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Jessica Lynch

Bridgewater State University

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The Changing Motivations of First-Generation College Students

Jessica Lynch

Submitted in Partial Completion of the
Requirements for Commonwealth Honors in Psychology

Bridgewater State University

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Dr. Ashley Hansen-Brown, Thesis Advisor

Date: May 5, 2022

Dr. Michael Root, Committee Member

Date: May 5, 2022

Dr. Hana Shahin, Committee Member

Date: May 5, 2022

Abstract

Past research has clearly indicated that first-generation college students are a unique cohort facing specific obstacles on their journey through higher education. That said, it is crucial to understand their motivations for pursuing a college degree in order to better help guide them throughout their studies. Furthermore, comparing these motivations and motivation changes to those of continuing-generation college students provides further insight regarding the uniqueness of first-generation college students. In Study 1, we studied this by asking students to recall their past motivations for enrolling in college and cite their present reasons for being in college. In Study 2, we studied the same motivations, but in a longitudinal format over the course of one college semester. The results of both Study 1 and Study 2 indicated that overall, the motivations of first-generation college students do not change much over time and are not very different from those of continuing-generation college students. Understanding this information is crucial in helping to integrate the two groups as well as providing a more positive higher education experience for first-generation students.

The Changing Motivations of First-Generation College Students

First-generation college students (FGCS) are an increasing cohort among higher education institutions across the United States. While there are many definitions of FGCS, the most common definition is a student whose parents do not have at least a bachelor's degree. In contrast, a continuing-generation college student (CGCS) is a student who has at least one parent who has completed a bachelor's degree. As higher education becomes a more accessible opportunity, more FGCS enter higher education. As of 2016, FGCS made up 56% of college students across the U.S. (Center for First-Generation Student Success, 2016). Despite the increase of FGCS in higher education institutions, several common factors have kept FGCS' attrition rates quite high at 33% as of 2019 (Educational Advisory Board). While some motivations of FGCS to complete a higher education are known, it is unclear how these motivations change over time. Studying this information allows for tailoring specific programs and support systems to aid in FGCS' educational pursuits.

Challenges FGCS Face

While all college students face challenges throughout their education, FGCS are impacted by various unique challenges that hinder their higher education success. These challenges ultimately result in many FGCS being forced to withdraw from their higher education institution. It is important to first address the obstacles that inhibit FGCS' drive to obtain a college degree to then understand what motivates them.

FGCS differ in their backgrounds and demographics from CGCS. While most traditional college students begin college right after high school or just a few years later, FGCS frequently wait many years before beginning their higher education. Therefore, they are often older than most traditional students, who are 18-22 years old (Bui, 2002). Furthermore, FGCS are more

likely to own homes and have their own children. As a result, not only do they need to work full-time or nearly full-time hours, they also must balance homeownership responsibilities and/or parenthood all while completing classes and classwork (Engle et al., 2008). Bearing many responsibilities during their time in college often leads to FGCS taking longer to complete their degree than CGCS (Terenzini et al., 1995). This can demotivate FGCS to finish their degree because they feel they are taking too long or cannot do it (Engle et al., 2008). FGCS' unique background sets up the foundation for many of the other challenges FGCS face throughout higher education.

FGCS often struggle with cultural mismatch between their family values and their educational values. For FGCS, this entails feeling like the school's values do not align with the values they were raised on at home (Stephens et al., 2012). Therefore, FGCS often feel as though they must choose between their families' cultural values and their school's expectations and values, creating conflict and a negative experience for the student (Stephens et al., 2012). To assuage these concerns, education institutions should focus on helping students adapt their personal identity to fit the educational institution's norms. However, education institutions should be expected to adopt some programs and values that align with the existing ones of their FGCS population (Hermann & Varnum, 2018). This adjustment can be made easier by knowing what motivates FGCS. Cultural mismatch can also be present in the context of socioeconomic status. Many FGCS come from low-income families and are quickly forced to become immersed in a school with middle class and upper middle-class students, to whom they do not feel connected (Ostrove & Long, 2007). This, once again, prevents FGCS from feeling a sense of community at school, frequently leading them to want to drop out (Covarrubias & Fryberg, 2015;

Stephens et al., 2012). Cultural mismatch adds to the foundation for many of the other challenges FGCS face throughout their higher educational pursuit.

FGCS experience immediate challenges when they begin their higher education based upon their unique backgrounds, which often translate into additional difficulties as they delve into their educational pursuit. For example, FGCS are less likely to believe that faculty members genuinely care about their development and endeavors as a student (Terenzini et al., 1995). Furthermore, FGCS perceive their education environments as critical and judgmental, leading to negative experiences during their education, such as feeling unheard or disrespected in the classroom (Schademan & Thompson, 2016). These negative experiences are furthered by faculty expecting all students, including FGCS, to have a fixed level of academic preparation, regardless of background, and projecting frustration onto students for whom this is not the case. This unrealistic level of expectation and the obvious dissatisfaction with the situation places undue stress on students, leading them to feel unsupported by their faculty (Terenzini et al., 1995). Lack of faculty support reinforces the notion to FGCS that they will not succeed in higher education and therefore likely contributes to attrition rates.

FGCS face emotional challenges during their pursuit of higher education. FGCS experience more negative emotions than CGCS, such as anxiety, fear, and hopelessness, which may impact their determination in their academics, and help to explain the high attrition rates among FGCS in higher education (Ishitani, 2006). Cultural mismatch is a leading factor behind increasing negative emotions and decreasing positive ones, and also adds to the physiological effect of increased cortisol levels (Stephens et al., 2012). FGCS' stress is negatively correlated with perceived academic goal progress indicating that having academic resources such as faculty and mentors who genuinely care, as well as a sense of belongingness among kind peers, may

greatly impact a student's perception that they are achieving academic goals as well as their drive to achieve these goals (Pike & Kuh, 2005). Negative emotions experienced by FGCS add to the overall negative experience many FGCS face and play a key role in FGCS' attrition rates.

