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Mentorship Functions and Educational Outcomes in Higher Education

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EDUCATION

By Alyssa R. Graham

A Thesis Submitted in Partial Fulfillment

of the Requirements for the Master of

Psychology in

The Department of Psychology

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Acknowledgments

I would first like to thank my thesis advisor and mentor, Dr. Traci Weinstein. Her expertise and time were invaluable in helping me stay on track for completion. Thank you for your guidance, which will stick with me as I continue learning in the field. I would also like to thank my committee member, Dr. George Ladd. Thank you for your collaboration of exchanging ideas as well as assisting in the setup of recruiting participants for this study. I'd also like to thank my committee member, Dr. Victoria Restler. I appreciate your feedback on this project and general support throughout graduate school. Thank you all for voluntarily investing in this project. I would also like to extend a thank you to each faculty member who has taught me in the past two years at Rhode Island College and encouraged me to keep going. Lastly, I must express gratitude to my closest friends and family members. This milestone would not have been possible without their support and continuous prayers.

Abstract

The mentorship experience in higher education may be viewed as a holistic support system for many students who report not receiving adequate academic and social support during their enrollment in a higher education institution, which could positively impact their abilities to succeed in college (Astin, 1984; Hurtado & Carter, 1997; Nora, 1987; Nora & Crisp, 2007; Pascarella & Terenzini, 1991). The purpose of this quantitative study was to examine student-teacher mentorships in higher education and its influence on educational outcomes using undergraduate and graduate students at Rhode Island College. In this study, I hypothesized that students who identify as having a mentor will report more positive school engagement and membership in their learning experience than students who do not have a mentor (Hypothesis 1). I also hypothesized that other variables will impact positive school engagement and membership for students who do not identify as having a mentor (Hypothesis 2). A sample of participants ($N = 262$) recruited for this study completed a self-report demographic questionnaire, the College Student Mentoring Scale, the College Student Experience Questionnaire, the Psychological Sense of School Membership, and the Belief in the Utility of Education. The measures assessed students' perception of their college experience, faculty mentorship, school engagement, and school membership. Results indicated that formal mentorship did lead to better academic performance, attendance, and students' satisfaction at the institution. Graduate students overall reported lower student engagement and school membership than their undergraduate counterparts. The current study is one of the first to examine the impact faculty mentorships have on both undergraduate and graduate students while assessing the same constructs in one study and considering factors such as student engagement and school membership.

Keywords: mentorship, student engagement, school membership, college students

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Mentorship Functions and Educational Outcomes in Higher Education

Mentorship in academics is a frequently researched topic, but there are many different models that researchers use to analyze this relationship. There are a few existing conceptualizations of mentorship models in the research literature. Cohen and Galbraith (1995) developed a comprehensive framework of mentorship. In their framework of mentorship, the goal of a successful mentorship model is to help students to be successful across the college experience, including academic, professional, social, and even economic objectives and obstacles. In addition, a successful mentoring model should target students from diverse backgrounds in order to help them flourish in across academic settings, both formal and informal, so that they don't just overcome obstacles but benefit from the academic experience in different ways (education, professional training, and employment, to name a few). A successful mentorship model should include some one-on-one time that is flexible enough to be dynamic and meet the changing needs of the student over time. The mentor role is comprised of six interrelated functions: relationship emphasis, information emphasis, facilitative focus, confrontive focus, mentor model, and mentee vision. Over time, the mentor should be flexible enough to provide expertise in academic and professional areas while allowing the space for the mentee to grow, learn to develop self-confidence, and be given the freedom to make decisions about their next steps and future goals. Relatedly, mentor attunement has also been considered as factor that makes a successful student-faculty mentorship. Pryce (2012) defined attunement as a mentor's ability to be flexible; flexibility is necessary by the mentor in responding to their mentee's needs, including verbal and nonverbal cues, and in supporting their mentee's goals, which may change over time. The attuned mentor must have the skills to understand both verbal and nonverbal cues provided by their mentees. Pryce (2012) defines several behaviors that are

important in an attuned mentorship relationship: active listening, maintaining eye contact, identifying verbal and nonverbal cues, responding to cues, and maintaining flexibility. Pryce (2012) argues that mentors who are not flexible will not be able to build an adequately supportive relationship with their mentees, while also noting that it is possible for mentors to develop these skills by working on them over time. Taken together, these models highlight the need for mentors to support the needs and goals of mentees in a flexible, dynamic, and ongoing manner.

