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The Association Between Student-Mentor Relationships and College Students’ Motivation and Academic Success

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THE ASSOCIATION BETWEEN STUDENT-MENTOR RELATIONSHIPS AND COLLEGE STUDENTS' ACADEMIC MOTIVATION AND PERFORMANCE

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The Association Between Student-Mentor Relationships and College Students’ Motivation and Academic Success

A key component of academic success for college students is motivation, which initiates, guides, and maintains goal-oriented behaviors (Van Etten et al., 2008). Self-determination theory is a broad theory that concerns the motivation behind an individual’s choices (Ryan & Deci, 2000), and suggests that there are different types of motivation, including intrinsic motivation (i.e., behaviors carried out because of genuine interest), extrinsic motivation (i.e., behaviors carried out because of external factors like a prize or money), and amotivation, that relate to differing behavioral outcomes (e.g., higher versus lower performance or achievement). Research suggests that different factors and aspects of college students’ lives and environments may influence how motivated they are to succeed academically (Van Etten et al., 2008). One important influence on students’ motivation to perform well in college is their interpersonal relationships, including interactions with mentors. Mentors, both formal (e.g., faculty, advisors) and informal (e.g., parents, friends) contribute to the social component of college students’ lives that influences their motivation (Van Etten et al., 2008). While informal mentors provide advice and emotional support, formal mentors may be more directly helpful with college-related guidance, such as career advice, class selection, and navigating student life (Ezarik, 2021).

Meaningful interactions with formal mentors such as faculty, especially outside of the classroom, have been shown to increase students’ academic motivation (Trolian et al., 2016) and may make a sizable difference in college students’ experiences. “Interaction between students and faculty has been identified as a primary agent of college culture, and has an important influence on the attitudes, interests, and values of college students” (Komarraju et al., 2010, p. 332). Students who believe faculty are approachable, respectful, and available are more likely to
report being both extrinsically and intrinsically motivated (Komarraju et al., 2010). Further, the experience of ‘being known’ by a faculty member has relevance to how students may experience a course, their instructor, and engage with their overall learning (Rodriguez-Keyes et al., 2013). When a student is mentored, there is a transmission of academic skills and communication that enables the student to grow academically (Jain et al., 2016). Students who are in more frequent contact with faculty and receive feedback greatly improve many important skills such as communication, problem-solving, competence in their field, and awareness of their future occupation (Komarraju et al., 2010). Guided by self-determination theory, the aims of this study are to 1) assess college students’ views on their interactions with a mentor and 2) examine associations among student-mentor relationships, college students’ academic motivation, and their academic success.

**Literature Review**

**Mentorship**

Although several studies have been conducted on the mentoring of college students (Baier et al., 2016; Chong & Thi, 2020; Jain et al., 2016; Komarraju et al., 2010; Maddineshat et al., 2019), there is no clear-cut definition of the term *mentor* within the literature (Berk et al., 2005; Crisp, 2009; Law et al., 2020). For this study, a mentor is defined as an individual with more professional experience than their college student mentee who provides them with formal support, guidance, and knowledge while in college (Jain et al., 2016; Crisp, 2009; Chong & Thi, 2020; Baier et al., 2016). According to this definition, both college faculty and academic advisors are individuals who are mentors to college students.

Because the operational definition of mentoring is inconsistent within the literature, often there are different measures implemented to assess this construct. One measure commonly used
in the college setting, the College Student Mentoring Scale (CSMS), suggests four main domains that involve important mentoring components of formal mentors in college: psychological and emotional support, degree and career support, academic subject knowledge support, and existence of a role model (Chong & Thi, 2020). Recent studies using the CSMS to assess mentoring relationships for college students have associated mentoring with positive outcomes. For example, Baier et al. (2016) examined how first year college students’ mentorship experiences and self-efficacy are related to their likelihood to continue their pursuit of college. They found that college self-efficacy and mentorship perceptions both predicted intentions to persist in college (Baier et al., 2016). Jain et al. (2016) used the College Student Mentoring Scale to examine the relationship between mentoring and students’ academic performance as well as their career self-efficacy and found a significant positive correlation between mentoring, academic performance, and career self-efficacy (Jain et al., 2016). Similarly, a cross-sectional study using the Student-professor Interaction Scale to assess the faculty mentoring of college students suggests positive outcomes, in that college students who perceive their faculty mentors as approachable, respectful, and available for frequent interactions outside the classroom are more likely to report confidence in their academic skills and higher levels of both intrinsic and extrinsic motivation (Komarraju et al., 2010). In the same study, however, it was noted that college students with higher motivation and self-confidence would be more likely to view faculty as treating them respectfully, so results should be interpreted with caution as it is not possible to draw causal conclusions about these variables (Komarraju et al., 2010).

Since a mentor in the context of this study can be either a faculty member or an academic advisor, research assessing academic advisors as mentors to college students must also be considered. Maddineshat et al. (2019) conducted a study with college students in Iran using a
questionnaire to assess the quality of academic advisors’ abilities according to students. Within this study, an academic advisor was defined as a person interested in the student’s development and success who clarified goals and values for students in order to help them achieve higher goals (e.g., further education, prepare for jobs). The overall findings suggested that academic advisors at this specific institution were most supportive to students when they were understanding and provided feedback to students (Maddineshat et al., 2019). White (2015) also discussed how academic advisors may benefit students at the collegiate level. “Academic advisers work with students to enable them to be confident and assertive in their own abilities to learn, generate, and apply new knowledge and to empower them to embrace their own knowing, learning, thinking, and decision making” (White, 2015 p. 270). These findings suggest that academic advisors are also important mentors who promote positive qualities in their students. I will now focus on the role that motivation plays in college students’ academic success.

**Motivation**

Motivation is a key factor that relates to many aspects of academic success of college students, including their attributions of success and failures, self-worth, self-efficacy, future goals, and task value and expectancy for success (Van Etten et al., 2008). Self-determination theory, a broad theory that concerns the motivation behind an individual’s choices and feeling free to do what one chooses, such as the decision to perform well in college, will be used as a guiding theoretical framework in this study (Ryan & Deci, 2000). In the following paragraphs, components of self-determination theory will be defined and explained.

**Self-Determination Theory**

Self-determination theory provides a broad framework for understanding human motivation and personality by defining psychological nutrients needed for motivation, well-
being, and engagement and is relatable to motivations across many life contexts (e.g.,
classrooms, organizations, families, cultures; Legault, 2017). Recently, self-determination theory
has been used as a guiding framework to assess motivation in research on higher education
outcomes (Luo et al., 2021; Müller et al., 2021; Wang et al., 2020). According to self-
determination theory, there are different types of motivation that represent different levels of
self-regulation. These types of motivation include intrinsic motivation, extrinsic motivation, and
amotivation, which will be explained further in the following sections. In addition, further
explanation of how this theory is used in higher education will be discussed in the following
paragraphs.

**Intrinsic Motivation.** The form of motivation from self-determination theory that is most
internal is intrinsic motivation. Intrinsic motivation has the highest amount of self-determination,
followed by extrinsic motivation and amotivation (Guay et al., 2000). Ryan & Deci (2000)
define intrinsic motivation as behaviors and actions that are done out of interest even in absence
of distinct outcomes or consequences. Intrinsic motivation can also be described as natural
engagement in activities in order to expand one’s capacity and be challenged (Schreiber, 2017).
Behaviors that take place due to intrinsic motivation are done naturally when people feel free to
follow their inner interests. This type of motivation is intrinsically regulated because the
behaviors have importance and value to the person regardless of any external factors. Intrinsic
motivation has been shown to predict student engagement as well as higher achievement (Ryan
& Deci, 2000).

