EXAMINING SELF-EFFICACY, SUPPORT SYSTEMS, AND INITIAL MOTIVATIONS FOR ATTENDING UNIVERSITY IN FIRST-GENERATION VERSUS CONTINUING-GENERATION STUDENTS AT AN ATLANTIC CANADIAN UNIVERSITY

BY

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Abstract

A first-generation student (FGS) is the first in their immediate family to attend university, and this group of students often starts with disadvantages that continuing-generation students (CGS) do not have. A CGS for the purpose of this study is defined as students who have at least one caregiver with a bachelor's degree. The current study examined supports and motivations for attending post-secondary education for FGS vs. CGS. There were 311 participants, 122 FGS and 189 CGS, all of whom were current university students at a small Atlantic Canadian university. Participants completed an online survey that assessed motivations for attending university, perceptions of social and institutional supports, & self-reports of college-going self-efficacy. FGS were more likely to report they had considering dropping out, perceived less support from friends and family, and had lower self-efficacy scores than CGS. FGS reported motivations based on helping family, and proving worth. CGS endorsed motivations based on expectations and encouragement from others. In regression analyses, predicting motivations, college-going self-efficacy was related to motivation for pursuing education post-bachelor's, and career/personal motivations, while students' status was not. Higher levels of family and friend support was linked to more career/personal and encouragement motivations for FGS and CGS. For CGS only, support was correlated with higher humanitarian and fewer default motivations. Overall, this study demonstrated differences in the types of motivations between CGS and FGS. FGS' lower self-efficacy and perception of fewer social supports could negatively influence their future goals and achievements.

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Examining Self-Efficacy, Support Systems, and Initial Motivations for Attending University in First-Generation versus Continuing-Generation Students at an Atlantic Canadian University

Seventy-three percent of Canadians aged 25 to 34 earned a post-secondary degree in 2019; this has increased from 59% in 2000 (Frenette & Zeman, 2021). First-generation students (FGS) are contributing to this increase. FGS are defined as being the first in their family to attend university. At university, first-generation students are at a unique disadvantage and face many barriers, such as a lack of knowledge about university, financial struggles, and social isolation (Gibbons & Borders, 2010; Terenzini et al., 1996). These barriers impact FGS' completion of their degrees as shown through their high attrition rates, but they do not influence their attendance rates (Gibbons et al., 2016; Lecy, 2021). Past research has focused primarily on preventing attrition, and has examined factors such as their academic background and support systems, which are thought to contribute to initial motivations for attending university (Dennis et al., 2005; Ramos-Sanchez & Nichols, 2007; Terenzini et al., 1996). In the present study, I am particularly interested in motivations and the factors that contribute to why students attend university.

Statistics Canada data showed that amongst a random sample of Canadian youth who were then attending post-secondary institutions, 24.3% were FGS and 49.2% were CGS (McMullen, 2011). The numbers of FGS in Canadian post-secondary institutions have likely increased over the last decade. Chatoor et al. (2019) found that 40% of FGS students in Ontario expected to complete a Bachelor's degree, out of a sample of 3100. This demonstrates that the numbers of FGS has increased over the past decade. Past research has shown that there are many factors beyond parental education levels that differentiate FGS and CGS (Martin et al., 2020; Ramos-Sanchez & Nichols, 2006; Terenzini et al., 1996).

Research on FGS has compared their characteristics to CGS, and focused on preventing FGS' high attrition rates (Pascarella et al., 2004). Little research has examined the motivations of FGS in attending university; fewer have compared these motivations to CGS. FGS' motivations for attending university differ from their continuing-generation peers (Dennis et al., 2005; Gibbons & Borders, 2010; Van & Bui, 2002). For example, FGS are more likely to be driven by a desire for personal growth, and a need to help their family financially (Van & Bui, 2002). The influence of support systems or academic ability in the decision to attend university or changes in motivations thereafter is understudied. When FGS begin at university, they typically struggle because they lack key academic abilities such as essay writing and have little support to rely on (Brookover et al., 2021; Terenzini et al., 1996). Because FGS do not typically have access to the same supports as other students and may face difficulties at university, attending university should not be common among FGS, but it is (Gibbons et al., 2016). The present study aimed to fill these gaps and attempted to understand why FGS are attending university and compare these motivations to CGS. I investigated whether FGS and CGS differ across their academic self-efficacy, perceived social supports, and motivations for attending university.

Differences between First-Generation and Continuing-Generation Students

CGS and FGS differ in their demographic and academic characteristics. Demographic characteristics include student and parent income, parent education level, social capital, age, and ethnicity. Academic characteristics include any characteristic that influences their current academic outcomes, like previous academic performance or perceived self-efficacy (a belief in the capacity to perform certain behaviors or tasks).

Differences in Demographic Characteristics

Most research on FGS is done in the United States; their studies have found that ethnic minorities make up most FGS (Gibbons et al., 2016; Lohfink & Paulsen, 2006; Markle & Stelzriede, 2020; Van & Bui, 2002; Terenzini et al., 1996). Additionally, most FGS come from lower-income families (Gibbons et al., 2016; Lecy, 2021; Ramos-Sanchez & Nichols, 2007; Terenzini et al., 1996; Um, 2021; Van & Bui, 2002). As a result, according to Gibbons et al. (2016), they are more likely to rely on external funding (student loans, scholarships, and grants) to cover their education. These students spend more time working at jobs than doing schoolwork (Pascarella et al., 2004; Prospero & Vohra-Gupta, 2007). Terenzini et al., (1996) also found that FGS are more likely to be mature and have dependents to care for compared to CGS; however, these findings have not been replicated.

First-generation students often feel isolated from their peers (Gibbons et al., 2016; Lecy, 2021). Some studies found that infrequent participation in social activities in high school was reflected in FGS' university experience as well, limiting their social networks (Byun et al., 2017; Um, 2021). They have minimal social capital (Um, 2021), defined by the number of mutual and useful relationships they have with others (Markle & Stelzriede, 2020; Pascarella et al., 2004). Someone high in social capital would have relations with many people. If they wanted to get a job it may be easier because they would likely know someone who could help them get it. CGS are rich in social capital;

they might already know people at their university and should have an easier time forming new connections (Holland, 2020). These bonds can help CGS through university and provide a wide support network in times of crisis. Social capital is a lifeline that everyone needs to succeed and advance their career; however, FGS lack social capital, and the knowledge required to obtain these relationships.

Differences in Academic Characteristics

FGS may not know where to begin looking at universities and can feel overwhelmed during the application process (Vega, 2017). Their parents might not know about the application process or university life, and guidance counselors who could help are overwhelmed with work (Um, 2021). FGS are ill-prepared for the demands of university and may lack necessary academic skills such as note-taking (Brookover et al., 2021). For FGS, university is a culture shock. These students must learn to assimilate to succeed; however, they often do not have the resources to do so (Hoffman & Lowitzki, 2005; Pascarella et al., 2004). FGS typically take reduced course loads and take longer to complete their degrees because of these difficulties (Markle & Stelzriede, 2020; Pascarella et al., 2004). On average, FGS perform worse academically compared to CGS (Inman & Mayes, 1999; Markle & Stelzriede, 2020; Terenzini et al., 1996; Um, 2021; Van & Bui, 2002). A typical FGS receives lower grades in high school as well as during university (Gibbons et al., 2016; Inman & Mayes, 1999; Ramos-Sanchez & Nichols, 2007; Terenzini et al., 1996). They may also have lower perceived self-efficacy (Inman & Mayes, 1999; Ramos-Sanchez & Nichols, 2007). These factors can act together to influence students’ decision-making for attending university, as well as academic outcomes while there.

One of the biggest hurdles to FGS persisting in post-secondary education is a lack of knowledge that many CGS acquire from family. For example, CGS may know how to make connections with professors and find resources for additional support if needed. This unfamiliarity with university has been related to FGS having lower self-efficacy and lower ambitions compared to CGS (Um, 2021). CGS have caregivers that can help them navigate course selection and the resources available to them, making them feel confident in managing university. Students who believe they cannot excel at university (based on previous academic performance and self-efficacy) will have lower ambitions. CGS' higher average perceived self-efficacy will reflect accumulated knowledge and confidence in their abilities, resulting in higher motivations. CGS' choices of post-secondary institutions also reflect greater self-efficacy (Lohfink & Paulsen, 2006; Ramos-Sanchez & Nichols, 2007). CGS usually choose a post-secondary institution with a better reputation and one that is more selective in its admissions processes.

Reviewing the Overall Differences Between FGS and CGS

In sum, U.S. studies have found that FGS differ from CGS across personal and academic characteristics. FGS are often non-white students from low-income families (Lecy 2021, Ramos-Sanchez & Nichols, 2007). To compensate for their financial burdens FGS seek external funding or jobs (Gibbons et al., 2016; Pascarella et al., 2004; Prospero & Vohra-Gupta, 2007). FGS experience numerous barriers, most notably difficulty navigating university (Gibbons & Borders, 2010). Furthermore, these students often have poorer academic performance and lower perceived self-efficacy. These factors negatively impact FGS' university experience, and academic performance. CGS, are comparably higher in both attributes, typically perform better in school (Lohfink & Paulsen, 2006;

Martin et al., 2020; Ramos-Sanchez & Nichols, 2007). These differences are consistent across the literature and may influence students' motivations for attending university.

The Role of Support for FGS

FGS do not have the same level of support as CGS. CGS have a built-in support system of parents and other relatives that have attended university. As a result, they receive information on how to complete tasks (instrumental support), and motivational, and emotional support. FGS do not receive instrumental support, and the extent to which they receive motivational and emotional support varies. FGS are often not encouraged to attend university by their family members, resulting in a lack of these crucial supports (Brookover et al., 2021; Martin et al., 2020). Although previous research has focused on available support for CGS and FGS who have attended university, rather than those who did not. Parents of FGS may have limited knowledge about university and cannot understand why their children wants to go or help them with the process. Lecy (2021) discovered that FGS need more support, as they feel overwhelmed and stigmatized by their peers and professors due to their background. They also have a harder time navigating university (Brookover et al., 2021). The differences in received support play a significant role in how far FGS persist in education, as well as their academic and career aspirations. Research has found that financial support, familial support, peer support, and academic support all influence a student's motivations to attend university and their experiences thereafter (Dennis et al., 2005; Gibbons & Borders, 2010; Gibbons et al., 2016; Hoffman & Lowitzki, 2005; Holland, 2020; Martin et al., 2020; McCarron & Inkelas, 2006; Vega, 2017).