Existing literature has examined mentorship from several perspectives within academic settings, including formal mentoring programs with a faculty mentor (e.g., Ishiyama, 2007), natural mentoring (e.g., Miranda-Chan, Fruiht, Dubon, and Wray-Lake, (2016), and peer mentors (e.g., Rodger & Tremblay, 2003). Most mentorship research to date has evaluated the impact of mentoring programs and educational outcomes, such as academic achievement, recruitment, and retention (Rodger & Tremblay, 2003), influence of student persistence and feelings of belongingness (Bank, Slavings, & Biddle, 1990), the development of satisfying relationships with members of the organization (Allen, McManus & Russell, 1999), and student satisfaction (Seibert, 1999). The mentoring process has been perceived traditionally as a model for apprenticeships in graduate education, but it is now increasingly identified as a retention strategy for undergraduate education as well (Jacobi, 1991). The rise of mentoring programs throughout college institutions gives researchers a baseline to systematically track the effects of the development of these mentoring relationships on educational outcomes.

In sum, Leitner et al. (2018) stresses that the mentee's personal and professional development should be an essential focus of the mentorship relationship; in addition, it is important for mentor to learn how to maximize the benefits of the mentorship experience. What

is less commonly considered are the key factors that enhance student learning, which include

institution investments that effectively engage students in and outside of the classroom

(Chickering & Gamson, 1987; Hu & Kuh, 2003). This study seeks to examine the impact of

mentorship at the undergraduate and graduate levels at Rhode Island College.

<div align="center">**Literature Review**</div>

There are mixed views on mentorship regarding a widely accepted definition and process

(Nora & Crisp, 2007). Despite a growing body of empirical research on this topic, questions

remain about several factors in the mentorship relationship: the antecedents, outcomes,

characteristics, and mediators of mentoring relationships (Jacobi, 1991). Despite the ambiguity

surrounding mentorship, there has also been disagreements about an appropriate age gap

between mentee and mentor, the duration of mentorship, and the level of intensity or intimacy

that should characterize the mentoring relationship. Additionally, there has been an overlap in

literature between differentiating the influence of mentorship and student-faculty interactions.

The influence of student-faculty interactions has been linked with several developing models to

form a theoretical basis for identifying student persistence and institutional factors that influence

a student's decision to remain enrolled in college, including Tinto's (1993) Model of Student

Integration, Bean's (1985) Student Attrition Model, Nora, and Cabrera's (1996) Student

Adjustment Model, and Astin's (1984) Student Involvement Theory. Student-faculty interactions

have shown to contribute to social integration and satisfaction of students (Astin, 1977; Gándara,

1995; Nora & Crisp, 2007; Pascarella & Terenzini, 1976; Spady, 1971). Through student-faculty

interactions, it is possible for aspects of mentorship to be experienced and examined in research

(Nora & Crisp, 2007). For this paper, formal mentoring suggests a program managed by the

institution or a third-party, in which mentors and mentees are typically matched with one another or self-match (Chao, Walz, & Gardner, 1992).

Mentorship Attributes

Formal Mentorship

It is becoming increasingly more popular for universities to implement formal mentorship programs that are designed for students to collaborate with a faculty member, such as the Ronald E. McNair program. Ishiyama (2007) used a sample of 33 McNair undergraduate students and conducted qualitative interviews to examine how first-generation, low-income, and African American students perceived a formal research-based mentoring relationship. Participants included 11 White/Caucasian students and 22 African American students. Students were asked about their perceptions of a mentor's role, the benefits of a mentorship, and what they defined as a "good" mentorship. Results were categorized into three variables: career support, research/academic support, and personal consideration. The study found that the African American students were more likely to emphasize the personal consideration role of mentors, psychological benefits from the research experience, and generally describe a mentor as someone who is supportive. A lack of diversity was listed as a limitation of this study, citing African American students often seek out external validation and support from mentors to "fit in," a concept of academic and social integration by Vincent Tinto (1975).