**Extrinsic Motivation.** Extrinsic motivation is present when activities or behaviors are
done to attain a separate outcome (Ryan & Deci, 2000). In the self-determination framework,
extrinsic motivation has four different types of regulation that vary in how external or internal
they are. The most external of these four is external regulation. This type of regulation occurs when people’s behaviors are controlled by specific external contingencies, such as a prize or money. If these contingencies are withdrawn, there is poor or little maintenance to the behaviors (Ryan & Deci, 2000). The next type of regulation is introjected regulation. This type of regulation is somewhat external, but the contingent consequences are administered by the individual themselves and thus are partially internalized (Ryan & Deci, 2000). Examples of introjected regulation include seeking feelings of pride and avoiding threats of guilt or shame, and self-consciousness (Ryan & Deci, 2000). The next type of regulation that is somewhat internal is identified regulation. With this type of regulation, the individual has begun to accept the value of the behavior, and this identifying with the behavior value makes its regulation more internalized (Ryan & Deci, 2000). An example of this would be realizing the importance of exercising for one’s own health and well-being because the behavior is more a part of the person’s identity, which make it more likely that they will continue it (Ryan & Deci, 2000). The most internal type of regulation is integrated regulation. This is the most complete form of internalized extrinsic motivation and is a step further internalized than identified regulation because the identified behaviors have now been integrated along with other aspects of oneself, making what was originally external regulation into self-regulation. An example of this could be someone attending church because they feel it aligns with their personal beliefs, even if they do not attend for pure enjoyment (Ryan & Deci, 2000).

**Amotivation.** Amotivation contrasts with both intrinsic and extrinsic motivation because it is the lack of both types of motivation, meaning a lack of self-determination (Ryan & Deci, 2000). This lack of motivation includes no form of regulation and is not caused internally or externally. Amotivation in individuals can lead to diminished experiences, lower performance,
and decreased wellness, and due to a lack of autonomy, competence, and relatedness, amotivation is associated with the poorest mental-health outcomes (Ryan & Deci, 2000). Please see Figure 1 below for a conceptual model of self-determination theory displaying previously discussed types of motivation.

Figure 1

Self-determination spectrum showing motivation and regulation types with loci of causality and behavior (from Ryan & Deci, 2000, p. 237)

Current Research using Self-Determination Theory

Self-determination theory can be found throughout the literature as a framework used in studies regarding college students and their academic motivation, most recently in online learning contexts. For example, using self-determination theory as a guide, Müller et al. (2021) surveyed two groups of college students to assess motivational regulation (e.g., intrinsic, identified, introjected, external) before and after distance learning due to COVID-19. Müller et al. (2021) found that intrinsic motivation and identified regulation were lower after distance learning and that more controlled forms of motivation (introjected and external motivation) were higher than before the pandemic. Self-determination theory was also used as a framework for a study conducted by Luo et al. (2021), in which second- and third-year college students in China completed surveys to examine their perceived autonomy, perceived competence, and perceived
relatedness in relation to their intrinsic and extrinsic motivation to engage in online self-regulated learning. Results from Luo et al. (2021) found that both intrinsic and extrinsic motivation was strongly associated with continued intention to engage in self-regulated learning, intrinsic motivation more so. Lastly, from the perspective of self-determination theory, Wang et al. (2020) examined how motivational factors may influence college students’ perceived knowledge transferability, or the ability to use learned skills in a new environment. The sample was 3,782 undergraduate students from the Midwest, all of whom completed a survey assessing study variables a total of 3 times over the span of three semesters. Findings showed that college students’ motivation plays an important role in perceived knowledge transferability, in that identification and integration, two types of intrinsic regulation, were predictive factors of perceived knowledge transferability, identification being the stronger of the two predictors. Further, external regulation was also associated with perceived knowledge transferability, and amotivation was inversely related. Overall, these findings suggest that both intrinsic and extrinsic motivational factors in various higher education settings are important in keeping college students on track in their learning in college and beyond.

Research has also examined factors associated with students’ levels of motivation to remain engaged in academic tasks. In a mixed-method study, Arguedas et al. (2016) examined high school seniors’ emotional awareness and motivation while completing a group task that involved students working together to prepare and produce a final report on the topic of the history of the internet. Students were divided into control and experimental groups, in which the experimental group was instructed to remain aware of their emotions during the task, while the control group was not given any emotion awareness instructions. Emotional awareness was assessed using mixed methods in that 1) segments of transcribed discussion during the group task
was analyzed to see all the emotions that appeared, and 2) students rated their own emotion awareness and motivation during the task on a Likert-type scale. Findings showed that emotion awareness and motivation as rated by students was associated with more engaged learning (Arguedas et al., 2016). Further, higher emotional awareness, and particularly the emotion of joy during the task was associated with higher self-motivation, higher self-confidence, and more supportive behaviors while working with peers for the experimental group than the control group.

While these studies suggest that different types of motivation (e.g., intrinsic, extrinsic) are associated with positive outcomes (e.g., self-regulated learning, perceived autonomy and competence, knowledge transferability) in learning or completing tasks in academic, online, or other settings, it is unclear if research has been conducted to examine if formal mentoring experiences relate to specific types of motivation experienced by college students, and how these may relate to academic outcomes.

**Academic Success**

A final variable missing from many studies in relation to college students’ student-mentor relationship and academic motivation is the assessment of students’ academic success as an outcome. Many studies examine the student-mentor relationship and the student’s level or type of motivation in different contexts (e.g., online learning), but do not examine the students’ academic success directly (Baier et al., 2016; Jederlund & Rosen, 2022; Rodriguez-Keyes et al., 2013). For example, Rodriguez-Keyes et al. (2013) identified how instructors can influence student engagement and motivation from student reports of their experiences but did not examine how students’ motivation corresponded to aspects of their actual academic success.
Studies that have assessed students’ academic success compared to their 1) motivation, or 2) relationships with faculty members, have done so simply by reporting a student's grade point average, or GPA (Arguedas et al., 2016; Jain et al., 2016; Komarraju et al., 2010; Trolian et al., 2016). A student's GPA can indicate that they are doing well in classes, but Prevatt et al. (2011) argue the importance of evaluating college students’ academic success in multiple ways. “Relying solely on ability measures… such as grade point averages will not result in accurate measurements” of academic success because students may have completed prior college level work before entering college, which could misrepresent a student’s performance in the higher education setting (Prevatt et al., 2011, p. 28). Instead, it is important to consider how multiple variables work together to influence academic success for college students, which may include skills learned over time, confidence in ability, adjustment, and self-regulation (Prevatt et al., 2011; Welles, 2010).