Financial Support

For FGS, financial support determines their ambitions as they typically do not have the same financial resources CGS do. FGS students tend to rely on external funding such as loans, scholarships, and grants to fund their education (Gibbons et al., 2016). However, external funding rarely fully covers the costs of education and the costs of living. As a result, FGS seek supplemental finances through employment (Pascarella et al., 2004).

FGS often end up taking a reduced course load. While a reduction in courses has a myriad of causes, Terenzini et al., (1996) noted that FGS spend more time working than studying. Thus, a reduced course load allows students to cope with financial constraints through employment (Prospero & Vohra-Gupta, 2007; Terenzini et al., 1996). Prospero and Vohra-Gupta (2007) found that 35% of FGS in their sample were working full-time and 29% were working part-time while in university.

A reduced course load means more time is needed to finish a degree, and it will take longer for the student to gain higher-paying employment upon graduation. This is problematic for FGS with few financial resources. Additionally, these students often take out student loans, so even if they are working, they are not making enough to offset the amount of student debt being collected (Gibbons et al., 2016). According to Statistics Canada (2019), in 2015, the average amount of overall student debt collected for a bachelor's degree was $28,000. Attending university becomes a vicious cycle of gaining income through jobs, spending it to continue education, and ending up in debt because costs outweigh income. That is not to say that CGS do not end up in debt. However, because CGS often have financial support from family in addition to scholarships, grants, etc., they will often acquire less debt than FGS (Gibbons et al., 2016; Markle & Stelzriede, 2020). Available financial resources affect a student's ability or desire to continue in education as they may not be able to afford the debt taken on. If they do not have the available resources to persist in further education, this may influence their motivations.

Attending university can be aversive for FGS because of the immediate associated costs. However, students attend because they want better lives for themselves (Bauman et al., 2019; Dennis et al., 2005; Van & Bui, 2002), or better lives for their families (Van & Bui, 2002). FGS are commonly interdependent with their families, and their families sometimes rely on them for financial support (Bauman et al., 2019; Byun et al., 2017; Dennis et al., 2005; Van & Bui, 2002; Vega, 2017). Obtaining a university degree leads to significant increases in wages when compared to a high school diploma. According to Lecy (2021), the median annual income for a high-school graduate in the United States was $31,800; the median for a bachelor's degree was $50,000; the median for a graduate degree was $64,000. Students may initially decide to attend university to obtain more financial freedom.

Familial Support

Parental support of FGS' decision to attend university varies. In a qualitative study, some students reported their parents as being non-supportive (Vega, 2017). Parents might not understand their children's decision, or think it is unwise, especially considering its immediate financial drawbacks (Gibbons & Borders, 2010; Vega, 2017). Some parents support FGS' choices because it allows them to have a better life (Byun et al., 2017; Gibbons et al., 2016; Lecy, 2021; McCarron & Inkelas, 2006; Martin et al., 2020). In these cases, parents provide influential support that helps FGS make decisions regarding university, such as where to attend. FGS often choose universities that are less expensive and near their families (Bauman et al., 2019).

For FGS, parents provide emotional and motivational support (Brookover et al., 2021). Parents are less able to provide FGS with instrumental support to navigate university due to insufficient information about university (Gibbons & Borders, 2010; Martin et al, 2020). McCarron and Inkelas (2006) discovered that parental support is the best predictor for college attendance and persistence for first-generation students. Brookover et al. (2021) observed that emotional, and motivational support by parents was associated with increased resilience, defined in their study as coping with stressors at university. They expressed that the parents of FGS are the first to instill the idea of college. However, Dennis et al. (2005) did not find that parental support was related to FGS retention. Students' personal motivation for attending, however, predicted retention in university.

CGS also attend university due to familial expectations (Martin et al., 2020; Van & Bui, 2002; Vega, 2017). Gibbons and Borders (2010) noticed that by the time CGS were in middle school, they were already thinking about pursuing a graduate degree. This differed from FGS who were just beginning to think about pursuing a bachelor's degree. CGS are socialized to the idea of attending university at a younger age than their FGS peers and are expected to complete an undergraduate degree. Other researchers have shown that CGS tend to aim for longer, higher-achieving goals than FGS (Dennis et al., 2005; Lohfink & Paulsen, 2007; Terenzini et al., 1996). Martin et al.'s (2020) study revealed that parents of CGS provide instrumental support during the decision to attend university. Parents used instrumental actions to get their children thinking about their expected career path. For example, participants recalled their parents giving them STEM-related toys as children to begin thinking about a career in engineering. However, parental support shifts to include motivational and emotional support when students begin attending university.

Peer Support

Peer support is also linked to college attendance. Students use information from their peers to assess the quality of a university (Holland, 2020). For FGS in particular, peers serve as an invaluable wealth of information for college attendance, influencing students' choices. They act as guides through the college application process (Inman & Mayes, 1999). Martin et al.'s work in 2020 ascertained that peer support was more important for college enrolment among CGS. Peer support was significantly related to entrance into an engineering degree for CGS. CGS participants reported that peers provided instrumental, motivational, and emotional support, encouraging them to pursue an engineering degree and providing advice on where and how to apply.

Peers are integral to FGS' integration into university; they are significantly and positively related to a sense of belonging (Prospero & Vohra-Gupta, 2007). Peers help FGS navigate university and can empathize with their struggles (Inman & Mayes, 1999). A sense of belonging may influence student retention in university (Markle & Stelzriede, 2020). This is important for FGS who usually feel isolated at university. Dennis et al., (2005) revealed that needed peer resources were highly correlated with college outcomes. They identified peer support as a stronger predictor for higher college grades and adjustment than familial support. The more welcome and supported FGS felt by their peers, the better they did in university. This has interesting implications as peer support could help regulate self-efficacy based on these findings. If students feel like they belong at university, their academic self-efficacy may increase, and FGS may feel less of a gap between themselves and their CGS peers (Gibbons & Borders, 2010; Lecy, 2021). In turn, they may strive for more ambitious goals.

Academic Support

Academic or institutional support is the most influential form of support for FGS. Since parents of FGS often know little about university, academic support from their secondary or post-secondary institution is one of the more reliable sources of information. High school counselors usually guide students through researching different universities and the application process (Hoffman, 2020). Brookover et al. (2021) reported FGS were two and a half times more likely than CGS to say that the school counselor was the most influential in getting them to think about university. School counselors' and teachers' support for a student increased their academic self-efficacy (Martin et al., 2020). Academic support helps students initiate the search for a university that fits their needs. They are often the most informed resource for first-generation students. Counselors and teachers provide motivational and instrumental support which encourages students to have higher perceived self-efficacy and enroll in a university.

Academic support helps students build basic skills such as academic writing, reading, math, etc., which are assessed through standardized testing. U.S. studies have found that college preparatory courses in a community college significantly increased the likelihood of students attending a four-year university after a 2-year college (Byun et al., 2017). Preparatory courses can teach reading ability, time management, essay writing;

Advanced Placement, or the International Baccalaureate program are also examples of preparatory courses (Brookover et al., 2021; Byrd & MacDonald, 2005; Vega, 2017). In Brookover et al.'s (2021) study, participants expressed that college preparatory courses were instrumental in helping them prepare for university. College preparatory courses increase a student's abilities and in turn their perceived self-efficacy (Lecy, 2021).

Interestingly, Vega (2017) noted that potential FGS are less likely than CGS to access support that would increase college readiness. Vega reported that students did not understand the benefit of these courses. Potential FGS were not even aware of the support available to them during high school, and those that were, were constrained. Students reported that it was teachers' support that led most students to enroll in these courses.

Markle and Stelzriede (2020) had FGS participate in Learning Communities at university (where FGS learn the necessary skills to succeed in university) in the hopes of improving their academic performance and involvement. FGS in the program were more likely to persist in their degrees. The greater students' academic self-efficacy, the more likely they are to persist and succeed (Pascarella et al., 2004; Ramos-Sanchez & Nichols, 2007; Terenzini et al., 1996). If a student feels ill-prepared and uninvolved, they are at greater risk for attrition.

FGS are less likely than their CGS counterparts to access supports that would help them develop skills necessary to succeed at university, and increase academic self-efficacy (Vega, 2017). Glew et al. (2019) investigated the usage of Professional Communication Academic Literacy support in the academic outcomes and retention of Bachelor of Nursing students in Australia. Those who used the support were over seven times more likely to remain in the program. Also, the more times students used the support, the higher their GPAs were in comparison to those who did not use the support.

In the U.S., Grewe et al., (2021), reviewed the impact of the Reflexive Exam Assessment (REA) on test scores for introductory psychology students. The REA was designed to help students with low grades improve their scores by analyzing past exams and considering where they went wrong. Completion of the REA was correlated to significantly higher scores on exams.

In a Canadian university Deacon et al., (2017) evaluated how personalized outreach from academic support affected the number of credit hours and GPA in first-year students who had a history of reading difficulties. They observed that personalized outreach to students who identified as struggling with reading increased academic support usage during their first year. They also found that in the following semester, students with difficulties were attempting the same number of credit hours as students with no reading difficulties. Before the intervention, students with difficulties were completing fewer credit hours. This study found no impact of personalized outreach for academic support on GPA. However, the use of academic support has promising implications for course completion.

Studies such as those done by Glew et al., (2019), Grewe et al., (2021), and Markle and Stelzriede (2020) highlight the benefits of academic support on student performance. When students use the resources available to them, there is a notable difference in academic outcomes and retention. FGS in particular could benefit from accessing academic support as these students may do better in school and feel more competent in their ability to succeed in university.