Many FGCS struggle with feeling like they do not belong among their peers in their college community. One study demonstrated that living on campus had the greatest overall effect on learning outcomes out of any other factor, highlighting the need for FGCS' integration with their peers and their community and emphasizing how a sense of belongingness directly impacts students' feelings about succeeding at and enjoying college (Pike & Kuh, 2005). Unfortunately, many FGCS come from low-income households and are not able to afford to live on campus, separating them from their peers. Furthermore, FGCS are frequently supporting a family and/or own a home and cannot live on campus for this reason (Redford & Hoyer, 2017). Also, having a family or children impacts the amount of time FGCS can spend on campus, further decreasing their ability to integrate themselves with their peers. Lack of belonging for FGCS may hinder their tenacity regarding their pursuit of college education.

FGCS, more often and to a higher degree than CGCS, have to balance personal life commitments with their educational pursuits. This leads to FGCS often being significantly disadvantaged throughout their higher education experience compared to CGCS, due to taking fewer credit hours, working more hours, having less involvement in extracurricular activities, and having more at-home responsibilities (Pascarella et al., 2004). Despite these pressures, students who do choose to attend college are then forced to balance a demanding educational life as well as family life responsibilities, creating many negative emotions and pushing students to at least consider dropping out (Covarrubias et al., 2015). These negative thoughts and low expectations for their outcome significantly jeopardize students' ability to succeed in college and

is another major factor that leads to FGCS' attrition (Prospero & Vohra-Gupta, 2007). Balancing a personal life with academia presents another challenge FGCS must overcome in order to be successful in their higher education endeavors.

Thus, FGCS face many difficulties in higher education which are not necessarily shared by their CGCS peers. While these challenges hinder FGCS during their academic career at large, they also impact specific factors such as selecting a major and a career path.

Major and Career Choice

Many FGCS do not possess the necessary self-confidence to achieve their career path and career outcome goals. FGCS tend to have relatively low aspirations for earning their college degree (Martinez et al., 2009). The combined impact of all the challenges they face prior to and during their academic careers minimize their ability to succeed as well as their perceived ability to succeed (Raque-Bogdan & Lucas, 2016). In terms of career development and outcomes for FGCS, parental support is one of the most important factors in determining success (Dennis et al., 2005). However, many FGCS lack parental support for their educational pursuit (Stephens et al., 2012), and therefore lack a key success factor. According to the Social Cognitive Career Theory model, which is aimed at explaining three interconnected aspects of career development, these perceived barriers can inhibit a student's pursuit of a particular career path despite strong personal expectations and desires (Brown & Lent, 1996). This model illustrates that despite FGCS' own personal sense of strength and determination, the extrinsic obstacles that they face are often so overwhelming that they do not believe they can overcome them. Lack of confidence in their ability to succeed in a college education plays a role in several of the struggles FGCS face.

Often times, FGCS enter college as undecided majors, which causes them difficulties in their pursuit to earning a college degree. Advancing towards a degree when a student is undecided, as many FGCS are, makes the journey to graduating quite difficult (Gordon & Steele, 2003). Typically, this results from FGCS not having guidance regarding the career path they want to pursue or understanding the classes that will be required for that path (Drewsbury et al., 2019). Along with often feeling as though their faculty are not there to help them succeed (Schademan & Thompson, 2016), FGCS do not have parents that went to college, and therefore also lack guidance at home (Stephens et al., 2012). Not having the support they feel they need to achieve their career goals is just one of the challenges of FGCS when trying to decide on a major.

While many FGCS enter college having no idea what type of major to take on, some FGCS enter college having decided there are certain majors “someone like them” just cannot do. Generally, this concerns STEM (science, technology, engineering, and mathematics) careers as they are often seen as the most challenging career fields to succeed in (Big Economics, 2021). FGCS’ lack of exposure to STEM-related careers in their youth leads to them having the false belief that someone of their identity or demographic could not be successful on such a course (Hansen, 1994). Furthermore, some of those FGCS who do possess the personal motivation to take on a STEM-related track in school often feel that they do not have the parental or familial support to do so, which turns them away from this path (Dennis et al., 2005). Overall, many FGCS believe people of color and those who come from lower-resource backgrounds, as many FGCS are, do not become “X”, and therefore they take on major/career paths that they perceive as more attainable for “someone like them” (Hansen, 1994). This likely relates to seeing their parents and their community members working low-paying or low-skilled jobs as they do not

have a college education. FGCS perceive these careers as the highest someone like them could successfully achieve, as these are the careers they have the most exposure to in the “real world” (Hansen, 1994). Despite having access to many of the resources they need to acquire skills for highly advanced careers, FGCS often do not feel they are capable of attaining such success as a result of the background they come from.

FGCS’ Motivations

It can be ambiguous why FGCS pursue certain endeavors during their academic careers; however, analyzing motivations can help to understand students’ driving forces. Research by Stephens et al. (2012) on cultural mismatch explains why this might be the case. According to this research, FGCS differ demographically from their CGCS peers which impacts their motivations for pursuing higher education in ways such as wanting to earn a degree to be able to help their families after college. Furthermore, students’ social class backgrounds serve as a strong predictor of the motivators that drove them to obtain a college education. FGCS were motivated by twice as many interdependent motives, those that are focused on benefiting others, than CGCS, but significantly fewer independent motives, those that are focused on achieving benefits for oneself. By being motivated primarily by interdependent motives, FGCS often face a cultural mismatch between their personal priorities and the educational institutes’ expectations, which tend to focus on independence. These motivation differences and priority separations strengthen the intensity of the differences FGCS feel between themselves and CGCS.