Few studies have begun to examine the multiple variables that comprise academic success for college students. One study by Ndoye et al. (2020) used the Academic Success Inventory for College Students (ASICS) to examine which of its factors most significantly predicted academic success in the form of course completion rate for college students = Researchers found that college students’ internal motivation/confidence along with their ability to adjust, two subscales of the ASICS, are the biggest predictors of a students’ course completion rate (Ndoye et al., 2020). While this is a start, researchers should continue to examine academic performance using more comprehensive measures, like the ASICS, as an outcome variable to gain a more holistic assessment of academic performance.
The Current Study

Research on student-mentor relationships in higher education is lacking in several areas. First, the definition of a college mentor is inconsistent within the literature (Berk et al., 2005; Crisp, 2009), and this discrepancy makes this variable more difficult to assess. Additional research is needed to 1) help clarify salient qualities that aid students within their student-mentor relationships, and 2) determine the association between formal or informal mentoring experiences and the specific type(s) of motivation that college students experience within a student-mentor relationship. Second, there is little information on how students within student-mentor relationships perform academically, as many studies do not directly examine academic success in this context (Baier et al., 2016; Jederlund & Rosen, 2022; Rodriguez-Keyes et al., 2013). Additionally, if academic success is included, it is often measured solely by the student's GPA, which does not provide a holistic evaluation (Prevatt et al., 2011).

Since motivation is an indicator of how well and how long students remain in college, it seems quite important to determine the role that mentors play and the perceived qualities that make them successful in aiding their student’s motivation and academic success. The current study aims to assess the association among perceived mentor qualities, college students’ motivation, and academic success. The current study is important because it considers college students' relationships with their mentors from the college student’s perspective and utilizes a combination of GPA and additional components to assess their academic success.

This study aims to answer the following research questions:

1. Is perception of a mentor as a role model associated more strongly with certain types of motivation in college students?
2. Is perception of a mentor as a role model associated with greater academic success and current GPA of college students?
3. Is perception of a mentor who provides psychological and emotional support associated more strongly with certain types of motivation in college students?
4. What predictor variables related to mentoring and motivation of college students explain a significant amount of variance in 1) college students’ current GPA and 2) college students’ academic success?

I hypothesize that 1) perceiving a mentor as a role model will be associated most strongly with aspects of extrinsic motivation, 2) perceiving a mentor as a role model will be associated with greater academic success and higher GPA, and 3) perceiving a mentor as providing psychological and emotional support will be associated most strongly with aspects of intrinsic motivation. Further, I proposed that in accordance with previous research and guided by SDT, after controlling for first year GPA, the predictor variables of perceived mentor qualities and motivation type will explain a significant amount of variance in 1) current GPA and 2) academic success. Please see Appendix A for a conceptual figure displaying hypothesis 4.

Method

Participants

Participants in this study were upper-level college students (of junior or senior academic standing) between ages 18 and 25 (M=20.80, SD=0.82) currently enrolled in any course at the College of Saint Benedict and Saint John’s University who could identify a formal college mentor in their life (e.g., faculty member and/or academic advisor). Junior or senior level students were sought out as a participation requirement for this study to ensure that students had time to develop a close relationship with college faculty and/or an academic advisor. This study included a total of 121 participants. Of the participants, 40 (33.1%) identified as male, 77 (63.6%) identified as female, and 4 (3.3%) identified as non-binary. Participants were recruited to participate in the study in three ways: 1) through the Psychology Research in Action (PRIA) participant pool, 2) through word of mouth via faculty members and the student researcher discussing the opportunity to participate in this study in upper-level courses at CSB/SJU, and 3)
through posters around campus to advertise participation. To view all sample characteristics, see Table 1.

**Table 1**  
*Demographic characteristics of participants (N=121)*

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**Materials**

**Mentorship Measure**

College students’ perception of mentoring was evaluated using the College Student Mentoring Scale (CSMS; Crisp, 2009). The CSMS is a 25-item Likert scale questionnaire that
assesses students’ experiences of mentoring support they have received while in college. Potential response options range from 1= Disagree to 5= Strongly agree. Participants respond to each item that follows the statement ‘While in college, I have had someone in my life who…’.

With the intent to examine student-instructor relationships specifically, the prompt in the original measure was edited to say, ‘While in college, I have had at least one instructor or academic advisor who…’. The College Student Mentoring Scale has four interrelated subscales, all of which were found to have good internal consistency. 1) Psychological and Emotional Support (8 items; $\alpha=.91, M=31.27, SD=6.71$) which involves a sense of listening in a supportive relationship through which support and encouragement can be provided; 2) Degree and Career Support (6 items; $\alpha=.86, M=24.01, SD=4.49$) which is the ability to assess students’ strengths, weaknesses, abilities, and providing assistance with career/academic goals and decision-making; 3) Academic Subject Knowledge (5 items; $\alpha=.89, M=21.17, SD=3.62$) which is centered around educating, evaluating, challenging the student academically and providing them with academic and life learning; and 4) Existence of a Role Model (6 items; $\alpha=.84, M=24.57, SD=4.25$) which involves disclosing life experiences and being an example of achievements and failures for the student (Crisp, 2009). Scores for each subscale were computed by adding response items for each subscale. Higher scores indicate greater engagement of discussions between the mentor/mentee regarding each respective subscale. See Appendix C to view this measure.

**Motivation Measure**

For this study, motivation levels of college students were assessed using the Academic Motivation Scale College Version (AMS-C 28; Vallerand et al., 1992-1993). This is a 28-item Likert scale questionnaire that asks participants to describe the reasons why they are going to
college. Potential responses range from 1= *Does not correspond at all*, to 7= *Corresponds exactly*. Participants respond to each item that follows the question ‘Why do you go to college?’.

The AMS-C 28 is scored on seven different subscales: 1) Intrinsic motivation - to know (4 items, $\alpha=0.91$, $M=5.45$, $SD=1.36$) which relates to exploration, curiosity, learning goals and intrinsic intellectuality; 2) Intrinsic motivation – toward accomplishment (4 items, $\alpha=0.91$, $M=4.84$, $SD=1.49$) which is motivation to engage in an activity to feel the satisfaction of success; 3) Intrinsic motivation – to experience stimulation (4 items, $\alpha=0.86$, $M=3.43$, $SD=1.48$) which is when one engages in an activity to experience sensations such as sensory pleasure, aesthetic experiences, fun or excitement; 4) Extrinsic motivation – identified (4 items, $\alpha=0.75$, $M=5.98$, $SD=1.01$) which is when a behavior has become valued and judged important for the individual; 5) Extrinsic motivation – introjected (4 items, $\alpha=0.92$, $M=5.13$, $SD=1.59$) which is motivation that has begun to be internalized but is still dependent on external contingencies; 6) Extrinsic motivation – external regulation (4 items, $\alpha=0.83$, $M=5.65$, $SD=1.20$) which is behavior regulated through external means such as rewards and constraints; and 7) Amotivation (4 items, $\alpha=0.87$, $M=1.64$, $SD=1.10$) which is a lack of motivation (Vallerand et al., 1992-1993). Subscale scores were computed by adding responses for each subscale and dividing by the number of items on that subscale. Resulting scores range from 1-7 for each subscale, and higher scores indicate higher levels of motivation. See Appendix D to view this measure.

**Academic Performance Measure**

College students’ academic performance was assessed using the Academic Success Inventory for College Students (ASICS; Prevatt et al., 2011; Welles, 2012). Prevatt et al. describe this scale as a comprehensive measure to screen and identify college students who could be at risk for poor academic progress (Prevatt et al., 2011). The ASICS is a 50-item Likert scale.
questionnaire that specifically assesses the factors that help college students navigate and complete their coursework. Potential response options range from 1= *Strongly Disagree* to 7= *Strongly Agree*, and any negatively worded items are reverse scored so that higher scores reflect more positive academic functioning/performance.