Understanding the Influences of Supports

Financial, familial, peer, and academic support all exert a unique influence on the decisions of FGS to attend and persist in university. A lack of financial support may hinder FGS' education plans (Gibbons et al., 2016). Familial support can act as a motivator through parental expectations and the support they provide to CGS and FGS (Martin et al., 2020). Peers are influential in student persistence in university and are associated with increases in a sense of belonging for FGS (Inman & Mayes, 1999; Prospero & Vohra-Gupta, 2007). Finally, academic support can help students navigate universities, and teach skills to ensure success at university (Brookover et al., 2021). However, little research has examined how these supports influence motivations for attending university. No research has examined the link between support and self-efficacy, despite both having a potential influence on motivation. It is important to understand the role of these support types as they may prove to be strong influences for attending university. The importance of different support types may also vary among CGS and FGS. Examining the links between motivation and support, and between self-efficacy and support, can consolidate pre-existing research as well as establish how they may influence motivations for attending.

Understanding the Motivations for FGS vs. CGS

Family, financial, and personal motivators all serve as reasons why students attend university (Brookover et al., 2021; Dennis et al., 2005; Van & Bui, 2002; Vega, 2017). The latter two offer the chance for a better life by improving the financial resources available to them. However, they could also be influenced by a parental expectations/desires for their children to have a successful life (Gibbons & Borders, 2010). These motivators are what Bauman et al. (2019) described as typical and common among students. Other less common motivators include a future career, or the pursuit of knowledge (Bauman et al., 2019; Brookover et al., 2021; Dennis et al., 2005; Gibbons & Borders, 2010; Vega, 2017).

For FGS, familial expectations, the promise of a financially lush future and a good career, and personal motivations such as elevated status are salient motivators for attending university (Bauman et al., 2019; Brookover et al., 2021; Dennis et al., 2005; Van & Bui, 2002; Vega, 2017). Van and Bui (2002) aimed to identify initial motivations for FGS vs. CGS in attending university. They separated students into FGS whose parents had not gone to university; FGS whose parents had done some university; and CGS. FGS whose parents had not gone to university gave greater significance to gaining respect/status, making their family proud, and helping their family financially as motivations for attending university. Dennis et al. (2005) supported Van and Bui's (2002) results although they kept FGS as one group. For Canadian college students, familial expectations, career, and personal motivations were all frequently cited as motivations for attending university. Interestingly, personal and career motivations were also linked to an improvement in soft academic skills within two years of attending university. Plus, FGS listed personal interest in academia as a reason for attending university. They simply wanted to learn more. Brookover et al. (2021) had the same result as students wanted to continue their education to learn more, because of curiosity, or because they wanted to be the first in their family to attend university.

Additionally, Van and Bui (2002) observed that FGS whose parents had not gone to university rated moving out of their parent's house, and other relatives attending university lower than CGS as motivations for attending university. CGS and FGS are similarly motivated by familial expectations, career development, and financial motivators, as well as status (Vega, 2017). Prospero and Vohra-Gupta (2007) found no differences between FGS and CGS in intrinsic (motivation to do something for personal enjoyment) and extrinsic (motivation to do something for external rewards such as a good career) motivators. CGS may exhibit an interest in higher education as early as middle school as they begin to think of graduate education (Gibbons & Borders, 2010). Although Gibbons and Borders did not discuss how other motivations influence CGS' decisions.

In contrast, FGS tend to aim for shorter and seemingly attainable goals like completing an undergraduate degree compared to CGS (Dennis et al., 2005; Lohfink & Paulsen, 2007; Terenzini et al., 1996; Um, 2021). Additionally, while there is evidence that self-efficacy may influence university enrolment and retention, it has not been studied directly. The same is true for social support, which could influence enrolment and retention (Bauman et al., 2019; Brookover et al., 2021; Dennis et al., 2005; Gibbons & Borders, 2010; Van & Bui, 2002; Vega, 2017). The current study aims to identify initial motivations for attending university when accounting for these factors, as well as whether motivations differ between FGS and CGS.

Rationale for Present Study

Factors such as self-efficacy and support might influence students' motivation for attending university. Individual differences across academic self-efficacy and support are likely to influence their motivations. Research has suggested that FGS typically have academic self-efficacy than CGS (Inman & Mayes, 1999; Markle & Stelzriede, 2020; Ramos-Sanchez & Nichols, 2007; Terenzini et al., 1996). FGS also aim for lower motivations while attending university (Gibbons & Borders, 2010; Um, 2021). However, to the best of my knowledge, no studies have previously examined the relationship between self-efficacy and motivations for attending university for FGS versus CGS. Regarding support, many of the studies focused on its effects on university outcomes (Dennis et al., 2005). None have examined the role support plays in the motivations for attending university. Additionally, no studies have examined whether motivations have changed over time. This was the first study to address this gap in the literature and examine the influence of self-efficacy and support systems on initial motivations for attending university when comparing FGS to CGS. I hypothesized the following:

1. FGS would have higher career and personal motivations, motivations based in helping their family, and motivations based in proving their ability to go to university than CGS.
2. CGS would have higher perceived self-efficacy than FGS.
3. CGS would perceive more support than FGS.
4. FGS would be more likely to change their career and or academic goals than CGS.
5. Higher perceived self-efficacy would be related to higher educational attainment goals.
6. Higher self-efficacy would predict more career and personal motivations for attending university (e.g., wanting a better life for themselves), and fewer default reasons for attending university (e.g., attending because there was nothing else to do).

7. Higher overall support would predict that career and personal motivations, humanitarian ideals, encouragement from mentors, family obligation, and to support their family will all be greater motivations for attending university. More support would also predict fewer default reasons, and decisions based out of spite (e.g., “They believed I wouldn’t go to university, so I did”).

Method

Participants

Participants were current undergraduate students at Mount Allison University. Participants were recruited to participate in this study through an email to the entire campus (Appendix B). A second follow-up email was sent to a list of FGS in order to balance the numbers of FGS and CGS in the sample. Participants were also recruited through SONA a website that manages student participation for studies. Three-hundred and forty-one people partially completed the survey. Thirty participants (n= 11 FGS and n = 19 CGS) were removed from analysis for not completing the key questionnaires for the study, thus N = 311. Of the 311 remaining participants, 60.8% were CGS and 39.2% were FGS. Demographic information for FGS vs. CGS is presented in Table 1.

Table 1

Demographic Information for First-Generation vs. Continuing-Generation Students

	FGS (n = 122)	CGS (n = 189)
Mean age in years (SD)	21.32 (5.17)	20.14 (3.41)
Gender %		
Female	73.0	67.7
Male	19.7	22.2
Non-Binary	4.1	4.8
Other	3.2	1.5
No Answer	--	3.7
Ethnicity %		
Black/African/Caribbean	4.9	3.2
Asian	9.8	13.2
White/European	73.0	74.6
Indigenous	4.9	2.1
Latinx	0.8	2.1
Other	2.4	0.5
No Answer	9.0	9.0

Participation was voluntary and participants were offered an incentive to win one of five $50 gift cards to the Mount Allison Bookstore or if they were in the Introductory Psychology classes, they could use this study to receive a portion of their grade for the course.

Materials

Demographics and Education Questionnaire

Participants completed a Demographics and Education Questionnaire and were asked questions about their age, gender, ethnic background, current year of study, current GPA, and current financial support (personal, familial, and/or government student loans). Additional questions included whether they were mature students, had previously taken a gap year, or had college preparatory classes (Advanced Placement, International

Baccalaureate, etc.). To identify whether they were FGS or CGS, participants indicated the highest education level a caregiver had completed (Appendix A).

Another set of questions provided insight into the initial educational motivations and career goals of these students when attending university. Participants were also asked about their current goals for their education, with options ranging from obtaining part of a bachelor's degree to post-graduate degrees. Participants were also asked to indicate whether their education or career goals had shifted, if they had ever dropped out of university, or if they had considered dropping out (Appendix A).

College-Going Self-Efficacy Scale

The College-Going Self-Efficacy Scale (CGSE) measured participants' perceived self-efficacy at a four-year institution (Gibbons, 2005). The scale is made up of two subscales, Attendance ($\alpha = .81$) and Persistence ($\alpha = .92$). For this study, only the Persistence subscale was used. It measures students' perceived self-efficacy if they attended university and consists of 16 items (Cronbach's = .86 for the present sample). Some examples include "I could get A's and B's in college," "I can take care of myself in college," and "I can fit in at college" (Gibbons, 2005). Participants ranked each item from 1 (*Not at all sure*) to 4 (*Very sure*). Scores were summed and ranged from 16 to 64, with higher scores indicating greater perceived self-efficacy for university.

Student Motivations for Attending University Scale

Motivations for attending university were measured using the revised version of the Student Motivations for Attending University Scale (SMAU) by Phinney et al., (2005). This scale measured items on a scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*) and indicates whether an item influenced their decision to attend university.

Scores were averaged and ranged from 1 to 5 with higher scores indicating that it was a stronger motivator for attending. This measure consists of seven subscales, with a total of 33 items. The Career/Personal subscale (α = .87, current sample α = .76), includes items such as "To develop myself personally," and "To help me earn more money." The Humanitarian subscale (α = .80, current sample α = .89) lists motivations such as "To contribute to the welfare of others." The Default (α = .71, current sample α =.58) subscale assesses whether participants are going to university as a default and includes items such as "There are few other options," The Expectation subscale (α = .73, current sample α = .86), has items such as "There were pressures on me from parents or family," and "I am expected to get a degree." The Prove Worth subscale (α = .73, current sample α = .86) has items focused on proving others wrong about their expectations, for example "There were pressures on me from my parents/family." The Encouragement subscale (α = .73, current sample α = .72), includes items about others encouraging the participant to attend university, such as "I was encouraged by a mentor/role model." The final subscale is Help Family (α = .73, current sample α = 86) and includes items like, "To get an education to help my parents/family financially" (Dennis et al., 2005).

Perceived Environmental Support Scale

The final scale used was the Perceived Environmental Support scale (PESS) revised by Garriott and Nisle (2018). This scale measures the perceived support from both their academic institution (α = .78, current sample α = .79) and their family and friends (α = .81, current sample α = .76). This scale has a total of nine items and two subscales. The first subscale, Institutional Supports, includes measures such as "I have received helpful assistance from my advisor," and "I feel there are people like me at this college." The second subscale is Family and Friend support for attending college. It consists of items such as "I feel that my family members support my decision to go to college," and "I have received encouragement from my friends for pursuing college." Items are measured on a scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*) and measure the number of perceived support students feel. Scores were averaged and range from 1-5 with higher scores indicating greater perceived support.