Some formal mentoring programs have had a significant increase in enrollment and retention of minority students, as well as increased their overall satisfaction with their educational experience (James, 1991; Pope, 2002). Pope (2002) argued that the success of minority students in many cases have been dependent on their integration into the college environment, which mentoring programs aim to achieve. Their research study was in partnership

with a larger nationwide study that involved 250 minority students enrolled in community

colleges throughout the U.S. Students were administered a survey that addressed their

perceptions of campus climate, institutional diversity, mentoring, and administrative support of

diversity. The findings suggest that minority students benefit from a multiple level approach of

mentoring, which includes both formal and informal methods of mentoring. Formal methods of

mentoring include all the programming that institutions conduct to enhance student success and

informal methods include faculty accessibility, support, and presence of minority faculty and

staff on campus. Participants indicated that mentoring on campus was important in providing

success mechanisms for minority students, ultimately promoting retention rates in higher

education. The data revealed that there was an association between the minority student's

perception of the importance of the types of mentoring and the availability of those programs on

their campuses.

Researchers have found that, for students of all backgrounds, they emulate others who are

perceived to be like themselves in terms of personality characteristics, background, race, and sex

(Erkut & Mokros, 1984). Erkut and Mokros (1984) surveyed undergraduate students from five

coeducational schools and one women's college in the Northeast U.S. ($N = 723$). The survey

asked participants to identify a professor who had demonstrated the kinds of qualities and skills

they considered important for themselves. The study found that female students were more likely

than males to select female role models (mentors), while male students appeared to search for a

male mentor for status, power, and career guidance. The research suggests that the typical

scarcity of female and minority presence (i.e., faculty, students, administrators) at predominantly

White institutions may correlate with their difficulty in obtaining a mentor as they are unable to

easily seek mentors who are similar in background, gender, sex. It is assumed that by

demonstrating a woman in a professional role, it will encourage women students to seek similar

achievements.

Natural Mentorship

To date, very few empirical studies have directly assessed the relationship between

natural mentoring and academic success among college students. Informal, or natural mentoring

relationships are unstructured connections, not managed, or formally recognized by the

institution of those involved (Chao, Walz, & Gardner, 1992). Miranda-Chan et al. (2016)

considered five categories of outcomes to examine the long-term role of naturally occurring

mentoring relationships during adolescence: psychological well-being, romantic relationships,

educational attainment, career success, and criminal activity in young adulthood. The study

utilized data from the National Longitudinal Study of Adolescent to Adult Health (ADD Health),

spanning over the course of 15 years in four waves, from 1994 to 2009 ($N = 1350$). Data was

collected through computer interviews and in-home interviews with students and their parents.

The data revealed that having a naturally occurring mentor in adolescence was associated with

better psychological well-being, greater overall satisfaction with a romantic partner, greater

education attainment, and less criminal activity in young adulthood. Assessing these variables

into young adulthood is beneficial because it is a time when individuals enter more mature

relationships and careers. Although the researchers acknowledged the limitations of participants

retrospectively reporting responses, as well as not controlling for duration or frequency of

contact with mentors, these findings do build upon past research about the long-term benefits of

naturally occurring mentoring relationships during adolescence.

Mentor Attunement

Mentor attunement is a growing topic in the research literature on mentorship. The literature suggests that a key factor in the success of the mentorship relationship is mentor attunement (Pryce, 2012). Pryce conducted a qualitative study that examined a school-based mentorship program. In this study, the Big Brothers Big Sisters (BBBS) organization partnered with three public elementary schools. Thirty-three students, grades 3 – 5, were matched with a one-on-one mentor; all participants reported experiencing family, social, emotional, or behavioral difficulties. Researchers used observations and interviews to assess the quality of the mentorship experience, including specific features: modes of communicating, emotional/affective tone, conflict and anger, authority and decision-making, and types of support. From this method, the researchers were able to identify three categories of mentors: highly attuned, moderately attuned, and minimally attuned. Highly attuned mentors had a more mutual relationship with their mentees, such as in a give-and-take manner between the two. Moderately attuned mentors did not form successful relationships with their mentees. Minimally attuned mentors had little relationships with their mentees, and did not achieve the minimum task of matching their mentees' verbal and/or nonverbal cues. This study shows that, even in the case of a less attuned mentor, mentees need to be able to express their needs and desires in the mentorship relationship in order to benefit from the experience.