FGCS are most often motivated by collectivistic motivations, which refers to motivations driven by group mentality to obtain a college degree (Stephens et al., 2012). FGCS are frequently motivated to earn a college degree to be able to help their families after college (Bui, 2002). Knowing that these students often come from low-income backgrounds, it is clear that they want

to aid their families in making easier, more comfortable lives. Earning a college degree potentially gives them the power to do this by opening up more opportunities for higher-paying jobs (Stephens et al., 2012). Furthermore, many FGCS pursue a college degree to become role models for people in their lives and their communities (Azmitia et al., 2013). Finally, through successfully earning a college degree, many FGCS feel they can inspire their communities to achieve things greater than they are expected to by society (Azmitia et al., 2013). Thus, collectivistic goals are a common primary motivator among FGCS to succeed in earning a college degree.

Although FGCS tend to be driven more by collectivistic motivations, they do have specific individualistic motivations, which refers to motivations driven by aspirations to succeed for oneself (Dennis et al., 2005). Specifically, many FGCS indicate that they want to earn more money to have a better life than the one they grew up in. This is mainly centered around financial stability and independence (Stephens et al., 2012). FGCS who with great certainty intend on finishing their college degree cite that getting a high paying job is a primary motivation so that they can move into a better socioeconomic life, pushing them to take on any challenges that education throws at them (Bui, 2002). Understanding these motivations is only a part of the necessary knowledge needed to assist FGCS in their success. There are many other factors, specifically how these motivations change or develop over time, that are pertinent to acknowledge and apply in order to ensure FGCS feel that despite having barriers, they can still succeed in higher education.

We know a lot about FGCS and their motivations for attending college; however, we do not know much about how these motivations may change over time, a key aspect in determining the best ways for educators to provide these students with the proper support. Knowing if and

how FGCS' motivations change over time can help mentors and educators tailor advising and support much more specifically to the needs of these students. Something that may have mattered to them once may not matter as much a couple of years into their education, and if so, the support and mentoring they receive should reflect that. Furthermore, understanding FGCS' motivations at specific points in their education can help educators make coursework more meaningful to them by making the learning and/or the outcomes more relevant to the students' lives. This provides personal motivation for these students to want to learn because they feel it may really improve their individual life. When educators and mentors genuinely understand the forces driving their students, these students can feel a greater sense of community and belongingness on campus. This may help them to feel like they should continue to pursue their education and that they do have people who understand them. Not only will this information benefit FGCS, it can also benefit CGCS as well, as educators begin to understand that student motivations change in general and different supports may be needed along the education journey.

The Current Research

This research focused on understanding how FGCS' motivations for being in college changes throughout their time in higher education. Study 1 asked students to rate their current motivations as well as recall and document their past motivations. Study 2 was conducted longitudinally, asking students to rate their motivations at the beginning and the end of the Fall 2021 semester at Bridgewater State University. We hypothesized that while FGCS will have more collectivistic motivations than CGCS overall, FGCS' motivations will become increasingly individualistic over time.

Study 1¹

¹ Study 1 was funded by a Bridgewater State University Adrian Tinsley Program (ATP) Summer Grant.

Study 1 sought to understand how students in their second or third year of college perceived their motivations for being in college changing from when they first enrolled. This study used a retrospective design and required students to recall back two to three years to recount their original motivations for pursuing a college degree as well as their current motivations.

Method

Participants

A G*Power *a priori* power analysis (Faul et al., 2009) indicated that 210 participants would be necessary to obtain 95% power to detect a medium effect size. Before collecting data, this study was preregistered on the Open Science Framework (<https://osf.io/v8m3x>). Participants in this study were a sample of college students in their second or third year of higher education, recruited from the online data collection platform Prolific. Participants were screened to ensure they were at least 18 years old, they had a task approval rating of at least 95%, they were U.S. citizens, and they were college students in their second or third year of higher education. Exclusion criteria included an item presented before debriefing asking participants to rate how seriously they took the survey on a scale of 1 (*not seriously at all*) to 5 (*very seriously*). Participants who selected a 1 were excluded from data analysis. Secondly, participants who were not college students in their second or third year were also excluded from the study. A total of 210 participants began the survey on Qualtrics. Three participants were excluded because they indicated they were in their fourth year of college, rather than their second or third year. Our final total sample size was 207 participants. See Table 1 for demographic information.

Materials & Procedure

Participants were first presented with a Captcha to detect and prevent any bot responses. Next, participants were asked to answer “yes” or “no” if they were presently a college student in their second or third year of higher education. This question forced participants to respond as this was a necessary criterion for our study. Participants who answered “no” to this question could not proceed with the study and were presented with a prompt asking them to please exit the survey. Participants who answered “yes” proceeded to a Welcome & Consent form describing the general nature of the study. The form also required participants to either consent to participation by indicating that they were at least 18 years of age, a United States citizen, have read and understood the information on the consent form page, and agreed to participate in the study, or to decline to consent to participate in the study. Participants who declined to consent could not proceed further in the study and were brought to a page asking them to exit the survey. Participants who did consent to participation were asked to enter their Prolific Worker ID to ensure compensation. From this point forward in the study, unless otherwise specified, all participant responses were requested, but not forced, allowing participants to not answer any questions they did not feel comfortable answering.

