \* =  $p < .05$ ; \*\* =  $p < .001$ .

## Multiple Regression

Multiple linear regressions were used to examine if Extraversion moderated the relationship between Perceived Social Support and the subscales of Academic Motivation. To explore these relationships, three moderated multiple linear regressions were conducted, where the outcome variables were Intrinsic Motivation, Extrinsic Motivation, and Amotivation respectively. All three analyses included Perceived Social Support, Extraversion, and their interaction term of Perceived Social Support and Extraversion as the predictor variables. In the first block of each direct regressions, the main effects were tested followed by the interactions.

The model including the interaction between Perceived Social Support and Extraversion predicting Intrinsic Motivation was shown to be significant ( $F = 3.59$ ,  $p = .018$ ,  $R^{sq}(adj) = .101$ ). The model including the interaction between Perceived Social Support and Extraversion predicting Amotivation was shown to be significant ( $F = 6.14$ ,  $p = <.001$ ,  $R^{sq}(adj) = .183$ ). However, the model including the interaction between Perceived Social Support and Extraversion predicting Extrinsic Motivation was shown to be non-significant ( $F = 2.46$ ,  $p = .070$ ,  $R^{sq}(adj) = .060$ ).

Post hoc analysis was conducted using bivariate correlations to examine the correlations between Perceived Social Support and Intrinsic Motivation, and between Perceived Social Support and Amotivation. To examine the effects of the moderator variable, Extraversion was split into a low score group and a high score group using median split. Perceived Social Support was shown to positively correlate with Intrinsic Motivation ( $r = .38$ ,  $p = .023$ ) and negatively correlated with Amotivation ( $r = -.65$ ,  $p = <.001$ ) in the Low Extraversion group. Perceived Social Support was not correlated with Intrinsic Motivation or Amotivation in the High Extraversion group. See Table 2.

**Table 2***Post Hoc Correlations*

	Intrinsic Motivation	Amotivation
Low Extraversion		
Perceived Social Support	.38*	-.65**
High Extraversion		
Perceived Social Support	.23	-.05

*Note.* Low Extraversion (n = 35) represents lower total scores on the Extraversion scale, while High Extraversion (n = 35) represents higher total scores on the Extraversion scale; \* =  $p < .05$ ; \*\* =  $p < .001$ .



Perceived Social Support was shown to be a significant positive predictor of Intrinsic Motivation ( $t = 2.35, p = .022$ ), and a significant negative predictor of Amotivation ( $t = -3.10, p = .003$ ). Perceived Social Support was not significant in predicting Extrinsic Motivation. Extraversion was not significant in predicting Intrinsic Motivation, Extrinsic Motivation, or Amotivation. Full regression models predicting the subscales of Academic Motivation using both predictor variables are shown in Table 3.

**Table 3***Regression models predicting the Subcategories of Academic Motivation*

	B	SE	t	p
<b>Extrinsic Motivation</b>				
Perceived Social Support	.17	.12	1.40	.166
Extraversion	.20	.13	1.57	.122
<b>Intrinsic Motivation</b>				
Perceived Social Support	.28	.12	2.35	.022
Extraversion	.14	.12	1.12	.266
<b>Amotivation</b>				
Perceived Social Support	-.36	.12	-3.10	.003
Extraversion	-.03	.12	-.24	.813

## Discussion

The first hypothesis that perceived social support predicts the subscales of academic motivation in post-secondary students was supported in the case of intrinsic motivation and amotivation. Perceived social support was shown to be a significant positive predictor of intrinsic motivation, suggesting that it is associated with being motivated by personal satisfaction or enjoyment. Perceived social support was also shown to be a negative predictor of amotivation, suggesting that it buffers against general lack or loss of motivation. Perceived social support was not significant in predicting extrinsic motivation, suggesting it is not associated with being motivated by external rewards.

The finding that perceived social support positively predicts intrinsic motivation is valuable because intrinsic motivation reflects engaging in an activity for its own sake, for enjoyment, challenge, interest, or natural fulfilment of curiosity (Valerio, 2012). At the post-secondary level, it is hoped that students would be intrinsically motivated by their coursework or program as they prepare for the career paths they have chosen. At this stage in their education, being motivated by a genuine interest in their studies is arguably more important than being motivated by external rewards, such as receiving course credit. Furthermore, researchers suggest that intrinsic motivation, when compared to extrinsic motivation, generally leads to the most positive outcomes. Those with higher intrinsic motivation are generally more successful in school, evidencing higher grades, more positive perceptions of their academic competency, and lower academic anxiety (Ayub, 2010). These findings are widely proposed to be because intrinsic motivation reflects deeper engagement and higher persistence, generating a lasting personal commitment to learning activities (Zaccone & Pedrini, 2019). Overall, intrinsic

motivation is crucial at the post-secondary level and results show that perceived social support plays an important role in fostering it.