Questions are separated into 10 different subscales: 1) General Academic Skills (12 items, \( \alpha = .90, M=81.14, SD=13.13 \)) is a combination of study skill and organizational strategies as well as the amount of effort expended; 2) Internal Motivation/confidence (8 items, \( \alpha = .89, M=74.48, SD=17.74 \)) is the belief in one's ability to perform academically, and satisfaction from challenges; 3) Perceived Instructor Efficacy (5 items, \( \alpha = .93, M=70.43, SD=23.86 \)) is the perception of instructors' ability to organize, teach and assess; 4) Concentration (4 items, \( \alpha = .92, M=56.84, SD=13.23 \)) is the ability to pay close mental attention; 5) External Motivation/Future (4 items, \( \alpha = .85, M=66.31, SD=21.19 \)) is awareness of importance of classes for future jobs; 6) Socializing (4 items, \( \alpha = .90, M=77.48, SD=20.76 \)) is appropriate levels of socializing that do not hinder academic performance, 7) Career Decidedness (4 items, \( \alpha = .75, M=78.57, SD=17.82 \)) is being certain about one's decision of their career goal, 8) Lack of Anxiety (3 items, \( \alpha = .91, M=36.68, SD=21.45 \)) is not being nervous or anxious about studying or test taking; 9) Personal Adjustment (3 items, \( \alpha = .93, M=61.88, SD=26.85 \)) is lack of personal issues that detract from ability to perform academically; and 10) External Motivation/Current (3 items, \( \alpha = .49, M=75.44, SD=15.78 \)) is motivation to perform based on factors like grades or approval (Prevatt et al., 2011). Overall scores were converted into a scale score using a range of 1–100, this was done by adding all item scores, dividing the sum by 50 and then multiplying the total by 14.27 (Crisp, 2009). All 10 subscales combined (a total of 50 items) have previously shown good
internal consistency (α > .80; Prevatt et al., 2011). In the current study, internal consistency for all 50 items was also high (α = .92, M=71.39, SD=10.57). See Appendix E to view this measure.

An additional way that academic success was measured was by collecting students’ GPA at two different timepoints. First and current year GPA were obtained from the Registrar’s Office at CSB/SJU.

Procedure

Participants received a Forms Manager survey link to complete a consent form, which detailed the opportunity to participate in this study along with the purpose and what was expected of them regarding study participation. If participants chose to consent to study participation, participants then completed an online survey which included demographic questions and measures that assessed academic motivation, students’ perceptions of mentoring relationships with a college professor and/or academic advisor, and students’ academic performance (see Appendices). After providing consent for participation, students’ 1st year and current GPA was collected from the Registrar’s Office. Students needed approximately 20-25 minutes to complete the consent form and all study measures. Upon completion of the survey, participants were thanked for their participation and additionally either received PRIA (Psychology Research in Action) credit for PSYC 111 or were entered into a raffle drawing to potentially win one of four $20 Amazon e-gift cards that were drawn once data collection was completed.

Analysis Plan

Data collected from this study was exported into IBM SPSS Statistics. Subscale scores for each measure were calculated according to scoring methods provided in the Measures and Appendices sections. Cronbach’s alpha coefficients were assessed in SPSS for each subscale to
ensure that items had high internal consistency. Demographic information was also analyzed for the entire sample to better understand the context of the data, including age, gender, race, major, first-generation status, and class standing.

For hypothesis 1, I predicted an association between the existence of a role model and components of extrinsic motivation. To assess this hypothesis, a bivariate correlation was conducted to evaluate whether mentor qualities (specifically mentors who are perceived as a role model and as providing psychological and emotional support) are associated with certain types of motivation (specifically aspects of extrinsic motivation) experienced by college students. For hypothesis 2, I predicted an association between a role model and a student's current GPA and their academic success. To assess this hypothesis, a bivariate correlation was conducted to evaluate whether certain mentor qualities (specifically mentors who are perceived as a role model) are associated with academic performance and GPA of college students. For hypothesis 3, I predicted an association between psychological and emotional support from a mentor and components of intrinsic motivation. To assess this hypothesis, a bivariate correlation was conducted to measure whether the perception of a mentor providing emotional and psychological support is associated with certain types of motivation experienced by college students (specifically aspects of intrinsic motivation).

For my final hypothesis, I predicted that after controlling for first year GPA, the predictor variables of perceived mentor qualities and motivation type will explain a significant amount of variance in current GPA and academic success. To assess this hypothesis, two hierarchical regression analyses were conducted that included significantly correlated perceived mentor qualities and motivation types as predictive variables. One analysis included current GPA as an outcome variable, and the other included academic success as an outcome variable. Prior to
conducting each analysis, assumptions of hierarchical regression were tested, and histograms, descriptives, scatterplots, and correlations of all predictors and the dependent variables for each analysis were inspected to determine if any of the variables contained missing values or outliers and to ensure that predictor variables had strong associations with each outcome variable.

Multicollinearity was problematic in this study, as a variance inflation factor (VIF) above 5 and correlation coefficients above .8 indicated severe multicollinearity between several independent variables that may affect the interpretation of regression coefficients (Berry & Feldman, 1985; Bhandari, 2024; Frost, 2024; Vatcheva et al., 2016). To reduce multicollinearity, I combined highly correlated independent variables linearly by adding them together and then dropped those individual variables from the analysis (Bhandari, 2024; Frost, 2024). Thus, for the hierarchical regression analyses, the College Mentoring Scale subscales were combined into a single college mentoring variable comprised of psychological and emotional support, academic subject knowledge, degree and career support, and existence of a role model. Additionally, highly correlated intrinsic subscales, intrinsic to know and intrinsic toward accomplishment, were combined into one composite score. These adjustments allowed for acceptable multicollinearity and ability to continue with hierarchical regression analyses.

The first block (model 1) within each hierarchical regression analysis included first year GPA as a control variable. Based on research suggesting that mentors may influence college students’ motivation (Komarraju et al., 2010; Trolian et al., 2016; Van Etten et al., 2008), perceived mentor quality (i.e., the composite college mentoring variable) was entered into the second block (model 2) within each hierarchical regression analysis. Block three (model 3) of each hierarchical regression analysis included motivation type, which was determined based on significantly correlated subscales of the Academic Motivation Scale College Version. Intrinsic
motivation subscales included the composite to know and toward accomplishment as well as to experience stimulation, and extrinsic motivation subscales- identified, introjected, and external regulation. As mentioned above, the outcome variable of one analysis was current GPA, and the outcome variable for the other analysis was academic success. Because academic success is multifaceted, it was computed as an overall scale score variable, a type of composite variable, by taking the sum of the items of the subscales for the ASICS to create an indicator of overall academic success (Caughlin, 2022). Wilson VanVoorhis and Morgan (2007) suggest that when regression equations contain 6 or more predictor variables, a minimum of 10 participants per predictor variable is appropriate for detecting effect sizes. Thus, the sample size of 121 was appropriate for the purpose of this study.

Results

Correlational Analyses

For hypothesis one, a statistically significant positive correlation was found between existence of a role model and extrinsic motivation (identified), \( r_{(118)} = .233, p = .011 \). This means that an increase in the existence of a role model is associated with an increase in extrinsic motivation (identified). A statistically significant positive correlation was also found between existence of a role model and extrinsic motivation (Introjected), \( r_{(118)} = .306, p < .001 \). This means that an increase in the existence of a role model is associated with an increase in extrinsic motivation (introjected). Additionally, a statistically significant positive correlation was found between existence of a role model and intrinsic motivation (To know), \( r_{(118)} = .330, p < .001 \). This means that an increase in the existence of a role model is associated with an increase in intrinsic motivation (To know). A statistically significant positive correlation was found between existence of a role model and intrinsic motivation (Toward accomplishment), \( r_{(118)} = .339, p < .001 \).
This means that an increase in the existence of a role model is associated with an increase in intrinsic motivation (Toward accomplishment). A statistically significant positive correlation was found between existence of a role model and intrinsic motivation (To experience stimulation), $r_{(118)} = .261, p = .004$. This means that an increase in the existence of a role model is associated with an increase in intrinsic motivation (To experience stimulation).