Similarly, Weiler, Chesmore, Pryce, Haddock, and Rhodes (2017) examined the impact of mentor attunement on the mentorship relationship. Researchers recruited 204 undergraduate students to serve as mentors for grade school students, ages 11-18. Upon completion of the program, mentees rated their mentorship experience and participants were placed into three groups for data analysis: underfocused mentors, overfocused mentors, and attuned mentors.

Results showed that youth who rated their mentor as attuned experienced better overall outcomes compared to those with the other two types of mentors. Those with attuned mentors were more likely to perceive schools as important and helpful, reported higher academic self-efficacy, and experienced lower levels of truancy. In addition, those with attuned mentors were expected to have better gains on GPA in the long-term. This study provides further evidence that mentorship attunement is important for positive outcomes in the mentorship experience, and also shows that overly-focused mentors can present problems in addition to under-focused mentors.

Student Engagement

Higher education literature suggests that student engagement is a key factor in student learning and personal development (Astin, 1993; Hu & Kuh, 2003; Pascarella & Terenzini, 1991). Student engagement represents the quality of effort students expend on using the institution's resources and facilities, such as the amount of time they spend using the library (Hu & Kuh, 2003). Providing access to appropriate and effective resources for students is a common objective for colleges and universities. In more formal structures, mentors may use a curriculum that is designed to promote the development of both the mentee and the mentor by providing them with campus resources that promote aspects of student connectedness relevant to their developmental needs (Karcher, Davis, & Powell, 2002). College communities can better promote student engagement and student learning so that students may spend more of their time on the activities that are critical to their education (Hu & Kuh, 2003). Hu and Kuh (2003) examined the impact of institutional characteristics, including students' perceptions of campus environments on undergraduate learning productivity in a two-level design. Using 44,238 full-time enrolled undergraduate students from 120 four-year colleges and universities, each participant completed the College Student Experiences Questionnaire (CSEQ) between 1990 and 1997. The CSEQ is

well-suited to address student learning, which is based on the premise that the more students put

into using their resources and opportunities the institution provides for their learning, the more

that student will benefit (Hu & Kuh, 2003; Kuh et al., 1997; Pace 1990). The researchers also

tested the learning productivity model using hierarchical linear modeling to examine student

experiences and institutional characteristics. After analyses at the student-level and institution-

level, results supported previous findings that student engagement in college activities is the key

factor in student learning (Astin, 1993; Hu & Kuh, 2003; Pascarella & Terenzini, 1991).

Additional findings revealed that student effort was a strong predictor of relative student gains.

Colleges need to prioritize mentorship opportunities in several forms at the college in

order to better promote student engagement, including internships, apprenticeships, and

cooperative education (Stromei, 2000). Stromei (2000) argues that a large number of students

drop out because of everyday issues, which are avoidable if the institution has a well-designed

mentorship program with equipped mentors. Further, college activities should be aimed to

promote a bond between the student and institution. The connection between student and mentor

is argued to provide support and encouragement toward these activities and bridge this

participation gap, particularly for minority students who tend to have difficulty managing

everyday life and experience lower levels of student engagement.

According to the belongingness hypothesis developed by Baumeister and Leary (1995),

those who do not have a sense of connection to a larger group or community beyond friends and

family will likely experience increased stress and emotional distress. Pittman and Richmond

(2007) examined sense of school belonging with academic and psychological adjustment using a

sample of 266 undergraduate freshmen from an Introduction to Psychology course. Pittman and

Richmond collected demographics and measured school belongingness, relationships with

parents and friends, academic success and work orientation, self-worth and perceived scholastic

competence, and problem behaviors. The researchers used descriptive statistical analyses,

correlational analyses, regressions, and exploratory factor analysis to find that a sense of school

belonging could be a key component of a positive experience for late adolescents in college.