Procedure

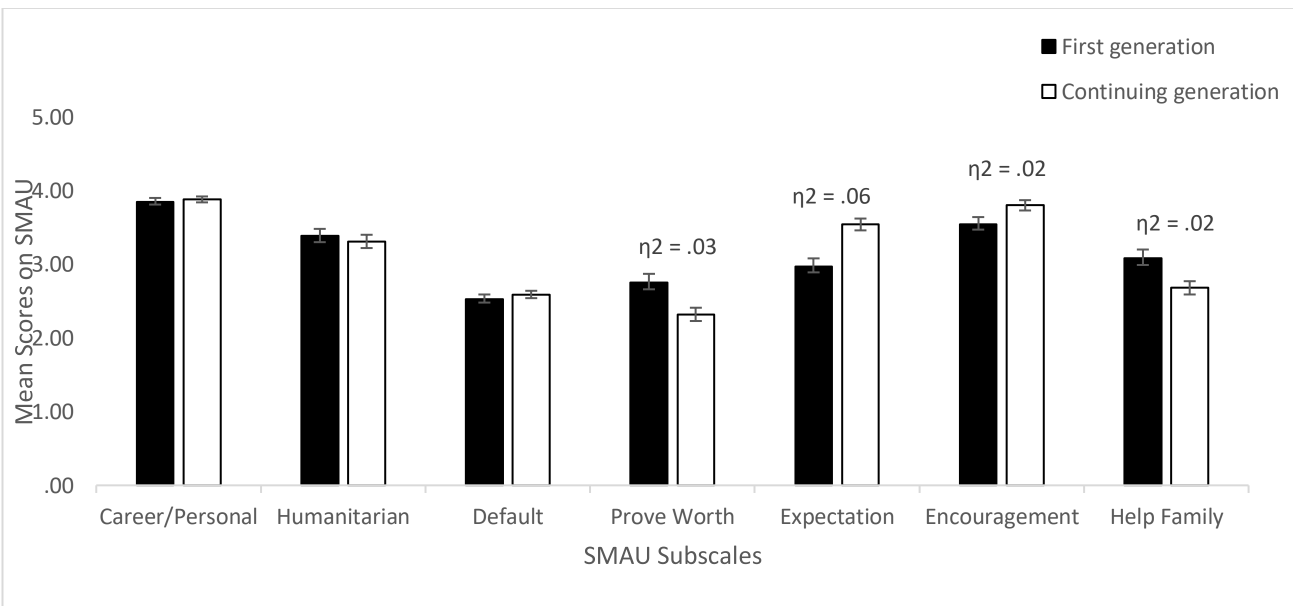
Participants completed an anonymous online survey hosted on Lime Survey. After providing consent to participate (Appendix F), participants responded to the Demographic and Education Questionnaire, the College-Going Self-Efficacy Scale (Gibbons, 2005), the revised version of the Student Motivations for Attending University Scale (Dennis et al., 2005), and the revised version of the Perceived Environmental Support Scale (Garriott & Nisle, 2018). After completing the survey, participants viewed a feedback form (Appendix G) which listed wellness resources available to them and could opt to enter their name for credit or entry into the draw.

Results

In order to test the first hypothesis that FGS would have higher motivations for career and personal, helping their family, and proving worth than CGS, I used a multivariate analysis of variance (MANOVA) with student status as the independent variable (FGS vs. CGS) and all the subscales of the SMAU as the dependent variables. The means are presented in Figure 1. The overall MANOVA was significant showing a main effect of student status, $F(7, 300) = 5.71$, $p < .001$, $\eta^2 = .12$. In line with the hypothesis, motivations for proving worth ($p = .003$) and helping family ($p = .01$) were significantly higher among FGS than CGS. Contrary to the hypothesis, there was no difference in career and personal motivations. I did not have specific hypotheses about other motivations, but I found that motivations based on expectation ($p < .001$) and encouragement from others ($p = 0.03$) were significantly higher among CGS than FGS. CGS endorsed more motivations based on familial encouragement and expectation, and FGS reported more motivations related to proving worth and helping family as motivators for attending university.

Figure 1

Mean Scores for CGS vs. FGS on SMAU Subscales (Mean +/- SEM). Significant differences are indicated by the effect size.



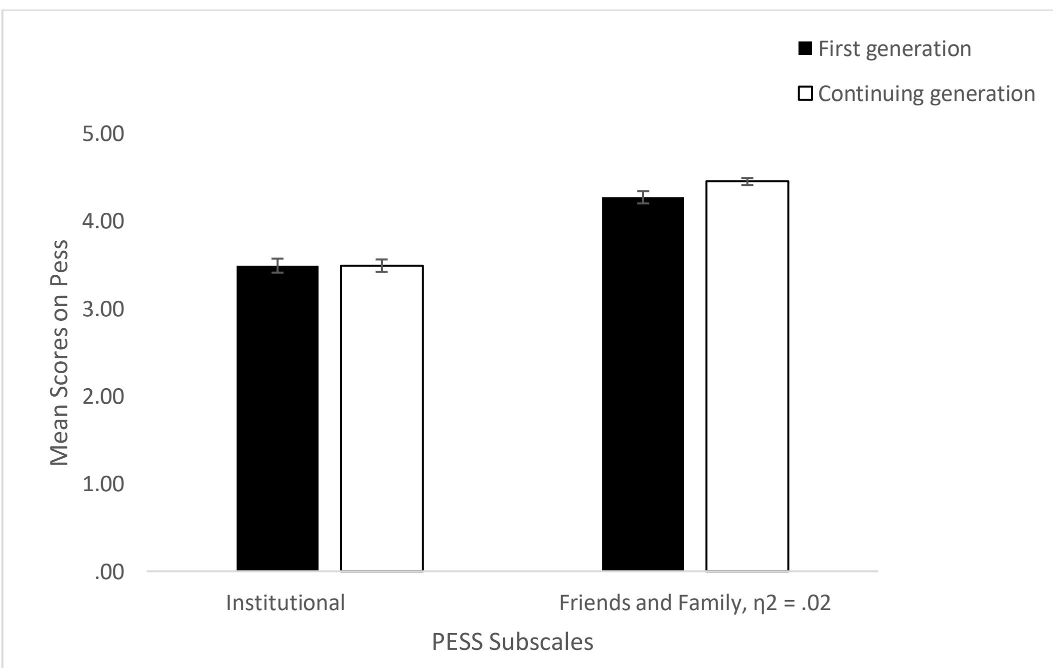
I conducted an independent samples t-test to examine the second hypothesis that CGS would have greater perceived self-efficacy than FGS. The results indicated that CGS' mean scores on the CGSE scale ($M = 49.13$, $SD = 8.27$) were significantly higher than FGS ($M = 46.95$, $SD = 8.66$), $t(309) = 2.22$, $p = .03$, $d = .26$. These scores imply that

CGS have greater perceived self-efficacy than FGS to succeed at university, thus the hypothesis is supported, although the effect size is small.

I tested the third hypothesis that CGS would perceive greater overall support than FGS with a MANOVA. The independent variable was student status (FGS vs. CGS) and the dependent variables were scores on the Institutional and Family and Friend subscales of the PESS. Students' mean scores for the PESS subscales are presented in Figure 2. The overall MANOVA was significant, $F(2, 308) = 3.24$, $p = .04$, $\eta^2 = .02$. There was no significant difference between CGS and FGS scores on the Institutional support subscale $F(1, 309) < .01$, $p = .97$; but CGS scored significantly higher on the Family and Friend support subscale, $F(1, 309) = 5.14$, $p = .02$, $\eta^2 = .02$. This hypothesis was partially supported, as both groups reported perceiving similar support from the institution, but like the hypothesis CGS perceived more friends and family support than FGS.

Figure 2

Means Scores for CGS vs. FGS on PESS Subscales (Mean +/- SEM)