Participants were asked three college information questions and were then asked to rate how closely they related to all 45 items from two motivation scales. Qualtrics randomized whether participants first rated their past motivations for enrolling in college or their present motivations for remaining in college, allowing us to counterbalance responses in this within-subjects design. After completing both response sets, participants were debriefed with a specific description of the study, what they had done, and the hypotheses. Participants were also provided

with the primary investigator's name and contact information at this time to ensure they could reach out with any questions or concerns².

College Information Questions. Participants were first asked to select, based on the following options, their parents' highest level of education: "at least one of my parents completed a master's degree, PhD, MD, JD, or similar", "at least one of my parent's completed a bachelor's degree", "at least one of my parents completed an associate's degree", "at least one of my parents attended some college but did not complete a degree", "neither of my parents attended any college", or "other" with a request to please explain. This question was included to distinguish FGCS from CGCS in accordance with the aforementioned definitions. We set this question to "force response" as it was necessary for the study to know the generation status of the participant.

Next, participants were asked to indicate their current year in college, based on the following options: "freshman/first year", "sophomore/ second year", "junior/third year", "senior/fourth year", and "fifth year or higher". Despite the prescreening questioning intended to ensure all participants were second or third year college students, we included this question to be able to exclude any participants who may have overlooked the initial prescreening question.

Lastly, participants were asked to select what type of college they were presently enrolled in. The first option was "4-year public college/university", which is a state-owned institution/an institution that receives the majority of its funding from a government. The second option was "4-year private college/university", which is an institution that typically functions as an educational nonprofit and does not receive its primary funding from a state government (Homeland Security, 2013). The third option was "2-year community college", which can be

² Participants also completed questions relating to COVID-19 and their perceptions of the study, the results of which are not presented here.

public or private, and is a postsecondary option to provide students with a more affordable pathway to a 4 year college/university (Homeland Security, 2012). The final option was “other” with a request to please specify, in order to accommodate students who may have a unique education circumstance. This question was included to understand the demographics of our sample in this sense.

Motivation Measures. In order to determine whether students’ motivations to attend college, both past and present, were individualistic or collectivistic, students were asked to rate how closely they related to 12 items assessing independent and interdependent motivations for attending college (Stephens et al., 2012). The measure for these items used a Likert scale format from 1 (*strongly disagree*) to 7 (*strongly agree*). Items included collectivistic statements such as “Help my family out after I’m done with college” and individualistic statements such as “Expand my knowledge of the world”. We determined motivation scores for both past and present motivations by summing each set of items for independent motivations ($\alpha_{\text{past}} = .92$, $\alpha_{\text{present}} = .90$) and interdependent motivations ($\alpha_{\text{past}} = .83$, $\alpha_{\text{present}} = .83$).

The Student Motivations for Attending University—Revised scale (Phinney et al., 2006) is a 33 item scale used to measure general motivations for attending college including career/personal (example item: “To help me earn more money”), humanitarian (example item: “To contribute to the welfare of others”), default (example item: “There are few other options”), expectation (example item: “Would let parents/family down if I didn’t succeed”), prove worth (example item: “To prove wrong those who expected me to fail”), encouragement (example item: “Someone I admired or respected encouraged me”), and help family (example item: “To get an education in order to help my parents/family financially”). This measure uses a Likert scale format from 1 (*strongly disagree*) to 7 (*strongly agree*). This study used all 33 items to

measure not only individualistic and collectivistic motivations to attend college, but other general motivations as well. Participants were asked to rate how closely they related to each motivation statement. We summed scores from each subset to determine scores for career/personal motivations ($\alpha_{\text{past}} = .85$, $\alpha_{\text{present}} = .86$), humanitarian motivations ($\alpha_{\text{past}} = .89$, $\alpha_{\text{present}} = .91$), default motivations ($\alpha_{\text{past}} = .67$, $\alpha_{\text{present}} = .69$) motivation through expectation ($\alpha_{\text{past}} = .86$, $\alpha_{\text{present}} = .87$), motivation to prove worth ($\alpha_{\text{past}} = .89$, $\alpha_{\text{present}} = .88$) motivation from encouragement ($\alpha_{\text{past}} = .85$, $\alpha_{\text{present}} = .87$), and motivation to help family ($\alpha_{\text{past}} = .89$, $\alpha_{\text{present}} = .94$).

Results & Discussion

Preliminary Analyses

In order to determine whether motivations of all students changed over time, we ran a series of paired samples *t*-tests. As shown in Table 2, our data indicated that humanitarian motivations increased significantly for students as they continued further into their higher education. The data also indicated that collectivistic motivations increased significantly as education continued. Additionally, there was a trend toward individualistic motivations decreasing over time as well, though this was only marginally significant. All other motivation change findings were not significant.

FGCS Motivation Change

We ran independent-samples *t*-tests to examine whether FGCS' and CGCS' motivations changed over time differently from each other. Results of these analyses can be seen in Table 3. Contrary to our hypothesis, there were no significant FGCS motivation changes from collectivistic to individualistic. Interestingly, we did find a significant change in CGCS' motivation to help their family over time, which can be considered a collectivistic motivation. This seems to indicate that some CGCS' motivations may become more collectivistic over time,

whereas FGCS' collectivistic motivation to help family decreased. This finding partially supports our hypothesis because although overall collectivistic motivations of FGCS did not decrease over time, one specific collectivistic motivation did. We interpret this to mean that in some sense, FGCS' motivations do become slightly less collectivistic over time, since helping their families after college becomes less driving for them. There were no other significant motivation changes between FGCS and CGCS.