College students who reported a greater sense of belonging at the university were doing better

academically, felt more competent scholastically, had higher self-worth, and, at a trend level,

lower levels of externalizing problems than students with lower sense of belonging at the

institution. The study found that students whose parents had not attended college had lower

levels of university belonging than did other students, suggesting that parents with college

experience, even those who had not graduated, share information that may help prepare their

adolescent children for college and help them feel assured that they belong at the university.

School Membership

Students' sense of school belonging, also referred to as connectedness to one's school or

perceived school membership (Pittman & Richmond, 2007), stems from a theoretical concept of

fundamental human motivation, which argues that humans need a larger group or community in

addition to their friends and family (Baumeister & Leary, 1995). The sense of school belonging

includes an individual's perceptions of fitting in and belonging with others at the same institution

(Osterman, 2000). In general, most research done on this topic has utilized The Psychological

Sense of School Membership Scale (PSSM), which is a reliable and valid instrument for the

assessment of junior high school students (Alkan, 2015). However, few studies have utilized the

PSSM to examine students' sense of belonging at their institution at the university

level. Apriceno, Levy and London (2020) conducted a longitudinal design to examine the impact

of active and engaged mentors on students' confidence in their academic abilities and their sense

of belonging. Using 208 first-year undergraduate students, the researchers hypothesized that students who had an engaged mentor early in their first year of college (by October) would report higher academic self-efficacy (Hypothesis 1) and greater sense of belonging (Hypothesis 2) by the end of their second semester. The study used a baseline survey to collect data of the following measurements: depression and anxiety, student's perception of an engaged mentor, academic self-efficacy, and sense of belonging at their institution. The results revealed that participants who reported being engaged with a mentor early in the first year of college reported higher academic self-efficacy and sense of belonging by the end of the year compared to students without a mentor.

Additional Educational Outcomes

Researchers have identified patterns in the student-faculty relationship that are associated with additional academic participation and achievement outcomes (e.g., Erkut & Mokros, 1984). Existing research suggests that students who identify as having mentors report better school attendance, feel more competent in their academic work, and report having better relationships with their parents and friends than do those students without a mentor (Tierney & Branch, 1992; Tierney, Grossman, & Resch, 1995). Additional school outcomes associated with mentorship include academic achievement, retention, scholarly productivity, professional and personal development, and psychological well-being (Campbell & Campbell, 1997; Fox et al., 2010; Johnson, 2007). Cosgrove (1986) examined the outcomes of a formal mentor program using university students. In this research study, 153 freshmen were randomly assigned into an experimental or control condition; researchers controlled for SAT scores, place of residence, and gender. Experimental groups received a mentor from among the college's faculty, administration, and staff who met with students on an average of three times during the study

timeline. The control group participants did not receive any treatment or mentoring. Participants were administered the College Student Development Self-Assessment Inventory and the Student Opinion Survey to assess students' satisfaction with the university, use of services, behavioral patterns, and level of personal development. Results indicated that students who participated in the mentor program were more satisfied with the university environment and showed greater developmental gains than their counterparts. Additionally, the data indicated that students with a mentor demonstrated increased confidence in their perceived abilities to set and achieve goals, solve problems, and make decisions.

Previous literature has also looked at potential factors and critiques of mentor-mentee relationships that could be detrimental to the success of the mentorship. Leitner, Ayduk, Boykin, and Mendoza-Denton (2018) examined the relationship between low rapport and behavior between both the mentee and mentor. Their study tested whether mentee performance and mentor feedback in cross-racial mentoring dyads could be improved by a self-disclosure procedure that has been shown to decrease negative affect and increase rapport. It was hypothesized that decreasing negative affect and increasing rapport (through mutual self-disclosure) would improve mentee performance and mentor feedback. Self-disclosure was referred to as sharing personal information such as fears, goals, and experiences. The study had three groups, which simulated a mentee and mentor dyad experience. The study included self-disclosure between mentee and mentor, preparing to deliver a speech to one another, giving feedback, and assessing the perceived rapport for one another. The findings supported the hypothesis that decreasing negative affect and increasing rapport predicted better performance for mentees and more helpful feedback for mentors. The findings indicated that positive rapport is critical for mentees' personal and professional growth and was an effective strategy for cross-

racial mentorships. These findings are consistent with Rouse and Humberd's (2013) finding that mentorship relationships with low rapport suffer, particularly when mentees and mentors do not identify with one another on background characteristics.