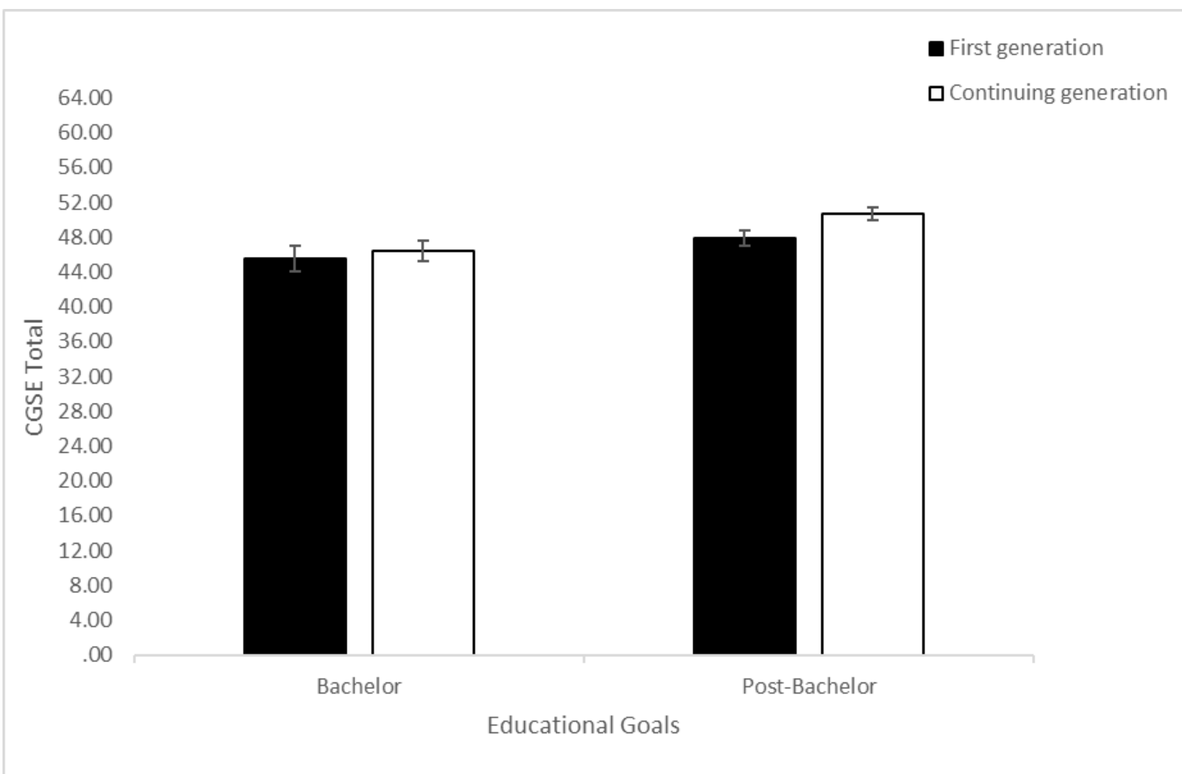


In order to test the fourth hypothesis that FGS would be more likely to change their motivations after starting school than CGS, I compared the percentages of FGS and CGS who reported changing educational goals, dropping out of school, and thinking about dropping out. There were no differences in likelihood to change educational goals after starting university between CGS (39.2% “yes”) and FGS (44.3% “yes”), X^2 (2, 311) = 1.43, p = .50 or for changing their career goals since starting university (CGS, 31.7% “yes”) and FGS, 39.3% “yes”), X^2 (2, 311) = 2.08, p = .35. Very few participants reported ever dropping out of university, and there were no significant differences between CGS and FGS on this variable (3.7% “yes”) and FGS (3.3% “yes”), X^2 (1, 311) = .04, p = .84. Interestingly, there was a significant difference for whether students thought about dropping out. More FGS (40.2% “yes”) overall reported thinking of dropping out of university than CGS (21.7% “yes”), X^2 (2, 311) = 13.37, p < .001. However, it was only during the first two years of university that more FGS reported considering dropping out; by the third and fourth year of a degree, more CGS reported thinking of dropping out. Although there were no differences in changes of education or career goals, there were significant differences in motivation to complete a degree, providing some support for the hypothesis. FGS thought about dropping out more than CGS, this indicates a potential shift in their motivation to pursue post-secondary education.

The fifth hypothesis was that plans to pursue a post-bachelor’s degree would be related to higher levels of CGSE. I ran a univariate analysis of variance (ANOVA). The independent variables were student status (FGS vs. CGS) and students’ educational plans (bachelor’s vs. post-bachelor’s). The dependent variable was scores on the CGSE. The means and standard deviations are presented in Figure 3. The results indicated there was no main effect of student status on CGSE scores $F(1, 281) = 2.84$, $p = .09$. There was a significant main effect of educational plans with students planning on doing a post-bachelor's degree reporting higher CGSE than those who planned to stop at a bachelor's degree, $F(1, 281) = 9.05$, $p = .003$, $\eta^2 = .03$. There was no interaction between first-generation status and educational plans on CGSE, $F(1. 281) = 0.72$, $p = .40$. Therefore, the hypothesis that CGSE would be related to higher educational attainment goals was supported and there were no differences based on student status. Regardless of whether the participant was a FGS or a CGS, greater college-going self-efficacy was related to further educational goals post-bachelor's.

Figure 3

Mean Scores for CGS and FGS Based on Their Educational Goals (Mean +/- SEM)



The sixth hypothesis was that higher self-efficacy (measured by the CGSE scale) would predict higher scores on the Career/Personal subscale of the SMAU, and lower scores on the Default subscale of the SMAU. As shown in Table 2, there was a significant, moderate, positive correlation between scores on the CGSE and scores on the Career/Personal subscale. There was also a small but significant negative correlation between scores on the Default subscale and CGSE scores. Both correlations support the initial hypothesis. Although it was not part of the hypothesis there were small significant correlations between scores on the CGSE and the Humanitarian, and Encouragement subscales of the SMAU indicating high self-efficacy was positively linked with these motivations. To test the role of student status (FGS vs. CGS) in the relationship between self-efficacy and motivations, I conducted two hierarchical multiple regressions with CGSE (centered), student status, and the interaction between student status and CGSE as predictors. Dependent variables were Career/Personal motivations and Default motivations. Results are shown in Table 3. These results indicate that higher levels of self-efficacy predicted higher levels of career and personal motivations, and fewer default motivations, as predicted. There was no main effect or interaction of student status.

Table 2

Pearson's Correlations of the CGSE and PESS Scores to the SMAU Subscales

	Career/Personal	Humanitarian	Default	Prove Worth	Expectation	Help Family	Encour agment
CGSE Score	.39**	.17**	-.36**	-.01	-.05	-.05	.26**
PESS Score	.36**	.20**	-.08	-.07	.14*	.06	.41**

Note. *$p \le .05$, ** $p \le .0$

Table 3

Hierarchical Regression Analyses for the Relationship Between Self-efficacy (CGSE) and Student Motivations (Career/Personal, and Default Motivations)

Variable	*b*	*SE b*	*β*	*Adj. R^2*	ΔR^2	*F*
Career/Personal Motivations						
Step 1				.14	.15	27.13***
CGSE	.03	>.01	.34***			
First-Generation Status	.03	.07	.02			
Step 2				.15	.01	18.85***
CGSE	.03	.01	.45***			
First-generation Status	.03	.07	.02			
CGSE * First-generation Status	-.01	.01	-.10			
Default Motivations						
Step 1				.14	.14	25.25***
CGSE	-.03	>.01	-.38***			
First-generation Status	-.14	.08	-.09			
Step 2				.15	.01	17.57***
CGSE	-.04	.01	-.44***			
First-generation Status	-.14	.08	-.09			
CGSE * First-generation Status	.01	.01	.10			

Note. *** $p \leq .001$

The final hypothesis was that higher scores on the student support (PESS Family and Friend subscale) would predict higher scores on the following SMAU subscales: Career/Personal, Humanitarian, Encouragement, Expectation, and Help Family. Additionally, I hypothesized that scores on the Family and Friend subscale would be negatively correlated with Default and Prove Worth SMAU subscales. Pearson's correlations are shown in Table 2. There was a significant positive correlation between PESS Family and Friend subscale and the Career/Personal, Humanitarian, Expectation, and Encouragement subscales, more support from friends and family predicted more endorsement of all these motivations. There were no significant correlations for Default, Prove Worth, and Help Family subscales. The largest correlations were for the Career/Personal subscale (r = .36) and Encouragement (r = .41).

To test the role of student status (FGS vs. CGS) in the relationship between family and friend support and reported student motivations, I conducted seven hierarchical multiple regressions. Step 1 included Family and Friend scores (centered) and student status as predictors, and Step 2 added the interaction between student status and Family and Friend scores as a predictor. Dependent variables were Career/Personal, Humanitarian, Default, Prove Worth, Expectation, Encouragement, and Help Family motivations. Results are shown in Tables 4-10

Both family and friend support, and its interaction with first-generation status were significant predictors of career/personal motivations, where greater perceived support leads to greater Career/Personal motivations (Table 4). To examine the interaction, simple regression analyses were performed for both FGS and CGS. The regression for CGS revealed that family and friends support was a stronger predictor of Career/Personal motivations, where it accounts for 24% of the variance, $R^2 = .24$, $F(1, 187) = 60.62$, $\beta = .48$, $p < .001$ than for FGS, where it only accounts for 3% in the variance, $R^2 = .03$, $F(1, 120) = 5.31$, $\beta = .16$, $p = .02$. As shown by the results (Figure 4), there is a more pronounced effect of friends and family support on Career/Personal motivations for CGS compared to FGS where more perceived support leads to greater endorsement of these motivation.

Table 4

Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Career/Personal Motivations

Variable	*b*	*SE b*	*β*	*Adj. R^2*	ΔR^2	*F*
Career/Personal Motivations						
Step 1				.12	.13	22.67***
Friends and Family	.31	.05	.36***			
First-Generation Status	.03	.07	.02			
Step 2				.16	.04	20.14***
Friends and Family	.48	.07	.56***			
First-generation Status	.02	.07	.02***			
Friends and Family * First-generation Status	-.33	.09	-.28			

Note. *** $p \leq .001$

Figure 4

Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Career/Personal Motivations

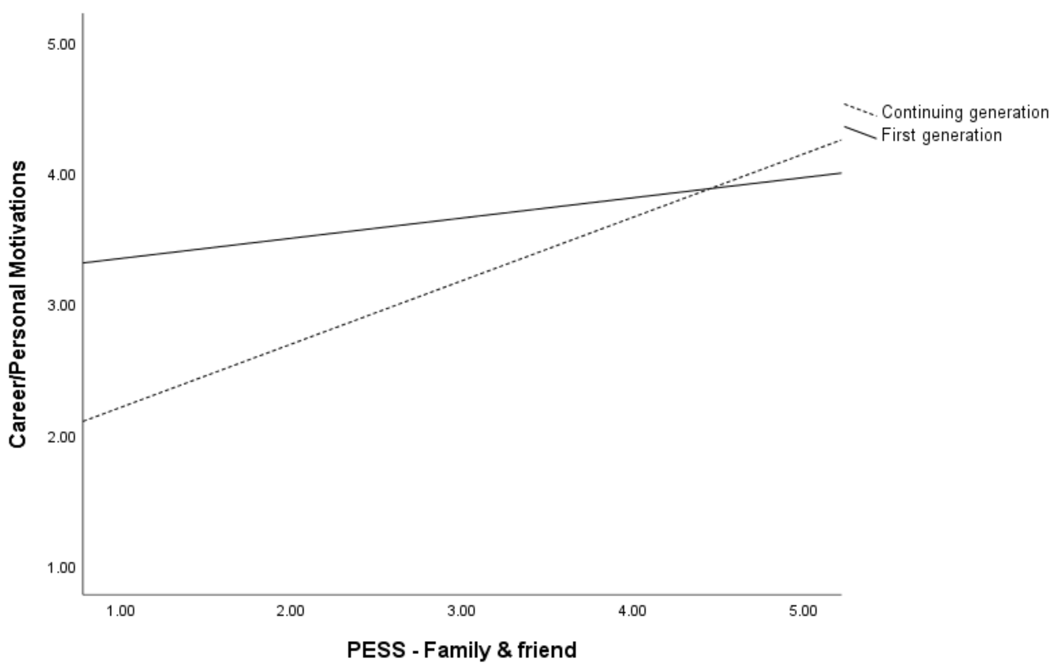


Table 5 shows that Family and Friend scores, and the interaction between Family and Friend scores and student status were significant predictors of Humanitarian motivations. To examine the interaction, simple regression analyses were performed for both FGS and CGS. The simple regressions showed that family and friends support was a significant predictor of Humanitarian motivations for CGS (Figure 5), predicting 8% of the variability, $R^2 = .08$, $F(1, 187) = 15.94$, $\beta = .54$, $p < .001$, but not for FGS, $R^2 = .003$, $F(1, 120) = 1.40$, $\beta = .139$, $p = .24$. For CGS, greater support leads to more humanitarian motivations.