Study 2

Study 2 examined the same motivations as Study 1 but was conducted in a longitudinal format over the course of one semester at Bridgewater State University. Study 1 required participants to recount motivations from two to three years in the past, and because retrospective memory is quite fallible (Bradburn et al., 1987), these cited motivations may not be completely accurate. This lack of accuracy could potentially explain the limited motivation changes we saw from Study 1. Study 2 sought to correct for this limitation by having students report their motivations at the present time to negate the impacts of faulty memory.

Method

Participants

Participants for this study were students enrolled across seven sections of the Orientation to the Psychology Major course at Bridgewater State University for the Fall 2021 semester. Prior to accessing data, this study was preregistered on the Open Science Framework (<https://osf.io/mja36>). Students in this study ranged from first year students to students in their fifth year or higher. Our final total sample size of students who completed both the pretest and posttest was 67. See Table 4 for demographic information.

Materials & Procedure

Students were first presented with a consent form briefly describing the study to them. Participants were then asked to consent to participate in the study or decline to participate. Participants who consented to participate were asked to provide their Bridgewater State University Banner ID and their name, only for the purpose of matching up pretest and posttest surveys and to ensure students received extra credit in their course for completing the survey if their instructor was offering it. All identifying information was deleted before analyzing the data. Students were then asked their year in school, their gender identity, and their age, followed by the college information questions described below. Following the completion of other questions only relevant to the larger survey, students were asked to rate 45 motivations for presently being in college using the two motivation measures described below. Participants completed the same survey items a second time at the end of the Fall 2021 semester. At the end of the survey completed at the end of the semester, students were debriefed with a specific description of the study, and they were provided with the primary investigator's name and contact information in case they had any questions or concerns regarding the study.

College Information Questions. Participants were first asked to select their year in school from the following options: “freshman/first year”, “sophomore/second year”, “junior/third year”, “senior/fourth year”, or “other (please specify)”, allowing students to write in what year they were in presently. The purpose of asking this question was to be able to analyze participants' years in school in terms of how they may be related to their motivations for being in college.

Participants were then asked to indicate their parents' highest level of education, based on the following options: “At least one of my parents completed a master's degree, PhD, MD, JD, or similar”, “At least one of my parents completed a bachelor's degree”, “At least one of my parents

completed an associate's degree”, “At least one of my parents attended some college but did not complete a degree”, “Neither of my parents attended any college”, and “Other (please specify)” to allow students to describe any unique situations. This question was asked to determine whether students are first-generation college students or continuing-generation college students.

Next, participants were asked if the Fall 2021 semester was their first semester in college and/or their first semester at Bridgewater State University. These questions allowed us to assess if students in their first semester of college have different motivations changes than those who are not in their first semester of college.

Participants were asked what their current major(s) was and how sure they were that they would graduate with that major. Sureness of major was assessed using a 5-point Likert scale ranging from 1 (*very unsure*) to 5 (*very sure*). The purpose of asking this question was to be able to understand how sureness in major differs between FGCS and CGCS and how this sureness may relate to motivation changes.

Finally, participants were asked if they had a specific career goal in mind and how sure they were that they would be able to achieve this career goal. Sureness was again assessed using a 5-point Likert scale ranging from 1 (*very unsure*) to 5 (*very sure*); however, in this question there was an unintentional error in the response options such that options 1 and 5 were incorrectly both listed as *very unsure*. As a result of this, we did not analyze data from this item.

Motivation Measures. The first motivation measure used in this study was the independent and interdependent motivations for attending college measure (Stephens et al., 2012) as used in Study 1. We determined motivation scores for both past and present motivations by summing each set of items for independent motivations ($\alpha_{\text{past}} = .89$, $\alpha_{\text{present}} = .88$) and interdependent motivations ($\alpha_{\text{past}} = .82$, $\alpha_{\text{present}} = .81$).

The second motivation measure used in this study was the Student Motivations for Attending University—Revised scale (Phinney et al., 2006) as used in Study 1. We summed scores from each subset to determine motivation scores for career/personal motivations ($\alpha_{\text{past}} = .74$, $\alpha_{\text{present}} = .82$), humanitarian motivations ($\alpha_{\text{past}} = .89$, $\alpha_{\text{present}} = .78$), default motivations ($\alpha_{\text{past}} = .92$, $\alpha_{\text{present}} = .93$), expectation motivations ($\alpha_{\text{past}} = .84$, $\alpha_{\text{present}} = .84$) motivation to prove worth ($\alpha_{\text{past}} = .82$, $\alpha_{\text{present}} = .71$), motivation through encouragement ($\alpha_{\text{past}} = .86$, $\alpha_{\text{present}} = .89$), and motivation to help family ($\alpha_{\text{past}} = .80$, $\alpha_{\text{present}} = .90$).

Results & Discussion

Preliminary Analyses

In order to determine whether motivations of all students changed over the course of the semester, we ran the same series of paired samples *t*-tests as conducted in Study 1. As shown in Table 5, our data indicated that default motivations increased significantly from the beginning of the semester to the end of the semester for all students. This change was not detected in Study 1, which could indicate that motivation change depends on the sample and may not be reliable or generalizable to students as a whole. Unlike in Study 1, humanitarian, collectivistic, and individualistic motivations did not change over time. There were no other significant motivation changes.

FGCS Motivation Change

Contrary to our hypothesis, there were no significant FGCS motivation changes from collectivistic to individualistic. This mirrors our results from Study 1, suggesting that FGCS' motivations do not become more individualistic over the course of their higher education journey. Furthermore, all other motivation scores were not significantly different between FGCS and CGCS indicating that their motivations are not much different from one another in terms of

how they change over time. This mostly aligns with our findings from Study 1; however, Study 1 did find that CGCS' motivation to help family over time increased whereas Study 2 did not replicate this finding. This seems to suggest that students' motivations for being in college as a whole do not generally change much over time, and the changes that do occur are quite small.