Theoretical Framework

Alexander Astin significantly contributed to the field of higher education research with his theory of student involvement (Astin, 1975). Student involvement theory is a framework for researchers to investigate student development and/or administrators to effectively design learning environments. Student involvement is defined by the quantity and quality of the physical and psychological energy that students invest in the college experience. Student engagement and involvement looks different for each student and institution. Levels of involvement can vary from one student to the next. Astin argued that the extent to which a student gains from being involved is directly proportional to the effort of involvement they invested into it. Involvement can include effort participating in academic work, extracurricular activities, and interactions with faculty. According to the theory, the greater the student's involvement in college, the greater their learning and development will be. Involvement can include effort participating in academic work, extracurricular activities, and interactions with faculty. Astin's (1975) ten-year longitudinal study examined factors in the college environment that are assumed to significantly affect students' persistence in college. He collected data from more than 200,000 students to examine over 80 different student outcomes centered around student involvement. Various forms of involvement included place of residence, honor programs, research participation, social Greek organizations, student-faculty interaction, athletic involvement, and student government involvement. The study found that college attendance in general strengthened student's competency, self-esteem, artistic interests, liberalism, hedonism,

and religious apostasy. Astin also concluded that nearly all forms of student involvement were associated with greater than average changes in entering freshman characteristics. Student involvement theory supports students who participate in honors programs are more likely than other students to persist in college and to aspire to graduate. Further, Astin's research determined that students who have frequent student-faculty interactions are more likely to express overall satisfaction with their institutional experience including student friendships, courses, learning environment, and administration of the institution. Student involvement theory differs from traditional pedagogical approaches by directing attention toward the motivation and behaviors of the student and analyzing the mediating mechanism that explains how educational programs affect the development and achievement of these students rather than just the educational outcomes. For future research, Astin (1984) suggested that data be collected at the postsecondary level to assess different activities of involvement. His suggestion included documenting the time and energy a student devoted to individual involvement activities to monitor quality performance and competing factors. In the current study, student engagement, school belonging, and belief in education all encompass Astin's concept of school involvement. Based on the student involvement theory (Astin, 1984), positive mentoring outcomes should include encouraging academic involvement (e.g., research, assistantships, presentations).

The Current Study

Little is known about the impact of faculty mentorship on both undergraduate and graduate student educational outcomes, when these effects begin to become noticeable, and how long these effects can last. This study aims to contribute to this growing area of research by exploring how mentoring functions may be associated with positive educational outcomes including what factors promote student engagement and membership. The research study is

guided by the question: *Does faculty mentorship promote student engagement and sense of membership at the academic institution?* The following hypotheses are explored in the current study:

- I hypothesize that students who identify as having a mentor will report more positive school engagement and membership in their learning experience than students who do not have a mentor. (Hypothesis 1)

- I hypothesize that other variables will impact positive school engagement and membership for students who do not identify as having a mentor. (Hypothesis 2)

For the treatment group, which consists of students who have formal mentors, this study will examine if mentorship functions promote positive student outcomes. For the comparison group, which consists of students who do not identify as having a mentor, this study will compare outcomes to the treatment group to identify other possible factors involved in school engagement and sense of school membership.