Table 5

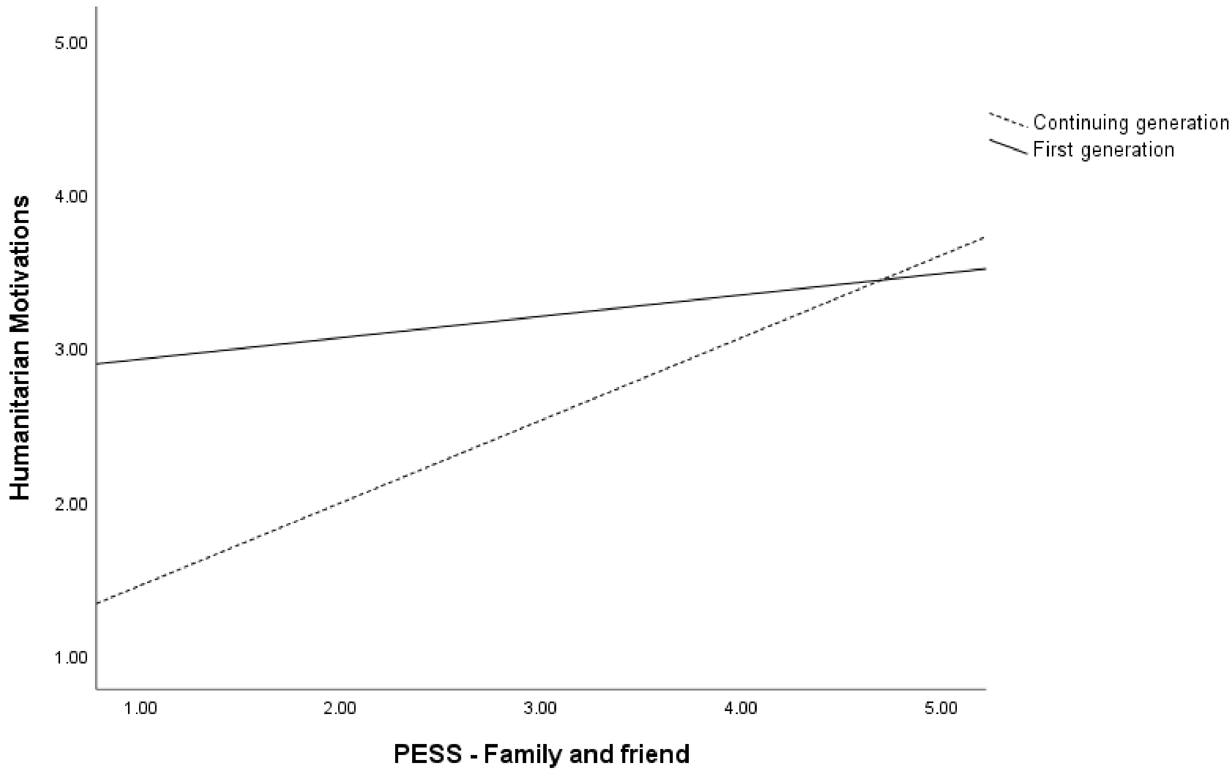
Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Humanitarian Motivations

Variable			*b*	*SE b*	*β*	*Adj. R^2*	ΔR^2	*F*
Humanitarian								
	Step 1					.04	.04	6.67***
		Friends and Family	.33	.09	.20***			
		First-Generation Status	.13	.13	.06			
	Step 2					.05	.02	6.14***
		Friends and Family	.54	.13	.34***			
		First-generation Status	.12	.13	.05			
		Friends and Family * First-generation Status	-.40	.18	-.18*			

Note. * $p \leq .05$, *** $p \leq .001$

Figure 5

Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Humanitarian Motivations



Family and Friend support, and the interaction between support scores and first-generation status were all significant predictors of Default motivations (Table 6). To examine the interaction, simple regression analyses were performed separately for FGS and CGS. The simple regressions revealed that family and friends support was a significant negative predictor of Default motivations for FGS, accounting for 5% of variability, $R^2 = .05$, $F(1, 187) = 9.95$, $\beta = -.27$, $p < .01$, but not for FGS, $R^2 = .001$, $F(1, 120) = .82$, $\beta = .07$, $p = .37$. For CGS higher levels of support meant they were less likely to report going to university as a default. Figure 6 shows that for CGS, greater friends and family supports leads to fewer motivations based in default.

Table 6

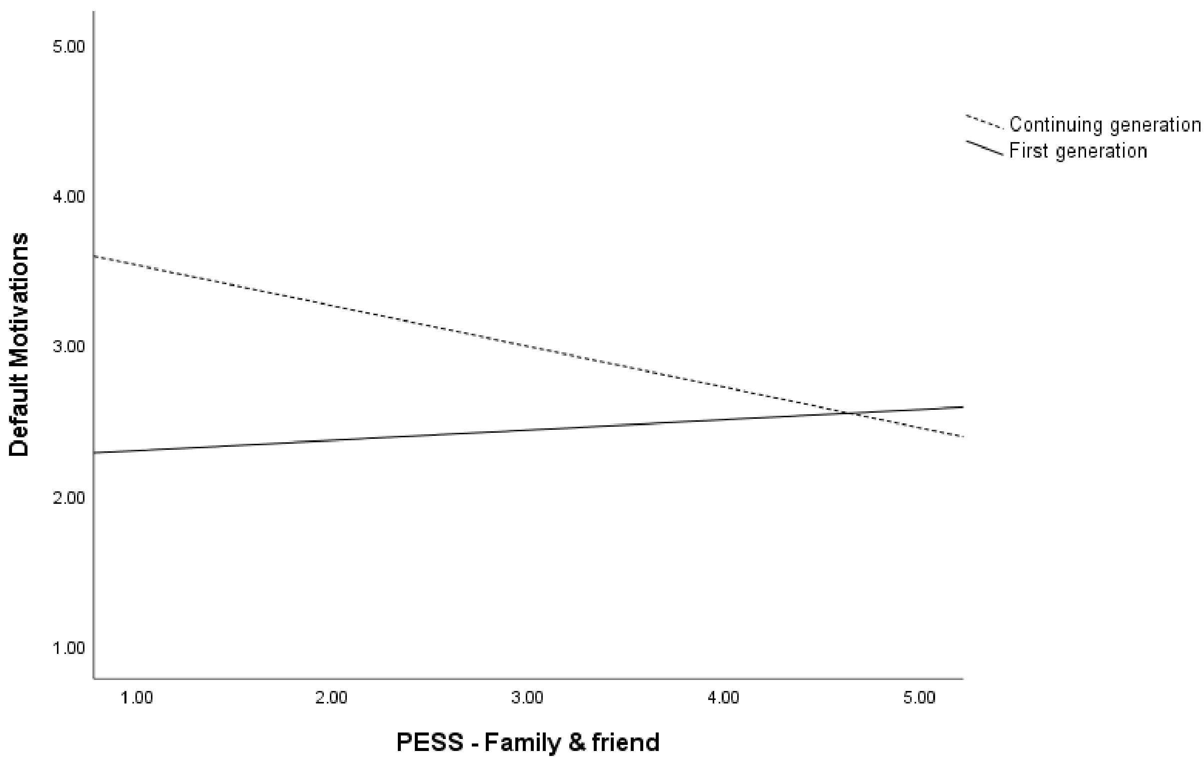
Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Default Motivations

Variable			*b*	*SE b*	*β*	*Adj. R^2*	ΔR^2	*F*
Default								
	Step 1					>.01	.01	1.61
		Friends and Family	-.09	.06	-.09			
		First-Generation Status	-.09	.08	-.06			
	Step 2					.03	.03	4.00**
		Friends and Family	-.27	.08	-.27***			
		First-generation Status	-.09	.08	-.06			
		Friends and Family * First-generation Status	.34	.12	.24**			

Note. ** $p \leq .01$, *** $p \leq .001$

Figure 6

Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Default Motivations



As shown in Table 7, first-generation status was a significant predictor of Prove Worth Motivations, but Family and Friend support scores and the interaction were not. So, FGS are more likely to report motivations related to proving worth.

Table 7

Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Prove Worth Motivations

Variable	*b*	*SE b*	*β*	*Adj. R^2*	ΔR^2	*F*
Prove Worth						
Step 1				.02	.03	4.83**
Friends and Family	-.08	.10	-.05			
First-Generation Status	.43	.15	.16**			
Step 2				.03	.01	3.76**
Friends and Family	.06	.15	.03			
First-generation Status	.42	.15	.16**			
Friends and Family * First-generation Status	-.26	.21	-.11			

Note. ** $p \leq .01$

As shown in Table 8, first-generation status was a significant predictor of Expectation Motivations, but Family and Friend support scores and the interaction were not. CGS are more likely to report motivations related to familial expectations as reasons for attending university.

Table 8

Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Expectation Motivations

Variable	b	SE b	β	Adj. R^2	ΔR^2	F
Expectation						
Step 1				.07	.08	12.60***
Friends and Family	.18	.09	.11			
First-Generation Status	-.56	.13	-.24***			
Step 2				.07	>.01	8.73***
Friends and Family	.08	.13	.05			
First-generation Status	-.56	.13	-.24***			
Friends and Family * First-generation Status	.18	.18	.08			

Note. *** $p \leq .001$

As shown in Table 9, friends and family support was a significant predictor of Encouragement Motivations. Individuals who perceived significant support were more likely to report encouragement as a motivation for attending university.