Exploratory Analyses

Our first exploratory analysis sought to understand whether FGCS will be more sure of their major choice than CGCS. We conducted an independent-samples *t*-test with students' generational background as the predictor variable and major choice sureness during the posttest as our dependent variable. Our data indicated that there is no significant difference between the two cohorts' confidence in their currently selected major, $t(65) = -.48, p = .64$. This suggests that FGCS do not experience a heightened level of worry that they are in the wrong major or a major that is too challenging compared to CGCS.

Our next exploratory question was intended to analyze whether FGCS had more business-related majors compared to CGCS. While the sample for this study came from an Orientation to Psychology course, students do not have to be a psychology major to enroll in this course. We were curious whether FGCS had declared business-related majors as a second major or were in a psychology class to explore their options. However, no participants in the study reported being business majors, so we did not run an analysis.

Our final exploratory analysis questioned whether our general findings replicate when specifically examining results for students currently in their first year/semester of college. The sample for this specific population was quite small ($n = 24$), likely too small to detect an effect; indeed, we found that there was no significant difference in motivations for students in their first year/semester of college from the beginning to the end of the Fall 2021 semester (all $ps > .09$).

General Discussion

Our primary hypothesis for this study was that FGCS' motivations would change from collectivistic to more individualistic over time. Although our hypothesis was partially supported in Study 1, it was not supported by Study 2. In general, this suggests that FGCS do not become more individualistically driven over the course of their college education. Our exploratory analyses from Study 2 also revealed no significant differences between FGCS and CGCS in terms of sureness of major choice, number of business majors, or changes in motivations for first semester/first year students.

Implications

Our research suggests that in terms of values and motivations, FGCS and CGCS are not much different from one another, both regarding motivation and major sureness. This can be interpreted to mean that the two cohorts likely share many common values and may benefit from similar supports and engagement. Past literature has suggested that FGCS typically need more unique support compared to CGCS. However, as both groups may actually have many goals in common, CGCS may benefit from some of the unique support typically reserved for FGCS. By providing CGCS this additional support, colleges and universities may see increases in student performance as well as more positive outcomes for students across their campus.

Perhaps instead of FGCS becoming more like CGCS, the opposite could be happening: CGCS are becoming more like FGCS. As discussed, a major obstacle FGCS face is that they lack guidance from their parents for applying to college and navigating higher education (Stephens et al., 2012). However, for many CGCS, their parents applied to and attended college in a time where computers were not widely used and most processes, such as applications and course planning, were formatted much differently than they are now. Times have changed

considerably in the past 20-40 years when many current CGCS' parents attended college. This could result in many CGCS also lacking parental support for navigating college. This idea leads to a potential explanation as to why we did not find many motivation differences between FGCS and CGCS, which future research should explore.

Another broad implication of this work regards what educators might do with this knowledge. Specifically, educators can apply this knowledge by tailoring their lesson plans and assignments to include concepts that will be beneficial to all students in achieving their goals. Often times, lesson plans are made to educate students with general information about the subject. However, it has been found that students learn better when they feel the material is actually beneficial to them and that they can apply the information in their real lives (Goldman et al., 2021). By understanding what actually motivates students, we can provide them a more personalized education.

Limitations

A primary limitation of this work is that Study 1 required participants to recall back two to three years prior to their motivations for enrolling in college. While it can be assumed that participants reported what they genuinely believed were their motivations for enrolling in college, memory is quite fallible and their recollections may not be correct (Bradburn et al., 1987). Though Study 2 was conducted longitudinally to attempt to correct for this issue, the different methodology used in each study may contribute to their inconsistent findings.

Another limitation specific to Study 1 was that it was conducted in July 2021, at the back end of the most severe part of the COVID-19 pandemic. The havoc that the pandemic had on so many people's lives could have had a primary impact on students' motivations for attending college and/or for remaining in college. Additionally, the participants in Study 1 were asked to

recall their motivations from two to three years prior to July 2021, a time when COVID-19 did not exist. Therefore, pandemic effects alone may have changed their motivations, as opposed to their time in college changing their motivations. Study 2 was also conducted during a time when the effects of the COVID-19 pandemic were still present, though many pandemic effects had begun to dissipate and may not have had as drastic effects on the results.

Furthermore, since both studies were conducted when the effects of the COVID-19 pandemic were still very relevant, attrition rates were likely higher than usual and may have led to our sample not being a typical one. Many students had to drop out of college in order to work or care for family, or as a result of not having a means of attending school in an online format. As a result, the diversity among our sample may not have been as broad as usual.

While Study 2 was conducted in a longitudinal format, it was a very short period of time of only about three months. This unfortunately may have prevented students from having enough time to see their motivations for being in college change. The changes that were detected do provide interesting insight into college student motivations, specifically FGCS. However, over a longer time period with consistent analysis, motivations might change much more, or even revert back to their original scores. College is also typically a time when many people see a drastic increase in maturity. Over the course of four years, motivations may change quite a lot as a result of students developing more independence. Therefore, looking at motivation changes over the four or more years it takes to complete a college degree may reveal many more differences than we saw in the three months our study was conducted.

More specifically, due to the extremely small sample size of first semester/first year FGCS in Study 2, we were unable to detect significant motivation changes in this particular group. These students would likely be the ones to have several motivation changes as they

become accustomed to higher education and realize the potential for their future. Perhaps a larger sample size could have detected changes for these students.