For hypothesis two, a statistically significant positive correlation between existence of a role model and the score for the academic success inventory, $r_{(118)} = .245, p = .007$. This means that an increase in the existence of a role model is associated with an increase in academic success score.

For hypothesis three, a statistically significant positive correlation was found between psychological and emotional support from a mentor and intrinsic motivation (to know), $r_{(118)} = .321, p < .001$. This means that an increase in psychological and emotional support from a mentor is associated with an increase in intrinsic motivation (to know). Also, a statistically significant positive correlation was found between psychological and emotional support from a mentor and intrinsic motivation (toward accomplishment), $r_{(118)} = .304, p < .001$. This means that an increase in psychological and emotional support from a mentor is associated with an increase in intrinsic motivation (toward accomplishment). Further, a statistically significant positive correlation was found between psychological and emotional support from a mentor and intrinsic motivation (to experience stimulation), $r_{(118)} = .300, p < .001$. This means that an increase in psychological and emotional support from a mentor is associated with an increase in intrinsic motivation (to experience stimulation). Additionally, a statistically significant positive correlation was found between psychological and emotional support from a mentor and extrinsic motivation (Identified), $r_{(118)} = .283, p = .002$. This means that an increase in psychological and emotional support from a mentor is associated with an increase in extrinsic motivation (Identified). A
statistically significant positive correlation was found between psychological and emotional support from a mentor and extrinsic motivation (Introjected), \( r_{(118)} = .309, p < .001 \). This means that an increase in psychological and emotional support from a mentor is associated with an increase in extrinsic motivation (Introjected). See Table 2 for correlations of variables of interest.

### Table 2

**Descriptive statistics and correlations for study variables of interest.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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</thead>
<tbody>
<tr>
<td>1. Existance of Role Model</td>
<td>121</td>
<td>24.57</td>
<td>4.25</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Psych &amp; Emotion</td>
<td>121</td>
<td>31.27</td>
<td>6.71</td>
<td>.90**</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Extrinsic - Identified</td>
<td>121</td>
<td>5.98</td>
<td>1.01</td>
<td>.23*</td>
<td>.28**</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Extrinsic - Introjected</td>
<td>121</td>
<td>5.13</td>
<td>1.59</td>
<td>.31**</td>
<td>.31**</td>
<td>.65**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Extrinsic-External Regulation</td>
<td>121</td>
<td>5.65</td>
<td>1.20</td>
<td>.09</td>
<td>.10</td>
<td>.57**</td>
<td>.40**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Intrinsic – To know</td>
<td>121</td>
<td>5.45</td>
<td>1.36</td>
<td>.33*</td>
<td>.32**</td>
<td>.70**</td>
<td>.64**</td>
<td>.30**</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7. Intrinsic – Toward accomplishment</td>
<td>121</td>
<td>4.48</td>
<td>1.49</td>
<td>.34**</td>
<td>.30**</td>
<td>.62**</td>
<td>.75**</td>
<td>.27**</td>
<td>.83**</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8. Intrinsic - Stimulation</td>
<td>121</td>
<td>3.43</td>
<td>1.48</td>
<td>.26**</td>
<td>.30**</td>
<td>.48**</td>
<td>.59**</td>
<td>.17</td>
<td>.70**</td>
<td>.67**</td>
<td></td>
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<td></td>
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<tr>
<td>9. Academic Success</td>
<td>121</td>
<td>71.39</td>
<td>10.57</td>
<td>.25**</td>
<td>.21*</td>
<td>.22**</td>
<td>.11</td>
<td>.04</td>
<td>.31**</td>
<td>.27**</td>
<td>.18*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Current GPA</td>
<td>121</td>
<td>3.56</td>
<td>0.43</td>
<td>.06</td>
<td>.00</td>
<td>.11</td>
<td>-.04</td>
<td>.13</td>
<td>.12</td>
<td>.09</td>
<td>-.05</td>
<td>.31**</td>
<td></td>
</tr>
</tbody>
</table>

Note: *\( p < .05 \), **\( p < .01 \). Bolded variables directly relate to research questions and hypotheses.

### Hierarchical Regression Analyses

A hierarchical regression analysis was conducted to predict current GPA from mentoring and motivation type controlling for first year GPA. The results showed that step 1 is statistically significant: First year GPA (\( \beta = .88, p < .001 \)) did statistically significantly predict current GPA, \( F_{(1, 119)} = 389.99, p < .001 \), adjusted \( R^2 = .76 \), Cohen’s \( f^2 = 3.23 \), explaining 76% of the variance in current GPA and representing a large effect size. The second step, which contained college mentoring (\( \beta = .05, p = .24 \)) was not statistically significant in predicting current GPA, \( F_{(2, 118)} = 196.30, p = .24 \), adjusted \( R^2 = .76 \), \( \Delta R^2 = .003 \). The third step, which included motivation types (\( \beta \) ranged from -.05 to .06, \( p \) ranged from .30 to .84, respectively) also did not show a statistically significant improvement to predict current GPA, \( F_{(7, 113)} = 56.67, p = .45 \), adjusted \( R^2 = .76 \), \( \Delta R^2 = .003 \).
Overall, first year GPA, a control variable in this analysis, was the lone predictor of current GPA, explaining 76% of the variance, and mentoring and motivation variables did not enhance the prediction of current GPA.

A second hierarchical regression analysis was conducted to predict academic success from mentoring and motivation types controlling for first year GPA. The results showed that step 1 is statistically significant: First year GPA ($\beta = .21, p = .023$) did statistically significantly predict academic success, $F_{(1, 119)} = 5.34, p = .023$, adjusted $R^2 = .04$, Cohen’s $f^2 = .045$, explaining 4% of the variance in academic success and representing a small effect size. The second step, which contained college mentoring ($\beta = .25, p = .011$) was statistically significant in predicting academic success, $F_{(2, 118)} = 6.98, p = .005$, adjusted $R^2 = .09$, Cohen’s $f^2 = .1$, $\Delta R^2 = .063$, explaining 9% of the variance in college success and representing a small effect size. The third step, which included motivation types ($\beta$ ranged from -.22 to .36, $p$ ranged from .04 to .74, respectively) did not show a statistically significant improvement above step 2 to predict academic success, $F_{(7, 113)} = 3.28, p = .14$, adjusted $R^2 = .12$, $\Delta R^2 = .02$. Although model 3 was not significant, the composite predictor of intrinsic motivation (combined to know and toward accomplishment) was the only significant motivation predictor of academic success ($\beta = .36, p = .039$) in step 3. When rerunning the analysis with step 3 containing only this predictor and removing nonsignificant predictors, the third step containing intrinsic motivation (to know, toward accomplishment; $\beta = .21, p = .027$) was statistically significant in predicting academic success, $F_{(3, 117)} = 6.47, p = .027$, adjusted $R^2 = .12$, Cohen’s $f^2 = .13$, $\Delta R^2 = .37$, explaining 12% of the variance in academic success and representing a small effect size. Overall, when first year GPA, college mentoring, and intrinsic motivation (to know and toward accomplish) were included in step 3, these variables accounted
for 12% of the variance in college success. Please see below for a visual representation of this analysis with college success as the outcome variable.