Table 9

Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Encouragement Motivations

Variable	b	SE b	β	Adj. R^2	ΔR^2	F
Encouragement						
Step 1				.17	.17	32.03***
Friends and Family	.59	.08	.40***			
First-Generation Status	-.17	.11	-.08			
Step 2				.17	>.01	22.43***
Friends and Family	.73	.11	.49***			
First-generation Status	-.17	.11	-.24			
Friends and Family * First-generation Status	-.26	.16	.08			

Note. *** $p \leq .001$

As shown in Table 10, first-generation status was a significant predictor of Help Family Motivations, but Family and Friend support scores and the interaction were not. So, FGS are more likely to report helping their family as a motivator for attending university.

Table 10

Hierarchical Regression Analyses for the Relationship Between Student Support from Family and Friends (PESS) and Help Family Motivations

Variable	b	$SE\ b$	β	$Adj.\ R^2$	ΔR^2	F
Help Family						
Step 1				.02	.03	4.75**
Friends and Family	.14	.11	.08			
First-Generation Status	.44	.15	.17**			
Step 2				.02	>.01	3.35**
Friends and Family	.06	.15	.03			
First-generation Status	.44	.15	.17**			
Friends and Family * First-generation Status	.16	.21	.06			

Note. ** $p \leq .01$

Based on the above results, the final hypothesis is partially supported. Family and Friend support was a significant predictor for Career/Personal, and Encouragement predictors for both FGS and CGS; it was also a significant predictor of Humanitarian, and Default motivations in CGS. Friends and familial support was not a significant predictor for Prove Worth, Expectations, or Help Family. As predicted Family and Friend support positively predicted Career/Personal, Encouragement, and Humanitarian motivations, and it negatively predicted Default motivations. Contrary to my hypothesis, Family and Friend support did not predict Prove Worth, Expectations, or Help Family motivations.

Discussion

The present study examined the initial motivations for attending university, as well as the influences of academic self-efficacy and social support on the decision to attend based on first-generation status. Previous research on FGS has primarily been done in an American context and has placed emphasis on preventing attrition of these students and/or comparing them to CGS. While these are important areas to focus on, examining motivations of FGS to attend university is of equal importance. Considering the numerous barriers that FGS face during the application process and while attending university, the decision to enroll in university could be aversive, yet many FGS persist through an undergraduate education.

In this study, FGS tended to have lower self-efficacy, lower family and friend support, and more short-term goals than their CGS peers. FGS also reported being more motivated by proving their abilities and helping family compared to CGS. CGS were more likely to report encouragement and expectation from family as motivators for attending. In both cases, students' overall motivations were influenced by perceived academic self-efficacy and supports available. Individual hypotheses are discussed below.

Initial Motivations for FGS vs. CGS to Attend University

FGS reported they were more likely to have helping family and proving their worth as motivations to go to post-secondary education. This finding supported past research that has indicated that FGS are more likely-to be interdependent with their families than CGS, and as a result, their family may rely on them for financial support (Bauman et al., 2019; Byun et al., 2017, Van & Bui, 2002). Phinney et al., (2006) found that for motivations related to proving worth, the more individuals told the student they should not attend university, the greater the student's motivation was to attend. This same reasoning can be applied to FGS who face many challenges when attending university, such as lacking necessary academic abilities. If FGS are told that they should not attend university because of their academic performance, their personal characteristics, or for any other reason, proving that they could succeed at university may be a driving motivation.

CGS reported higher scores on the Encouragement and Expectation subscales as motivations for attending university. This finding supports previous U.S. studies, parents of CGS typically expect and encourage these students to attend university (Gibbons & Borders, 2010; Martin et al., 2020). Encouragement to attend may be based on parents' existing value on completing a bachelor's degree (Gibbons & Borders, 2010; Martin et al., 2020). CGS are therefore more likely to receive support from family for attending university than FGS because it is both expected of them and they are encouraged to do. As a result of the above, CGS may be more likely to succeed in university because they have a support network they can rely on for advice, as well as emotional support when attending university (Brookover et al., 2021). Furthermore, an encouraging network may lead CGS to pursue their own interests at university and aim for higher goals without the limitations that FGS have. So, unlike parents of FGS who may have limited information about university, CGS parents set up their children for success early on (Gibbons & Borders, 2010; Martin et al., 2020). This generates an unequal divide between FGS and CGS, CGS' parents are providing students with all the necessary tools to advance their education and their future careers.

The Influence of Self-Efficacy on Motivations for Attending University

CGS also had higher perceived academic self-efficacy than FGS. This too was supported by the previous research (Inman & Mayes, 1999; Ramos-Sanchez & Nichols, 2006). Since CGS typically receive higher grades, more support, and have a higher baseline knowledge about navigating university than FGS, it is no surprise that they have higher self-efficacy (Gibbons et al., 2016; Markle & Stelzriede, 2020; Um, 2021; Van & Bui, 2002; Vega, 2017). Self-efficacy comes from developing skills and believing in one's ability to be successful. This is something that can be improved through training. Wernersbach et al. (2014) found that students who were enrolled in a study skills course showed significant improvement in their academic self-efficacy. Since FGS' lower academic self-efficacy may stem from lack of preparation for university, creating opportunities for students to learn these skills through supplementary courses or workshops could increase FGS' academic self-efficacy.

Self-efficacy was related to higher educational attainment goals. Previous research supports this finding, CGS who typically have higher self-efficacy tend to aim for education post-bachelor's (Gibbons & Borders. 2010; Lohfink & Paulsen, 2006; Prospero & Vohra-Gupta, 2007; Ramos-Sanchez & Nichols, 2007). Radunzel (2021) noted that CGS were split 50/50 between completing a bachelor's degree and pursuing further education. For FGS, 64% listed finishing their bachelor's degree as their education plans, while 29% intended to pursue further studies. However, a confounding variable to their study is students' information about education options post-bachelor's. FGS typically have limited knowledge about undergraduate studies when entering university, it is possible they would also have limited information about post-bachelor's education. If this is the case, and they do not know how to navigate options for further education, this would influence how many FGS plan on continuing their education after their bachelor’s degree.

Student self-efficacy was also a predictor for career/personal, and default-based motivations. Students who feel confident in their ability to complete a task will strive for higher accomplishments based on their personal interests (Prospero & Vohra-Gupta, 2007). Self-efficacy also positively influences a student’s academic performance, creating a positive feedback loop to their motivations (Lohfink & Paulsen, 2005; Martinez et al., 2009). Students will believe they can achieve more, strive for higher goals, and may have the academic performance to carry them out. High self-efficacy will also reduce the likelihood of students attending university because they thought there were no other options as students realize their potential and strive for their personal goals.

More FGS thought about dropping out compared to their CGS peers. This result is unsurprising, as FGS tend to be at greater risk for attrition than their CGS counterparts (Martinez et al., 2009; Pascarella et al., 2004; Radunzel, 2021). Factors such as parental education level have a negative influence. Parents may not have gone to university and therefore cannot supply advice to their child to help in the transition to university (Gibbons & borders, 2010; Martinez et al., 2009; Sy et al., 2011). As a result, FGS can enter university feeling underprepared, overwhelmed, unambitious, and distant from their peers (Brookover et al., 2021; Dennis et al., 2005; Markle & Stelzriede, 2020; Prospero & Vohra-Gupta, 2007; Um, 2021). Under-preparation could be associated with lower academic self-efficacy and further the notion that the student may not belong there (Martinez et al., 2009; Markle & Stelzriede, 2020; Pascarella et al., 2004; Ramos-

Sanchez & Nichols, 2007). These challenges can be combatted by improving student's academic self-efficacy and their peer networks. Students that receive academic support/ academic skills training perform better academically, building confidence in their ability to succeed at university, and may be more likely to remain in an institution as a result (Glew et al., 2019; Wernersbach et al., 2014). Universities should also consider fostering a supportive peer network through mentorship programs, FGS groups, etc. Peers aid in student retention by helping students develop a sense of belonging at an institution and can provide understanding and support that parents of FGS may not be able to (Lecy, 2021; Martin et al., 2020; Prospero & Vohra-Gupta, 2007).

The Influence of Social Supports for FGS vs. CGS

Students' Perceptions on the Availability of Social Supports

There was a significant main effect of student status (FGS vs. CGS) on perceptions of academic and personal support. There was no difference for academic support; however, because students attended the same institution this could have influenced these results. This result provides a few possibilities for future research. First, it would be beneficial to understand what kinds of institutional supports students have benefited from. Students may not be aware of the wide range of supports available to them, so having them report on the supports they have received could help better quantify this variable. Additionally, future research should consider examining other universities with differing kinds of support and promotion of them, to see if support availability and promotion influences the extent that FGS vs. CGS perceive availability of institutional supports.

CGS perceived higher family and peer support than FGS. These results are supported by previous studies, CGS typically have greater familial and peer support for attending university (Gibbons & Borders, 2010; Martin et al., 2020). Additionally, because they are expected to attend university, they may perceive more support for their decision as it adheres to the values their family would have placed upon them (Gibbons & Borders, 2010; Martin et al., 2020; Vega, 2017). Sy et al. (2011) surveyed FGS, and found that they reported less family and friend support than CGS. One reason they discovered was parents of FGS may not understand their children's experiences at university, and as a result may feel they cannot relate to their children, and therefore cannot support them. Additionally, if FGS have a smaller peer network, they may not perceive as much support. Programs designed to integrate FGS students into university life, such as through mentorship programs, or peer support groups could all aid in fostering a supportive peer network for FGS. Peers are key to helping FGS navigate university and giving them a sense of belonging while there. Programs that help FGS form these connections could be invaluable as they help students adjust to university and booster self-efficacy.

The Influence of Social Supports on Motivations for Attending University

I was also very interested in the role of support from friends and family in student motivations to attend university. In some cases, the links between friends and family support were as I expected, but they were contrary in others. Support from friends and family was positively related to Career/Personal, Humanitarian, Expectation, and Encouragement motivations.