The finding that perceived social support negatively predicts amotivation is also meaningful, as it highlights how perceived social support can protect against a lack or loss of motivation. It is also in line with evidence that low perceived social support is related to non-persistence (DeBerard, Spielmans, & Julka, 2004; Li et al., 2018). At the post-secondary level, where students are expected to invest significant amounts of time, effort, and finances into their studies, it is crucial that they have the tools to maintain motivation levels. Results from the current study help illustrate how social support can help post-secondary students remain motivated.

It is important to note that the positive effects of social support extend beyond motivation. Perceived social support is associated with more successful experiences during post-secondary students' education (Maymon, Hall, & Harley, 2019). There are strong associations between perceived support and student well-being, including academic attainment, happiness and enjoyment, and social life in and out of school (Awang, Kutty, & Ahmad, 2014; Li et al., 2018). Therefore, the effects of perceived support on students' post-secondary experience are an important area to continue exploring.

The full model, using the interaction of perceived social support and extraversion to predict intrinsic motivation was shown to be significant ( $p = .018$ ) and 10.1% of the variance in intrinsic motivation scores can be explained by the interaction of the two predictor variables ( $R^2(\text{adj}) = .101$ ). The full model, using the interaction of perceived social support and extraversion to predict amotivation was shown to be significant ( $p = <.001$ ) and 18.3% of the variance in amotivation scores can be explained by the interaction of the two predictor variables

( $R^{\text{sq}}(\text{adj}) = .183$ ). The regression models used in the current study can be used to explain some of the variance in the subscales of academic motivation, and therefore, could be used in future research when predicting or measuring academic motivation. There remains, however, 89.9% of the variance in intrinsic motivation, and 81.7% of the variance in amotivation, that is not explained by the interaction of the two predictor variables.

Researchers have shown that a variety of factors can influence academic motivation at the post-secondary level, including the campus environment, involvement in extracurricular activities, and interactional experiences such as relations with faculty members (Van Etten et al., 2008; Komarraju, Musulkin, & Bhattacharya, 2010; Trolan et al., 2016). Individual student characteristics, such as self-efficacy and the need for achievement are also influential (Pranitasari & Maulana, 2022). In addition, stress levels and overall mental and physical well-being are important considerations. Situational factors may also influence students' motivation levels. For example, post-secondary students may report higher levels of academic motivation at the beginning of the school year or semester compared to at the end of a semester or during exam season. Factors related to the COVID-19 pandemic, such as changes in learning modalities and environments, may have also impacted student motivation (Mai, Wu, & Huang, 2021). Furthermore, many post-secondary students have missed physical proximity and opportunities for interaction, which are important for developing and fostering social ties (Elmer, Mepham, & Stadtfeld, 2020). Research by Bächtold and colleagues (2023) revealed that in a sample of first year university students, the strongest factor predicting academic motivation was self-determination. Although still a significant factor, the weakest in predicting academic motivation was perceived social support. Overall, more variables must be identified to gain a more complete understanding of what makes post-secondary students academically motivated.

The second hypothesis that extraversion would moderate the relationship between perceived social support and the subscales of motivation was supported in the case of intrinsic motivation and amotivation. The interaction between perceived social support and extraversion positively predicted intrinsic motivation negatively predicted amotivation. In the case of extrinsic motivation, the predictor variables did not interact and their relationships with academic motivation were independent of each other, suggesting that their individual relationships with academic motivation are more important than their interactive ones.

In examining the moderating role of extraversion, post hoc analysis revealed that perceived social support was positively correlated with intrinsic motivation and negatively correlated with amotivation in post-secondary students with lower levels of extraversion. There was no relationship between perceived social support and intrinsic motivation or between perceived social support and amotivation in students with higher levels of extraversion. Consistent with findings from the current study, extraversion has been found to be positively correlated with perceived social support (Williamson et al., 2017; Swickert et al., 2002). However, these results suggest that perceived social support is a greater predictor of the subscales of academic motivation in students with lower levels of extraversion. While students higher in extraversion may experience increased perceptions or social support, students lower in extraversion may benefit from that social support to a greater extent. These findings are in line with those from Card and Skakoon-Sparling (2023), who found that support from friends and family was more important for the wellbeing of people with lower levels of extraversion compared to people with higher extraversion. Individuals who are less extraverted benefit especially from social connection and can be quite sensitive to feelings of disconnection or lack

of support (Baumeister & Leary, 1995). Taken together, the results highlight the important role of social support in academic motivation, particularly for students with lower levels of extraversion.