A limitation specific to Study 2 is that it had a small sample size, both at large and in terms of FGCS. Due to the small sample size, there may not have been enough students to detect statistically significant effects, and a larger sample may have detected an increase in significant motivation changes. A small sample size also negates the potential for a large range of diversity in race and ethnicity among the sample, another limitation of the study. Based upon the analysis of our demographics, the samples from Study 1 as well as Study 2 were made of predominantly White people, and all people lived in the United States at the time of taking the survey. Given the population that we are looking to generalize to is FGCS across the United States, our sample is clearly not representative of the diversity seen across the U.S. Therefore, our findings can only be appropriately generalized to a small population of people in the U.S.

Direction for Future Research

A primary suggestion for future research based on these studies is to conduct a version of this study longitudinally over a longer time period. This could be done by beginning the study when students are in their junior year of high school and are beginning to look at colleges and determine whether or not they want to go. At this time, students are usually trying to figure out why they want to go to college, which would be an ideal time to assess initial motivations for attending college. By analyzing motivations biannually until students complete their undergraduate degree, more specific motivation changes could be detected. This will allow for further advancement to be made in support systems available to students as well as the opportunity for educators to understand how to connect with their students in a way that will feel beneficial to them.

Our results suggest that FGCS and CGCS are motivated by similar values, which can guide future researchers to discovering ways to help FGCS feel like they belong in higher education. It is known that FGCS often feel segregated because they have different backgrounds and knowledge from CGCS (Stephens et al., 2012). However, if FGCS understand that CGCS have similar values to them, this could allow them to feel much less different and more like they belong. In terms of future research, researchers could analyze whether presenting this information to FGCS does help them feel a stronger sense of belongingness.

However, this is not to assert that FGCS are identical to CGCS or that they should always be treated as such. On the contrary, they are a unique group that needs to be addressed with unique regard and support. It is important to still respect and recognize their differences and challenges as a cohort, and not just ignore their label. Being a FGCS can be an enormous challenge to take on as they often enter college facing many obstacles and lacking the direct support they need. If we begin to erase the uniqueness of this group, they may lose their sense of individuality and feel even less comfortable seeking help with their problems and feel even less like they belong. Despite their similarities to CGCS, FGCS still differ immensely in background from CGCS, and have less privileges in guidance on their higher education journey, so it is important that we continue to recognize this.

Another direction for future research is to study FGCS' motivation changes among different majors. Not only does this allow for educators in each major to make their course material more personalized to student values, but it helps high school educators to better address the needs of their students. Generally, they will better understand how each major suits different needs and desires and be better guided on how to set students on the path that is most appropriate for them. Majors that should be targeted are those that typically allow people to make a

particularly large salary, such as engineering or medical school path majors, and those with a particularly low salary, such as education majors. This could isolate more differences in motivations given that some students may be driven primarily to make money, while others may be driven to give back to their community. This could become evident in business majors vs. education majors, as one group is typically driven by personal success, while the other group is usually driven by the desire to help the lives of others. Studying FGCS' motivation changes among different majors may provide insight on more isolated motivation changes and help us understand specifically why they occur.

Along the lines of better aiding and serving students, conducting this research qualitatively could provide invaluable information for educators, both in secondary and post-secondary education. Since our studies were conducted quantitatively, we lacked the ability to receive personalized feedback and testimonials from those we surveyed. As a result, we could not analyze themes among different answers, nor could we understand if certain motivations did not really apply to some students or if we failed to recognize major motivations for other students. Through a qualitative version of this study, future researchers can discover the "why" behind FGCS' changing motivations. Qualitative research on this topic can also help to better understand the ever-changing FGCS community and how the world around them is affecting them differently than it has in the past.

Another direction for future research is conducting this study in countries outside of the U.S. As addressed above, every person who participated in both studies was currently living in the U.S., and additionally, most participants were White. This is generally problematic because it does not address how different cultural contexts can affect how motivations change over time. Conducting this study in a country with different values than those held by a majority in the U.S.

may reveal different changes and aid students better who come to college in the U.S. but were raised elsewhere. This addresses a limitation in our studies that they were only conducted among people living in the U.S. Had we opened our sample to international participants or used snowball sampling to be put into contact with international participants, we may have seen significant motivation changes due to the vast cultural differences. This would allow for us to gain a better understanding of different countries' and cultures' education values, as well as better understand how American culture influences these values. This would also allow for educators to become more culturally competent and better aid students with guidance focused specifically on their cultural values.

Finally, another future direction for research is conducting a study with FGCS who are working in careers that they directly pursued. By understanding what motivated or continues to motivate them to be in that specific career, educators can better understand the end goal that FGCS hope to reach. This allows for coursework to be designed to be more applicable to future careers as well as be designed to better qualify students for their intended careers. As past literature suggests, many FGCS avoid certain careers simply because they do not believe they could be qualified to do it (Hansen, 1994). So, understanding what drives FGCS to attain certain career goals, educators can ensure their students do not feel incapable of achieving a certain career. Also, this type of research could be presented to students as a means of showing them that they can achieve the career they are striving for.

Conclusion

While FGCS are undoubtedly navigating unique challenges in a rapidly changing world, this research suggests that there are many similarities between FGCS and their CGCS peers. From this research, we can better understand how to guide FGCS to success, connect with them

more thoroughly and personally, and perhaps create unity among them and their peers. By continuing to research how FGCS' motivations change, we can increase our understanding of this cohort and help them navigate towards success through providing them the specific resources and aid they need to be successful.