Both FGS and CGS showed a link between family and friend support, Career/Personal Motivations (although the relationship was stronger for CGS), and Encouragement. Often, family members want what is best for their children, hence the decision to encourage students to attend university (Byun et al., 2017; Gibbons et al., 2016; Martin et al., 2020; Sy et al., 2011; Vega, 2017). As a result of this support, students may feel inspired to attend university and strive for greater career/personal motivations while there. CGS perceive greater support from their family, which influences their motivations while there (Gibbons & Borders, 2010). The reported difference in support from family and friends could explain, in part, why there was a more pronounced effect for CGS for Career/Personal motivations.

Friends and family support was also a significant predictor for Humanitarian motivations for CGS. The relationship between humanitarian motivations and support might be explained through the creation of empathy. CGS perceive their parents as more supportive. Supportive parents may be more empathetic to their child and help their child develop a heightened sense of empathy as a result (Miklikowska & Duriez, 2011). Empathy has been linked to altruistic motivations such as helping behavior (Toi & Baston, 1982). Lange (2008) identified empathy as a trigger for altruistic motivations. So, as parental support plays a role in the development of empathy and in turn altruistic behavior, support can act as a predictor for altruistic behavior through the development of empathy. Another possible explanation for the relationship between support and altruistic motives stems from the fact many CGS may not be limited to the same constraints as FGS.

Friends and family support led to less default motivations for CGS. CGS have a support network they can rely on for their expenses and needs, as a result, they may be given greater liberty to pursue motivations related to altruistic purposes. Furthermore, CGS may not be limited to default options because of the support they have available to them to pursue whichever path they choose.

Limitations

The current study had several limitations. The sample was collected at a small, rural university in the Maritimes, which may not generalize to FGS in other locations. However, many of the findings did replicate previous work done in the U.S. Because there is such a limited criteria for what counts as a FGS (i.e., the first in their immediate family to attend and complete a four-year university degree) there is significant diversity amongst these students (income, ethnicity, mature student status, etc.). The current sample for FGS and CGS was predominantly white and female, so there is unequal representation across gender and ethnicity. Future research should examine FGS populations at a variety of universities and settings.

The sample of students used was also already in university, so the questions asked may not be reflective of their initial reasons for attending university. Participants may be relying on retrospective recall when responding to some of the questions in the survey. This retrospective recall may have had a stronger influence on response reliability for upper year level students especially, since they would have been further removed from initial motivations. Future research should consider using a younger population, perhaps in high school as this sample might accurately reflect true initial motivations for attending amidst FGS and CGS.

Another issue was that the Cronbach's alpha for the Default subscale of the SMAU was quite low and therefore unreliable. I am not sure why this sample was so different than the original. One possible explanation for this is because they used a different population as Phinney et al. (2006) used ethnic minority students whereas the current study focused on CGS and FGS, who were primarily white. This could have impacted the results and their reliability.

Conclusion

This study highlights the differences in motivations between FGS and CGS for their reasons to attend university, their confidence in succeeding at university, and the support they perceive as available to them. Although the sample was not very diverse in terms of gender, university location, and ethnicity, there was still a delineation between FGS and CGS in many of the areas studied. Based on these results, support and self-efficacy may influence initial motivations for attending university, students' further goals, and academic performance. As shown through the previous literature, greater self-efficacy and support not only influence if students attend university, but also their academic performance while there with greater support and self-efficacy being associated with stronger academic performance (Dennis et al., 2005; Martin et al., 2020; Phinney et al., 2006; Ramos-Sanchez & Nichols, 2007). First-generation status does influence what goals they aim for, as lower self-efficacy and perceived support may lead students to focus on immediate goals such as completing their current degree. Additionally, self-efficacy and support may influence the extent FGS accomplish these goals, as lower self-efficacy and less perceived support from family may lead students to consider dropping out at greater rates than CGS.

Overall, this study implies that FGS may be at a disadvantage in the Canadian context as they are in an American context. The results show FGS are still at a significant risk for attrition, and low self-efficacy and available supports may be part of this decision. To the best of my knowledge, this study was the first to examine both the influence of self-efficacy, and social supports on initial motivations for attending university for FGS and CGS in a Canadian context. The results found in this study will play an important role in building foundational knowledge for research on FGS in a Canadian context. Furthermore, it also illuminates how academic self-efficacy and social support may interact to influence the decision for FGS vs. CGS students to attend university.

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Appendix A

Demographic and Education Questionnaire

- What is your age? _______________
- What is your gender? ________________
- What is the highest education level completed by your parents/caregiver(s)? If your parents or caregivers have different levels of education, select the highest.
    - Some middle school,
    - Some high school,
    - High school diploma/GED
    - Some Undergraduate
    - Bachelor’s Degree
    - Master’s
    - Professional Degree (PhD, MD, JD)
- Do you identify as any of the following? Select all that apply:
    - Asian
    - Black/African/Caribbean
    - Indigenous
    - Latinx
    - White/European
    - Other ____________
- What is your individual income? (Select one)
    - 0 – 10,000
    - 11,000-20,000
    - 20,000-30,000
    - 30,000-40,000
    - 40,000-50,000
    - 50,000+
- Do you receive financial support from your family? (Y/N)
- If yes, what is your family’s yearly income? (Select one)
    - 0 – 30,000
    - 31,000 – 49,999
    - 51,000 – 100,000
    - 101,000 – 150,000
    - 151,000 – 200,000
    - 201,000 – 250,000
    - 250,000+
- Have you taken out government student loans (Yes/No)
- Have you taken out student loans from another source (ie. Bank, line of credit) (Yes/No)
- What is your year of study? (Select one)

  - 1, 2, 3, 4, 5, 6+
- Have you ever taken a gap year(s) (a year or more off of school since high school)? (Yes/No)
- Are you a mature student? (Yes/No)
- Have you ever dropped out of university? (Yes/No).
- If yes, what year were you in? (Select one)
  - 1, 2, 3, 4, 5, 6+
- Have you ever seriously considered, dropping out but did not do it? (Yes/No).
- If yes, what years? (Select all that apply)
  - 1, 2, 3, 4, 5, 6+
- What is your current GPA? (Please type)
- Have you taken any form of college preparatory course (including AP/IB) or attended a community college prior? (Yes/No)
- What are your current plans for your future education? (Select all that apply):
  - Some Bachelor’s
  - Bachelor’s
  - Additional Bachelor’s (I.e., a second degree)
  - Certificate/Diploma
  - Master’s
  - Professional Degree (PhD, MD, JD)
  - Unsure
- Have your education plans shifted since you started at Mount Allison? (I.e., changing degrees, taking an extra year, pursuing another degree, etc.). (Y/N)
- If yes, how have they changed ____
- Have your career goals shifted since you started at Mount Allison? (Y/N) If yes, please describe. ____

Appendix B

EMAIL Template - MtA students

Good morning/evening/afternoon students!

We want to know why YOU chose to go to university!

You are invited to complete a survey about your experience as a university student at Mount Allison. This study will assess the initial motivations of students in attending university, if social support and perceived ability are related to these motivations, and how motivations may have changed over time. The study should take approximately 20 minutes to complete.

Those who complete the survey will be entered into a draw for a $50 GIFT CARD! Alternatively, if you are in Intro Psych, you can opt to receive 0.5 SONA credits. To enter the draw or get SONA credits, you will enter your name and email address in a separate survey that cannot be linked with your data.

To participate, please follow the link to the survey:

LINK

Or contact Abigail Daley at addaley@mta.ca.

Your participation is voluntary, and your data will be held anonymously and confidentially. This study is being conducted by Abigail Daley as part of their Honours thesis in psychology at Mount Allison University, supervised by Dr. Lisa Dawn Hamilton and has been approved by the Research Ethics Board at Mount Allison University. Please direct any concerns to Dr. Lisa Dawn Hamilton at ldhamilton@mta.ca.

[signature]

Appendix C

Consent form

Student motivations for attending university

Abigail Daley, Cynthia Dyck, Shelly Colette, Lisa Dawn Hamilton

My name is Abby Daley, and I am a Psychology honours student here at Mount Allison University studying the links between motivations for attending university and various student demographics.

This study is a short survey about your motivations for attending university, the type of support you have, and how prepared you felt and/or feel now for university (self-efficacy). The survey should take approximately 20- minutes to complete. There are no anticipated risks for this study.

The aim of this study is to assess the factors that predict motivations for attending university. We are interested in both psychological components, such as self-efficacy and demographic components, such as parental education levels.

Your participation is completely voluntary, and you can withdraw from the survey at any time without consequence. You do not have to answer any question that you do not want to answer. If you choose to terminate the survey prior to completion your responses to completed questions will still be recorded. All data will be anonymous.

Participants can also opt to enter their name for a draw for one of five $50 Mount Allison University Bookstore gift cards. Alternatively, if you are in Intro Psych, you can opt to receive 0.5 SONA credits. To enter the draw or get SONA credits, you will enter your name and email address in a separate survey that cannot be linked with your data.

This research has been approved by the Research Ethics Board at Mount Allison University. If you have any questions or concerns about this study, you may contact Dr. Nancy Garon, Chair of the Mount Allison University Research Ethics Board, by phone (506-364-2618) or by e-mail at reb@mta.ca.

Your decision to complete this survey will be interpreted as an indication of your consent to participate.

I understand and consent to participate in this study.

a. Yes, proceed to the survey.
b. No.

Appendix D

Feedback Form

The aim of this study is to assess the factors that predict motivations for attending university. We are interested in both psychological components, such as self-efficacy and demographic components, such as parental education levels. This survey consisted of questions covering demographic, educational, support systems, self-efficacy, and motivations for attending university. All information given is anonymous.

Thank you for your participation, we hope this was a pleasant experience.

If you have questions, you can contact Abigail Daley at addaley@mta.ca or Dr. Lisa Dawn Hamilton at ldhamilton@mta.ca.

If you have any concerns about the research, you can reach out to the Research Ethics Board at reb@mta.ca

Resources

- Mount Allison Wellness Center
  - Phone: (506) 364-2163

    Email: wellness@mta.ca

    In person: at the Wellness Centre, lower level of the Wallace McCain Student Center