**Figure 3**

*Results of hierarchical regression analysis using college success as outcome variable*

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**Discussion**

This study was conducted to examine college students’ perception of their relationships with a mentor, what motivates them to attend college, and their GPA and academic success. A large focus of this study was to help clarify what qualities of a mentor aid students, and to examine what associations exist between formal mentoring experiences and the different types of motivation experienced by college students. Additionally, since there was little previous
literature on mentoring and academic success, this study investigated whether student-mentor relationships are associated with academic performance, specifically examining indicators of success outside of GPA.

Findings of this study suggest that aspects of mentoring, such as acknowledgement that a mentor serves as a role model and provides psychological and emotional support to students, are positively associated with both intrinsic and extrinsic motivation and academic success. Thus, all correlational hypotheses (hypotheses 1-3) were partially supported: Perceiving a mentor as a role model was positively associated with 1) extrinsic motivation but was also just as strongly associated with intrinsic motivation and 2) greater academic success but was not associated with Current GPA. Further, perception of a mentor as providing psychological and emotional support was partially supported in that it was positively associated with intrinsic motivation but was also just as strongly associated with extrinsic motivation.

More specifically, in relation to hypothesis 1, in which I predicted that there would be an association between having a role model and components of extrinsic motivation, the study findings suggest that the existence of a role model was associated with extrinsic motivation, both identified and introjected. This means that a mentor’s demonstration or modeling of achievement and how to address failure (the definition of existence of a role model) relates highly to importance of values of the mentee (identified extrinsic motivation) as well as positive feedback or praise (introjected extrinsic motivation) as part of the mentor-mentee relationship. These findings coincide with previous literature suggesting that having a mentor is associated with extrinsic motivation (Komarraju et al., 2010; Trolian et al., 2016; Van Etten et al., 2008). For the existence of a role model, there was no association with the most extrinsic form of motivation according to self-determination theory, which is external regulation. This finding is plausible
given that external regulation according to self-determination theory is defined as being motivated by specific extraneous outcomes, such as a prize or money, and these types of external motivators are likely not part of a college environment (Ryan & Deci, 2000).

In relation to hypothesis 2, this study also found that the existence of a role model was positively associated with academic success, measured using the Academic Success Inventory for College Students. This is important to note because using this assessment utilizes a more holistic approach to understanding collegiate success and provides more insight into the behaviors and practices of the student rather than just a number representing how high a student scored in their classes on average (Prevatt et al., 2011). Interestingly, and opposite of what was originally hypothesized, the existence of a role model was not significantly associated with students’ current GPA. This could potentially be due to the restriction of range of participants’ GPA’s that was present in this study (only 13 participants scored below a 3.0). Additionally, this study is not based on a formal mentoring program that targets students’ GPA’s, possibly explaining why no association was found in this study in relation to current GPA and existence of a role model. This finding goes against previous literature that suggests that having a role model is beneficial to academic performance as measured using GPA, a cumulative percentage average, or course grades (Herrmann et al., 2016; Jain et al., 2016; Komarraju et al., 2010).

In relation to hypothesis 3, it was found that psychological and emotional support from a mentor was positively associated with the three forms of intrinsic motivation examined in this study: to know, towards accomplishment, and to experience stimulation. This suggests that having a mentor who listens and provides support and encouragement is associated with students who are curious and seeking intellectual exploration, motivated to participate in an activity to feel satisfaction of success, and to want to experience sensory pleasure, respectively. These
findings coincide with previous literature that suggests that mental and emotional support from a mentor can lead to an increase in intrinsic motivation (Arguedas et al., 2016; Komarraju et al., 2010). The finding that intrinsic motivation is associated with emotional support from a mentor is supported by previous research on high school students that suggests that the development of close, supportive, and affirming relationships, such as with a high-quality mentor, are important in students’ development of curiosity and inquisitiveness, which align with qualities of intrinsic motivation (Heilat & Seifert, 2019).

Additionally, psychological and emotional support from a mentor was related to factors of extrinsic motivation of students, including introjected and identified extrinsic motivation, which was not originally hypothesized. Although classified as extrinsic forms of motivation, introjected extrinsic motivation (i.e., motivation associated with feelings of pride and avoidance of feelings of shame, guilt, and self-consciousness) and identified extrinsic motivation (i.e., realizing the importance of academic success is necessary for growth and to achieve future career goals, which becomes a part of the person’s identity) are considered somewhat internal compared to other types of extrinsic motivation according to self-determination theory (Ryan & Deci, 2000). This relates to findings from Beals et al. (2021), suggesting that being a part of a mentor program led to an increase in confidence of self and abilities, pride, self-efficacy, and confidence to continue similar work in the future.

Hypothesis 4 was also partially supported in that mentoring factors as a whole and intrinsic motivation did explain a significant amount of variance in academic success, but mentoring qualities and motivation type did not explain a significant amount of variance in current GPA of participants. This finding does align with past research that suggests that student-faculty mentoring relationships are not predictive of academic achievement as measured using GPA.
(DeFreitas & Bravo, 2012). However, this finding does not align with other research that has assessed campus-wide collegiate mentoring programs (e.g., Academic Mentor Program) and found that mentoring had a significant impact on increasing GPA over time (Lee, 2014). However, the mentoring aspect of the current study was not a part of a campus-wide initiative on a college campus with a specific goal of increasing GPA or overall academic performance of students. Students for these campus-wide initiatives are often “at risk students”, so there is more room for their GPA to improve which may make correlations stronger, which may partially account for the findings of the current study. Further, there may be other factors that better explain current GPA of students that were not examined in the current study, such as access to academic-related campus resources (e.g., the Writing Center, tutoring programs, and teaching assistants for specific courses). This finding highlights the importance of establishing a more concrete definition of mentoring within this body of literature (Law et al., 2020), as the way this variable is operationalized may produce varying findings in relation to student GPA.

Mentoring in this study, broadly speaking, was measured by asking participants if they had a mentor figure with whom they could 1) speak openly about problems and feel supported, 2) receive assistance from in relation to making academic decisions and achieving academic goals, and 3) look up to regarding college-related issues (Crisp, 2009). Participants, on average, scored very high on all mentoring subscales as well as the overall total, suggesting that they perceive their mentors as providing high-quality support in these areas. Since this study only included participants who could identify a mentor, this a self-selection survey, so it is not surprising that subscale scores for mentoring were all high. As such, ceiling effects for scores on these mentoring subscales may have created a restriction of range and limited variability. This could potentially lead to lower or reduced correlations than would have been found with a wider range
of scores on the mentoring subscales. From a theoretical perspective, Ryan (2023) suggests, according to self-determination theory, that mentors who create a sense of support and collaboration with their mentees, including the ability for mentees to make their own informed choices, foster an environment of trust that leads to a deeper understanding of their needs. Investing time as a mentor to establish a meaningful relationship with a mentee may increase mentees’ motivation and commitment to goals (Ryan, 2023). Further, according to self-determination theory (Ryan & Deci, 2000), individuals are more likely to engage in activities and goal pursuits when they align with their own interests and intrinsic values. Mentors may foster intrinsic motivation by creating opportunities for engagement and encouraging persistence with their mentees, leading to success in their pursuits and respective fields (Ryan, 2023). Thus, it is clear why mentoring and intrinsic motivation predicted a significant amount of the variance in academic success as measured in the current study using the Academic Success Inventory for College Students, as it included a broad range of positive, college-related outcomes (e.g., academic skills, career decidedness, confidence) associated with high-quality mentoring.