Methods

Participants

The participants in this study were undergraduate and graduate students enrolled at Rhode Island College ($N = 262$). The age ranged from 18 to 58 ($M = 24.75$, $SD = 8.00$). The majority of the participants identified as female ($n = 204$, 77.9%) and White ($n = 179$, 68.3%). Participants were recruited via the undergraduate subject pool and school email and were asked to participate in a research study about their college experience. Students had to be at least 18 years of age and enrolled in either an undergraduate or graduate program at RIC to be eligible for participation in the study. Participants in Rhode Island College's Introduction to Psychology

participant pool received course credit and one entry into a lottery to be randomly drawn to win

an Amazon gift card. Participants that were not in the Introduction to Psychology participant

pool did not receive any course credit but did receive one entry for the Amazon gift card. One

winner was randomly selected for the $10 Amazon gift card.

Procedure

Participants were provided an online link to the study; they could complete the survey

online in a setting of their choosing. Using Qualtrics, participants were presented with

the informed consent form. Upon their consent, they were administered an online survey that

consisted of four instruments and a brief demographic questionnaire. Students were asked

demographic questions, which included identifying a formal or informal mentorship with a

faculty member. Additionally, they completed the College Student Mentoring Scale (CSMS;

Crisp, 2009), the College Student Experience Questionnaire (CSEQ; Pace, 1984), the

Psychological Sense of School Membership scale (PSSM; Goodenow, 1993), and the Belief in

the Utility of Education (BUE; Fuligni, 2001). The research study took about 30 minutes for

participants to complete.

Instruments

Demographic Questionnaire

A demographic questionnaire was used to collect key demographic information,

including participant's age, gender, education aspirations and parental education level (See

Appendix A). Additionally, the questionnaire addressed items involving school mentorship.

Sample items included: "Are you in a program that assigned you to work with a mentor?" and

"Do you and your mentor identify as the same gender?"

Mentorship

The College Student Mentoring Scale (CSMS; Crisp, 2009) is a 25-item survey designed to measure various forms of mentorship support (See Appendix A). It has been used to assess mentoring programs at the undergraduate level and evaluate mentoring functions considered effective by students (e.g., Chong & Thi, 2020.) The CSMS measures four latent variables conceptualized by Nora and Crisp (2007). The latent variables are also referred to as mentorship functions, which include: (1) psychological and emotional support, (2) degree and career support, (3) academic subject knowledge support, and (4) the existence of a role model. Students assessed their mentor through the survey, which included sample items: "I have had someone in my life who helps me perform to the best of my abilities in my classes" and "I have had someone in my life who I can talk openly about social issues related to being in college." Responses were measured with a 5-point Likert scale ranging from (1) "strongly disagree" to (5) "strongly agree." The Cronbach α for the CSMS in the current study was .97.

Student Engagement

The College Student Experience Questionnaire (CSEQ; Pace, 1984) is used to understand and improve the student experience by examining interactions with faculty and peers, extracurricular activities, utilizing campus resources, time spent involved in academic related tasks, and satisfaction with learning experience (See Appendix A). It has been used to examine the impact of institution characteristics on student learning from the perspective of the student (e.g., Hu & Kuh, 2003). The CSEQ contained various subscales and instructions. Most subscales, such as "Course Learning" were measured using a four-item response scale of "very often," "often," "occasionally," and "never." Sample items included: "worked on a class assignment, project, or presentation with other students," "worked on a campus committee, student

organization, or project (publications, student government, special event, etc.), and "used a campus learning lab or center to improve study or academic skills." Other subscales such as "The College Environment" use a 7-point Likert-type response scale ranging from (7) "strong emphasis" to (1) "weak emphasis." Sample items of The College Environment subscale included: "Emphasis on developing critical, evaluative, and analytical qualities" and "emphasis on developing an understanding and appreciation of human diversity." Domains of the CSEQ that do not apply to the study, such as computer and information technology, art music theater, and topics of conversation were removed from the survey. The Cronbach α for the CSEQ in the current study was .96.