### **Limitations & Future Research**

The current study has limitations that should be noted. First, the study relies on self-report information from participants to assess the subscales of academic motivation. While these results reflect individuals' perceptions and experiences that are key to understanding their levels of the variables measured, future use of multiple sources of information (e.g., informants, instructors, parents) and multiple methodologies (e.g., interviews, observations) could provide a more robust, valid method of identifying academic motivation (Fredricks, Blumenfeld, & Paris, 2004). Similarly, measurements of perceived social support and extraversion are not fixed and could vary depending on environmental or situational factors for example, at the time of assessment.

Another limitation relates to the method of recruitment. It is important to note that most participants were recruited through Mount Saint Vincent's online recruitment system, SONA, which granted course credit for participation. It is possible that some student participants may have responded with the sole purpose of receiving their bonus point and therefore not as thoughtfully or attentively as possible. Participants were also recruited through the primary researcher's personal networking platforms, *WhatsApp*, and *Instagram*. Participants were therefore limited to users of these specific networking platforms who were connected to the primary researcher.

The sample size of the current study was sufficient ( $n = 70$ ); however, it over-represents cisgender female (67%) students attending university (97%). To obtain more generalizable

information, future research in this area should include a larger sample of both male and female participants, from both college and university institutions. A larger sample size would also allow future researchers to further explore the moderating role of extraversion. Extraversion could be split into low and high score groups by using the lowest and highest extraversion scores in the sample. To remove the mid-range scores that are neither low nor high, scores that are at least one standard deviation away from the mean could be used for grouping.

Future researchers could also investigate whether the type of post-secondary program impacts the way academic motivation is expressed. For example, researchers have identified that certain programmes, due to teaching methods and small group classes, may lead to greater peer social support (Jun et al., 2018). To illustrate, Jun and colleagues (2018) reported that the high levels of support among nursing students may be related to gender differences but may also pertain to the nature of the programme, which consists of smaller cohorts, helping facilitate the development of close relationships and social support from peers. Consideration of students from a range of disciplines may increase knowledge on the factors influencing the subscales of academic motivation.

In terms of representativeness, it is also important to note that most participants identified as Caucasian (79%). Although motivational research has produced mixed evidence about racial and ethnic differences, researchers generally agree that racial barriers and lack of accessibility to services and supports may impact students' academic motivation (Sirin & Rogers-Sirin, 2005; Wang & Eccles, 2012). There is a need for a more rigorous examination of academic motivation through the lens of race, ethnicity, and culture.

Future researchers could further explore gender differences in the context of the current study. Gender is reportedly related to academic motivation, with females reporting higher levels



than males (Wang & Eccles, 2012). Gender differences in perceived social support have varied across studies. For example, Elmer and colleagues (2020) found that the degree of social support obtained by male undergraduate students was significantly higher than that by female students, while other studies have found that higher levels of support were reported by female students (Casapulla et al., 2020; Park et al., 2015). Males and female students may have different support needs, but may also perceive social support differently (McLean, Gaul, & Penco, 2022). Thus, it would be helpful to examine the role of gender as it pertains to academic motivation.

The current study examined the total perception of social support from three sources: family, friends, and significant others as a predictor of the subscales of academic motivation. Future researchers may be interested in looking at if and how family, friends, and significant others play independent roles in students' academic motivation. Researchers have found that different sources of social support make independent contributions to academic motivation (Wang & Eccles, 2012; Tao et al., 2000). One can reportedly benefit from the support available from a particular source even if support is not forthcoming from other sources. In other words, social supports in one domain can compensate for lack of social supports in another domain (Wang & Eccles, 2012). Therefore, it would be valuable to learn more about the social contributions from individual sources.

Social support from academic supports such as teachers, classmates, and tutors should be considered in future motivational research, as students' relationship with academic staff are an important part of their post-secondary experience (Wilcox, Winn, & Fyvie-Gauld, 2005). While students may access support from academic staff to a lesser extent than that from other sources (Blair, 2017; Casapulla et al., 2020), these relationships are found to be important for

transitioning to post-secondary and maintaining wellbeing in post-secondary studies (Cage et al., 2021; Jun et al., 2018).