**Limitations**

This study is not without limitations. First, there is a lack of diversity in the sample since most of the participants identified as white females. Second, the findings are only representative of small, Midwestern private colleges since all participants were from small Midwestern private institutions. Third, since the interests of this study related to students’ perspectives, motivations, and relationships, all responses were self-report. This is a limitation to this study because while self-report is one of the few ways to get a better idea of people’s thoughts or feelings, it also leaves room for responses to be inaccurate or biased. Fourth, while this study aimed to examine student-mentor relationships with faculty and advisors, mentoring-related findings were not
based on an institution-wide mentoring program. This means that students’ experiences and perspectives may be too subjective and varied, possibly leading students to conceptualize a mentor differently than the study operationalized. Fifth all students in this study could identify a formal college mentor (e.g., advisor or faculty member or both). Since this study only included students who could identify a mentor, the variability of the subscale “existence of a role model” was likely restricted, as compared to a sample that contained students without a formal mentor figure. This may explain why some of the findings differ from previous research. Sixth, on average, first year and current GPA was high and there was little change (no statistically significant difference) between first year and current GPA, suggesting that inclusion of the mentor may make little difference to increasing GPA specifically. This may reflect that stronger students are more likely to seek out a mentor in college than less high-achieving students, meaning this study’s sample underestimated the potential effect of a mentor on GPA and other measures of academic success.

A final limitation of the study includes the researchers’ need to create two composite variables of mentoring and intrinsic motivation to reduce multicollinearity and conduct hierarchical regression analysis with academic success as the outcome variable. This data transformation prevented the ability to further examine specific attributes, particularly related to mentoring, and provided a less detailed examination of which distinct predictors contribute to the variance in academic success. This was also true for academic success as an outcome variable. Future studies should consider examining specific mentoring and motivation subscales to determine how they account for academic success. Further, subscales of academic success could also be examined more closely to develop a clearer picture of how mentoring and motivational factors contribute to certain areas of academic success in college students.
Future Research and Implications

Future studies examining student-mentor relationships would benefit from a longitudinal assessment of motivation, academic success, and qualities of mentoring relationships at the beginning of participants’ college experience, and then continually throughout their college experience so that researchers may examine change in these variables over time. Including both students who have mentors as well as those who do not would be beneficial for future studies to examine to allow more comparisons than this study was able to make. Because the current study did not gather data on the gender of mentors, it may be of interest to consider examining mentor-mentee gender effects and if differences in academic success exist if a mentor figure is the same sex versus the opposite sex of the mentee. Another area this study did not address that would be valuable to investigate is the differences between specific types of mentors in the lives of college students, such as a research mentor versus a career or graduate school mentor. Finally, based on the current study’s overwhelming number of female participants, it might be interesting to assess whether men are less likely to have mentors than women and if this impacts their academic success.

Conclusion

This study provided insight into how college students view their mentor figure, what motivates them to attend college, and how this motivation and the existence of a mentor is associated with their academic success. The findings from this study suggest that certain traits of a mentor relationship, such as the existence of a role model or psychological and emotional support, are associated with both extrinsic and intrinsic motivation in college students. This study also suggests that academic success as measured holistically was associated with certain characteristics of mentorship, whereas GPA was not. In the context of this study, academic
success may be a more representative way to examine academic performance of college students than GPA. These findings also note the importance of developing a more consistent definition of a college mentor within the literature.
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Appendix A

Figure 2

*Conceptual model of hypothesis 4*
Appendix B

Demographic Survey

1. What is your Banner ID? ________________

2. What is your age? ________

3. What is your gender?
   ____Male
   ____ Female
   ____ Non-Binary
   ____ Transgender Male
   ____ Transgender Female
   ____ Agender
   ____ Self-identify: ________________

4. What is your racial background?
   ____ African/African American/Black
   ____ American Indian/Native American
   ____ Asian/Asian American
   ____ Caucasian/European American/White
   ____ Hispanic/Latino/Latina/Latinx/Latine
   ____ Middle Eastern or North African (e.g., Lebanese, Iranian, Egyptian, Syrian, Algerian, etc.)
   ____ Pacific Islander/Pacific Islander American
   ____ Self-identify: ________________

5. What is your current class standing:
   ____ Junior
   ____ Senior
   ____ Other ________________
6. Where do you live while attending CSB/SJU?
   _____ On campus
   _____ Off campus

7. What is/are your major(s)? __________________________

8. Are you a First-Generation student? (if none of your parents/guardians received a four-year degree you would be considered a First-Generation student)
   _____ Yes
   _____ No

9. Are you a transfer student?
   _____ Yes, if yes; How many years have you attended CSB/SJU?
   _____ No
## Appendix C

The College Student Mentoring Scale (CSMS; Crisp, 2009)

While in college, I have had a faculty member or advisor in my life who... 

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I look up to regarding college-related issues</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Helps me work toward achieving my academic aspirations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Helps me realistically examine my degree or certificate options</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I can talk with openly about social issues related to being in college</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I admire</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Helps me perform to the best of my abilities in my classes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Encourages me to consider educational opportunities beyond my current plans</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I want to copy their behaviors as they relate to college-going</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Provides ongoing support about the work I do in my classes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Gives me emotional support</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Encourages me to talk about problems I am having in my social life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Sets a good example about how to relate to other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Helps me to consider the sacrifices associated with my chosen degree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Expresses confidence in my ability to succeed academically</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Serves as a model for how to be successful in college</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Discusses the implications of my degree choice</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. Makes me feel that I belong in college</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Encourages me to use him or her as a sounding board to explore what I want</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. Shares personal examples of difficulties they have had to overcome to accomplish academic goals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. Helps me carefully examine my degree or certificate options</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. I can talk with openly about personal issues related to being in college</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. Encourages me to discuss problems I am having with my coursework</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. Questions my assumptions by guiding me through a realistic appraisal of my skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. Recognizes my academic accomplishments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. Provides practical suggestions for improving my academic performance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

When completing the above measure, my responses were about:

1. A faculty member
2. An academic advisor
3. This mentor has served as both my academic advisor and my faculty member.
Scoring:
Psychological and Emotional Support Items: 24, 4, 18, 10, 21, 17, 14, 11
Degree and Career Support Items: 7, 3, 23, 20, 16, 13
Academic Subject Knowledge Support Items: 9, 6, 2, 25, 22
Existence of a Role Model Items: 19, 15, 12, 8, 1, 5
Appendix D

Academic Motivation Scale College Version (AMS-C 28; Vallerand et al., 1992-1993)

Directions: Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college.

<table>
<thead>
<tr>
<th>Does not correspond at all</th>
<th>Corresponds a little</th>
<th>Corresponds moderately</th>
<th>Corresponds a lot</th>
<th>Corresponds exactly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Why do you go to college?