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Table 1

Study 1 Demographics

Characteristics	Full Sample	
	<i>n</i>	%
Gender		
Male	77	0.372
Female	122	0.589
Other Gender Identity	8	0.039
Race		
African American/Black	12	0.058
American Indian/Native American	1	0.005
Asian/Asian American	43	0.208
Caucasian/White	112	0.541
Hispanic/Latino	15	0.072
Mixed Racial/Ethnic Identity	24	0.115
Year in School		
Sophomore/Second Year	57	0.275
Junior/Third Year	150	0.725
Generation Status		
First-Generation Student	77	0.372
Continuing-Generation Student	130	0.628

Table 2*Results of Paired Samples t-Tests on Past and Current Motivations of Second and Third Year College Students*

Motivation	Past		Current		t-Test Results				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	95% CI	Cohen's <i>d</i>
Individualistic	32.70	7.32	31.95	6.89	1.93	205	0.055	-.02, 1.52	.13
Collectivistic	24.83	8.02	25.57	8.13	-2.05	205	.04	-1.46, -.03	-.14
Career/Personal	53.51	9.64	54.07	9.37	-1.20	206	.23	-1.48, .36	-.08
Humanitarian	17.12	6.07	17.82	5.96	-2.33	206	.02	-1.29, -.11	-.16
Default	21.92	6.43	21.56	6.50	1.06	206	.29	-.32, 1.04	.07
Expectation	24.23	7.30	23.93	7.37	1.07	206	.29	-.25, .85	.07
Prove Worth	10.77	5.18	10.67	5.06	0.49	206	.63	-.33, .54	.03
Encouragement	13.25	4.72	13.02	4.77	1.25	206	.21	-.13, .58	.09
Help Family	8.51	3.71	8.57	3.66	-0.43	206	.67	-.35, .22	-.03

Table 3*Results of Independent Samples t-Tests Comparing Past vs. Current Motivation Difference Scores of FGCS and CGCS*

Motivations	FGCS		CGCS		<i>t</i> -Test Results				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	95% CI	Cohen's <i>d</i>
Individualistic	-0.88	4.72	-0.65	6.07	-0.29	203	.77	-1.84, 1.37	-0.04
Collectivistic	0.12	4.85	1.06	5.38	-1.25	203	.21	-2.43, .54	-.18
Career/Personal	0.03	5.09	0.81	7.51	-0.81	204	.42	-2.69, 1.13	-.12
Humanitarian	-0.03	3.96	1.08	4.48	-1.79	204	.08	-2.33, .11	-.26
Default	0.25	5.56	-0.74	4.54	1.39	204	.17	-.42, 2.40	.20
Expectation	-0.53	4.09	-0.27	3.87	-0.45	204	.65	-1.38, .87	-.07
Prove Worth	-0.55	3.21	0.15	3.12	-1.55	204	.12	-1.60, .19	-.22
Encouragement	-0.39	2.73	-0.13	2.55	-0.70	204	.49	-1.01, .48	-.10
Help Family	-0.46	2.09	0.34	2.03	-2.70	204	.01	-1.38, -.21	-.39

Table 4

Study 2 Demographics

Characteristics	Full Sample	
	<i>n</i>	%
Gender		
Male	6	0.09
Female	61	0.91
Race		
African American/Black	6	0.09
American Indian/Native American	0	0
Asian/Asian American	1	0.015
Caucasian/White	48	0.716
Hispanic/Latino	2	0.03
Mixed Racial/Ethnic Identity	7	0.105
Other Racial/Ethnic Identity	3	0.045
Year in School		
Freshman/ First Year	24	0.358
Sophomore/Second Year	14	0.209
Junior/Third Year	21	0.313
Senior/Fourth Year	7	0.104
Other Year Level	1	0.015
Residency Status		
Commuter Student	40	0.597
Resident Student	27	0.403
Generation Status		
First-Generation Student	40	0.597

Table 5*Results of Paired Samples t-Tests on Motivations of College Students from Beginning of Fall 2021 to*

Motivation	Pretest		Posttest		t-Test Results			95
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	
Individualistic	34.8	5.8	34.18	6.44	.82	64	0.41	-.88
Collectivistic	31.72	7.81	31.23	6.55	.59	64	.56	-1.1
Career/Personal	55.17	8.46	53.75	8.32	1.47	64	.15	-.51
Humanitarian	22.28	4.52	21.88	4.46	.81	64	.42	-.59
Default	17.49	6.68	19.68	6.26	-3.15	64	.002	-3.5
Expectation	18.46	7.37	19.58	7.31	-1.45	64	.15	-2.6
Prove Worth	12.49	5.86	11.88	5.33	1.14	64	.26	-.47
Encouragement	13.92	4.43	13.75	4.5	.31	64	.76	-.92
Help Family	9.25	3.69	9.42	3.27	-.55	64	.58	-.7

Table 6

*Results of Independent Samples t-Tests Comparing Beginning and End of Fall 2021 Difference Scores of F
CGCS*

Motivations	FGCS		CGCS		t-Test Results				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	95% CI	C
Individualistic	-0.08	5.28	-1.42	7.03	.88	63	.38	-1.71, 4.40	
Collectivistic	-0.85	4.97	0.04	8.83	-.52	63	.61	-4.31, 2.54	
Career/Personal	-2.15	5.52	-0.31	10.29	-.94	63	.35	-5.78, 2.09	
Humanitarian	-0.31	3.35	-0.54	4.84	.23	63	.82	-1.80, 2.26	
Default	2.15	5.16	2.23	6.29	-.05	63	.96	-2.93, 2.77	
Expectation	0.49	4.86	2.08	7.75	-1.02	63	.31	-4.71, 1.54	
Prove Worth	-0.28	4.42	-1.12	4.31	.75	63	.46	-1.38, 3.05	
Encouragement	0.36	3.57	-0.96	5.41	1.19	63	.24	-.90, 3.54	
Help Family	0.28	2.5	0	2.47	.45	63	.66	-.98, 1.54	