Results from the current study suggest that it is important to examine post-secondary students' individual characteristics that may influence trajectories of change in academic motivation. In addition to extraversion, other personality factors may help explain differences in academic motivation. For example, research by Komarraju and colleagues (2009) revealed that conscientiousness was central to extrinsic, intrinsic, and amotivation, suggesting that students who are disciplined and organized are most likely to be motivated. The researchers noted that characteristics such as curiosity, grit, and drive to succeed can also contribute to academic motivation. Similarly, specific life experiences can be impactful. For example, if a student is experiencing worry, anxiety, or other life stressors, their levels of academic motivation could be impacted. Wilcox, Winn, & Fyvie-Gauld (2005) explain that at the post-secondary level, key influences of academic motivation include the learning, teaching, and assessment strategies employed; the quality of relationships between academic staff and students; and the process of establishing friendship networks. Overall, a greater understanding of the range of students' experiences is important, especially as diversity of the student population increases.

### **Implications**

The study of academic motivation as an interaction between the individual and the social environment helps create a better understanding of the complexity of students' experiences in post-secondary. Although results of the current study are most generalizable to cisgender female students aiming to study at university, they highlight the value of perceived social support, which reflects an important topic within School Psychology. A greater understanding of the factors influencing academic motivation provides the opportunity for School Psychologists to educate

staff and students on the issues associated with academic motivation. It is also helpful in identifying the antecedents of motivation that could be the target of interventions.

No single strategy will work to motivate all students. Instead, motivating students often requires a combination of strategies that address the specific reason why a student has become disengaged from school (Wilcox, Winn, & Fyvie-Gauld, 2005). While the current research did not explore the use of interventions to target social support at the post-secondary level, the findings provide further support for enhancing students' academic motivation through social support. School Psychologists could play an important role in making recommendations about increasing social support for students and could share suggestions on how to do so with schools.

Approaches to improve academic motivation should focus on the development of peer group and staff-student relationships. While post-secondary institutions do not necessarily have control over the influences of family background, cultural factors, or parents' attitudes and actions on student's motivation to learn, they do play an important role in boosting student motivation. Effective school-based strategies to bolster motivation are often implemented in combination with changes in instruction, faculty and student relationships, or school climate and organization (Usher & Kober, 2013). For example, students may benefit from increased opportunity to interact with peers through learning activities. There are aspects of the course that can help students develop workable and supportive social networks such as small-group work. Institutions could also offer peer mentoring programmes, as well as first year orientation and induction programmes, which would assist with successful transition to post-secondary (McLean, Gaul, & Penco, 2022; Leary & DeRosier, 2012). Teachers may deliver their support through leveraging social medias, such as additional teaching or support classes online (Wu and Song, 2019). Similarly, offering office hours or availability for assistance outside of class time may help

students feel increasingly supported. There may be scope for educators to consider additional ways to enhance levels of perceived social support in post-secondary students.

In comparison to when students are school age, they are recognized as adults at the post-secondary level. As such, there can be a greater identification of self-directed peer and faculty-based social supports, rather than on that provided by students' families. At the same time, improving academic motivation cannot be accomplished by post-secondary institutions alone. Social support from family should be promoted by effective communication. For example, family members should keep in touch with each other and offer help, support, and encouragement. Ongoing connections with friends also maintain feelings of understanding, support, trust, and companionship (McLean, Gaul, & Penco, 2022). Overall, the conditions that develop motivation and reverse amotivation occur in partnership among families, friends, and the academic community (Mishra, 2020).

## **Conclusion**

The focus of the current study was on perceived social support and its interaction with extraversion to predict the subscales of academic motivation. Results show that the interaction between perceived social support and extraversion positively predicted intrinsic motivation and negatively predicted amotivation. Thus, extraversion moderated the relationship between perceived social support and intrinsic motivation, and between perceived social support and amotivation. The interaction between perceived social support and extraversion was non-significant in predicting extrinsic motivation. Therefore, the hypothesis that extraversion would moderate the relationship between perceived social support and the subscales of academic motivation was supported in the case of intrinsic motivation and amotivation, but not in the case of extrinsic motivation.

Perceived social support was positively correlated with intrinsic motivation and negatively correlated with amotivation in students who reported lower levels of extraversion. These results suggest that perceived social support is associated with motivation that is driven by personal enjoyment and satisfaction, and buffers against a lack of motivation, but only for students who are less extraverted. Perceived social support has no effects on the subscales of academic motivation in students who report higher levels of extraversion. It is expected that students who are less extraverted benefit from the positive effects of social support to a greater extent than students who are more extraverted.