1. Because with only a high-school degree I would not find a high-paying job later on. 1 2 3 4 5 6 7
2. Because I experience pleasure and satisfaction while learning new things. 1 2 3 4 5 6 7
3. Because I think that a college education will help me better prepare for the career I have chosen. 1 2 3 4 5 6 7
4. For the intense feelings I experience when I am communicating my own ideas to others. 1 2 3 4 5 6 7
5. Honestly, I don't know; I really feel that I am wasting my time in school. 1 2 3 4 5 6 7
6. For the pleasure I experience while surpassing myself in my studies. 1 2 3 4 5 6 7
7. To prove to myself that I am capable of completing my college degree. 1 2 3 4 5 6 7
8. In order to obtain a more prestigious job later on. 1 2 3 4 5 6 7
9. For the pleasure I experience when I discover new things never seen before. 1 2 3 4 5 6 7
10. Because eventually it will enable me to enter the job market in a field that I like. 1 2 3 4 5 6 7
11. For the pleasure that I experience when I read interesting authors. 1 2 3 4 5 6 7
12. I once had good reasons for going to college; however, now I wonder whether I should continue. 1 2 3 4 5 6 7
13. For the pleasure that I experience while I am surpassing myself in one of my Personal accomplishments. 1 2 3 4 5 6 7
14. Because of the fact that when I succeed in college I feel important. 1 2 3 4 5 6 7
15. Because I want to have "the good life" later on. 1 2 3 4 5 6 7
16. For the pleasure that I experience in broadening my knowledge about subjects which appeal to me. 1 2 3 4 5 6 7
17. Because this will help me make a better choice regarding my career orientation. 1 2 3 4 5 6 7
18. For the pleasure that I experience when I feel completely absorbed by what certain authors have written. 1 2 3 4 5 6 7
19. I can't see why I go to college and frankly, I couldn’t care less. 1 2 3 4 5 6 7
20. For the satisfaction I feel when I am in the process of accomplishing difficult academic activities. 1 2 3 4 5 6 7
21. To show myself that I am an intelligent person. 1 2 3 4 5 6 7
22. In order to have a better salary later on. 1 2 3 4 5 6 7
23. Because my studies allow me to continue to learn about many things that interest me. 1 2 3 4 5 6 7
24. Because I believe that a few additional years of education will improve my competence as a worker. 1 2 3 4 5 6 7
25. For the "high" feeling that I experience while reading about various interesting subjects. 1 2 3 4 5 6 7
26. I don't know; I can't understand what I am doing in school. 1 2 3 4 5 6 7
27. Because college allows me to experience a personal satisfaction in my quest for excellence in my studies. 1 2 3 4 5 6 7
28. Because I want to show myself that I can succeed in my studies. 1 2 3 4 5 6 7

Codification key:
# 2, 9, 16, 23: Intrinsic motivation - to know
# 6, 13, 20, 27: Intrinsic motivation - toward accomplishment
# 4, 11, 18, 25: Intrinsic motivation - to experience stimulation
# 3, 10, 17, 24: Extrinsic motivation - identified
# 7, 14, 21, 28: Extrinsic motivation - introjected
# 1, 8, 15, 22: Extrinsic motivation - external regulation
# 5, 12, 19, 26: Amotivation
## Appendix E

Academic Success Inventory for College Students (Welles, 2010)

Select **one** class that has been the hardest or most difficult for you within the past year. Then answer the items below based on that particular class:

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I studied the correct material when preparing for tests in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2.</td>
<td>I worked hard to prove I could get a good grade</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>I tried everything I could to do well in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.</td>
<td>I worked really hard in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5.</td>
<td>I kept on a good study schedule in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6.</td>
<td>I worked hard in this class because I wanted to understand the material</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7.</td>
<td>I studied a lot for this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.</td>
<td>I think I used good study skills when working in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9.</td>
<td>I made good use of tools such as planners, calendars, and organizers in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10.</td>
<td>I used goal setting as a strategy in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11.</td>
<td>I was good at setting specific homework goals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12.</td>
<td>I was well organized</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13.</td>
<td>I got satisfaction from learning new material in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14.</td>
<td>I enjoyed the challenge of just learning for learning’s sake in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15.</td>
<td>I felt confident I could understand even the most difficult material in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16.</td>
<td>I was pretty sure I could make an A or B in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17.</td>
<td>I know that if I worked hard, I could do well in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>18.</td>
<td>I worried a lot about failing this class (R)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>19.</td>
<td>I was pretty sure I would get a good grade in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>20.</td>
<td>I felt pretty confident in my skills and abilities in this class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>21.</td>
<td>I was disappointed with the quality of the teaching (R)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Question</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
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</tr>
<tr>
<td>22. I did poorly because the instructor was not effective (R)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>23. I would have done better if my instructor were better (R)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. The instructor in this class really motivated me to do well</td>
<td></td>
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<tr>
<td>25. Anything I learned, I learned on my own. The instructor in this class was not a good teacher (R)</td>
<td></td>
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<tr>
<td>26. It was easy to keep my mind from wandering in this class</td>
<td></td>
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<tr>
<td>27. I had an easy time concentrating in this class</td>
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<tr>
<td>28. I had a hard time concentrating in this class (R)</td>
<td></td>
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<tr>
<td>29. I got easily distracted in this class</td>
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<tr>
<td>30. I needed to do well in this class to get a good job later on</td>
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<tr>
<td>31. This class will be very useful to me in my career</td>
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<tr>
<td>32. This class is important to my future successes</td>
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<tr>
<td>33. I think in the future I will really use the material I learned in this class</td>
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<tr>
<td>34. Sometimes I partied when I should have been studying (R)</td>
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<tr>
<td>35. My grades suffered because of my active social life (R)</td>
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<tr>
<td>36. I got behind in this class because I spent too much time partying or hanging out with my friends (R)</td>
<td></td>
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<tr>
<td>37. Sometimes my drinking behavior interfered with my studying (R)</td>
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<tr>
<td>38. I am certain about what occupation I want after I graduate</td>
<td></td>
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<td></td>
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<tr>
<td>39. I know what I want to do after I graduate</td>
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<tr>
<td>40. I am having a hard time choosing a major (R)</td>
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<tr>
<td>41. I am certain that my major is a good fit for me</td>
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<tr>
<td>42. I was nervous for tests even when I was well prepared (R)</td>
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<td></td>
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<tr>
<td>43. Studying for this class made me anxious (R)</td>
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<tr>
<td>44. I got anxious when taking tests in this class (R)</td>
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<tr>
<td>45. Personal problems kept me from doing well in this class (R)</td>
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<tr>
<td>Item</td>
<td>Score Range</td>
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</tr>
<tr>
<td>46. I would have done much better in this class if I didn’t have to deal with other problems in my life (R)</td>
<td>1-7</td>
<td></td>
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</tr>
<tr>
<td>47. I had some personal difficulties that affected my performance in this class (R)</td>
<td>1-7</td>
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<td></td>
</tr>
<tr>
<td>48. It was important to get a good grade in this class for external reasons (my parents, a scholarship, university regulations)</td>
<td>1-7</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>49. I worked hard in this class because I wanted others to think I was smart</td>
<td>1-7</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50. I needed good grades in this class to keep up my GPA</td>
<td>1-7</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Scoring:
- General Academic Skills: Items 1-12
- Internal Motivation/Confidence: Items 13-20
- Perceived Instructor Efficacy: Items 21-25
- Concentration: Items 26-29
- External Motivation/Future: Items 30-33
- Socializing: Items 34-37
- Career Decidedness: Items 38-41
- Lack of Anxiety: Items 42-44
- Personal Adjustment: Items 45-47
- External Motivation/Current: 48-50