Student motivation is not a fixed quality but is something that can be influenced in positive or negative ways by individuals' own characteristics and experiences, as well as the support derived from families, friends, significant others, and the academic community. At the post-secondary level, students are faced with increased academic demands and support networks play an important role in helping to mitigate for risks associated with amotivation. The current findings add to the literature identifying social support as an important precursor to academic motivation. However, it recognizes that there are a variety of other factors that contribute to post-secondary students' levels of academic motivation that must continue to be examined and considered when developing strategies to increase motivation. The educational implication of this study is that measures should be taken to increase perceptions of social support within an academic context, particularly for students with lower levels of extraversion.

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## APPENDIX A

### **Informed Consent Form**

#### **Informed Consent Perceived social support and academic motivation MSVU REB File #2022-211**

**Primary Investigator:**

Hannah Hunter

Email: Hannah.hunter1@msvu.ca

Phone: XXX-XXX-XXXX

Faculty of Education  
Mount Saint Vincent University  
Halifax, Nova Scotia

Dear participant,

You are invited to participate in the following research project.

#### **PURPOSE OF THE RESEARCH**

The goal of this research is to examine the interaction between perceived social support, extraversion, and academic motivation in post-secondary students.

#### **WHO IS ELIGIBLE TO TAKE PART AND WHAT DOES PARTICIPATION MEAN**

This study is open to Mount Saint Vincent University students as well as post-secondary students at other Canadian institutions. Participating in this study will involve a demographic questionnaire, followed by a survey about your perceived levels of social support, extraversion, and academic motivation. It is appreciated that you answer questions as attentively, as fully and as truthfully as possible. This survey should not take more than 30 minutes to complete. Please be advised that this survey is voluntary and if you wish to quit at any time, you may do so by exiting the browser. There will be no resulting penalties or questions asked.

#### **POTENTIAL BENEFITS AND RISKS OF PARTICIPATING**

By participating you have the opportunity to be a part of developing psychological research and the benefit of pride in helping do so with your contributions. You may also gain additional knowledge about the research being done in psychology.

There are no evident or anticipated risks of participating in this study. If however, the personal nature of the questions bring about any discomfort, you are welcomed to skip these items. You are welcomed to exit the study at any time and to contact me if you have any lingering effects or concerns about the study. I will attempt to direct you to available services. Alternatively, you may wish to contact counselling services offered at your institution. MSVU students can visit: <https://www.msvu.ca/campus-life/health-wellness-services/counselling-services>

#### **WHAT WILL BE DONE WITH MY INFORMATION?**

No data obtained from this survey will contain personally identifying information, nor will you be providing your name. Participation of this study will be completely anonymous and all responses will be kept confidential. Information gathered on the online software package LimeSurvey, will be stored as downloaded data on a password protected hard drive. Only the investigators of this study will have access to the unidentifiable data. The cumulative data however, will be shared through a master's thesis but again, will not have any connection to your identification.

If you have questions about the survey or the results, you may contact me with the contact information provided above. As the surveys are anonymous, please remember that I will not be able to determine or revisit specific information you provided.

This research has been reviewed and approved by the Mount Saint Vincent Research Ethics Board. If you have any questions or concerns about ethical matters, you may contact the Mount Saint Vincent Research Ethics Board at [ethics@msvu.ca](mailto:ethics@msvu.ca).

### **CONSENT**

I understand what this study is about and the associated risks and benefits. I understand my participation is anonymous and voluntary and that I can end my participation at any time without consequence.

If you agree to the above statement, please check the "Agree" box. If you do not agree to the above statement, please check the "Disagree" box and you will be directed to exit the survey.

I agree to participate in this study:

- Agree
- Disagree

## APPENDIX B

### Demographic Questionnaire

Author made, 2022. Modified from our previous demographic questionnaires from past studies.

For the following questions, please select the answer that pertains best to you and/or is most appropriate.

2.) Age: What is your age?

\_\_\_\_\_

3.) What sex were you assigned at birth, on your original birth certificate?

- Male
- Female
- Prefer not to disclose

4.) How would you describe your gender identity?

- Cisgender Man
- Transgender Man
- Cisgender Woman
- Transgender Woman
- Non-binary
- Two Spirit
- Additional gender category/identity not listed
- Prefer not to disclose

5.) Ethnicity/Race origin: Please specify your ethnicity.

- Caucasian or White
- Hispanic or Latino
- African American or Black
- Native American or American Indian
- Asian or Pacific Islander
- Other

6.) Education: Please select the type of post-secondary you currently attend.

- University
- College
- Other institutes

7.) Education: Please indicate which year of study you are currently in.

- 1
- 2
- 3
- 4

- >4 (includes post-degree and graduate programs)

8.) Are you a student at Mount Saint Vincent University?

- Yes
- No