School Membership

The Psychological Sense of School Membership Scale (PSSM; Goodenow, 1993) is an 18-item survey used to assess how connected, accepted, and supported students feel at their school (See Appendix A). The responses utilize a 5-point Likert-type response scale, ranging from (1) "not at all true" to (5) "completely true." Sample items included: "It is hard for people like me to be accepted here" and "Sometimes I feel as if I don't belong here." Hagborg (1998) categorized the scale into sections, identifying the items as "belonging" (e.g., "I am included in a lot of activities at this school"); "rejection" (e.g., "It is hard for people like me to be accepted here"); or "acceptance" (e.g., "I can really be myself at this school). This instrument has been used to assess the sense of belonging to a school mainly among adolescents, with few studies revealing a similar relationship between the sense of school belonging and other school related variables at the university level (Alkan, 2015). The Cronbach α for the PSSM in the current study was .63.

The Belief in the Utility of Education (BUE; Fuligni, 2001) scale is used to assess students' attitudes toward education (See Appendix A). This 5-item measure utilizes a 5-point Likert-type response scale, ranging from (1) "not at all true for me" to (5) "very true for me". Sample items included: "Going to college is necessary for what I want to do in the future," "doing well in school is the best way for me to succeed as an adult," and "I need to get good grades in school to get a good job as an adult." The Cronbach α for the BUE in the current study was .88.

Data Analysis

Statistical analyses were performed using SPSS 28.0 software, including descriptive statistics, correlations, ANOVA, and multiple hierarchical regression, to examine the impact of mentorship on student engagement and sense of school membership. Mentorship as an independent variable assessed both students with and without a mentor. School membership and demographic items were entered into models as additional independent variables. The dependent variable was student engagement.

Results

Descriptive Statistics

First, results will be reported for students who identified as having a formal mentor. Of the total participants ($N = 262$) in this study, 77 (29%) stated that they had a formal mentor at Rhode Island College. The age range of participants with mentorship was 18-58 ($M = 24.35$, $SD = 7.12$). For gender, 60 of these participants identified as female (77.9%), 15 identified as male (19.5%), and 2 identified as non-binary (2.6%). Regarding racial/ethnic label, 51 participants with mentors identified as White (66.2%), 13 identified as Hispanic (16.9%), 6 identified as African American (7.8%), 4 identified as multi-racial (5.2%), 1 identified as Middle Eastern

(1.3%) and 1 identified as Asian (1.3%). The majority of participants with mentors were in the

Psychology major ($n = 11$, 14.3%), followed by Nursing and Social Work ($n = 7$, 9.1% for each),

Early Childhood Education ($n = 4$, 5.2%) and Biology, Special Education, Political Science,

Elementary Education, Accounting, and undeclared ($n = 3$, 3.9% each) (see Figure 1). The

majority of these participants indicated that they missed no classes in the past month ($n = 33$,

42.9%) or less than five classes ($n = 32$, 41.6%). The majority reported complete satisfaction

with their GPA ($n = 18$, 23.4%), mostly satisfied ($n = 21$, 27.3%), and satisfied ($n = 20$, 26%).

Most students with mentors aspire to a master's degree ($n = 39$, 50.6%) or a higher degree ($n = 21$, 27.3%). When asked if they would choose Rhode Island College again, 41.6% ($n = 32$) chose

"yes, definitely" and 32.5% ($n = 25$) chose "probably yes." In this data set of students with

mentors, 21 participants were graduate students. For students with a formal mentorship, 63.6%

identified as the same gender as their mentor ($n = 49$). Only 36.4% considered themselves to be

in a formal program that assigned them their mentor ($n = 28$).

Of the total participants ($N = 262$) in this study, 185 (71%) participants reported not

having a formal mentor at Rhode Island College. Ages of participants with no mentor ranged

from 18-57 ($M = 24.91$, $SD = 8.36$). Of these participants without mentorship, 144 identified as

female (77.8%), 36 identified as male (19.5%), and 5 identified as non-binary (2.7%). Regarding

racial/ethnic label, the majority of participants without mentors identified as White ($n = 128$,

69.2%), while 24 identified as Hispanic (13%), 14 identified as African American (7.6%), 9

identified as multi-racial (4.9%), 6 identified as Asian (3.2%), and 4 identified as Middle Eastern

(2.2%). For these participants who did not have mentors, the majority were Psychology majors

(N = 25, 13.5%), followed by Nursing ($n = 21$, 11.4%), Social Work ($n = 18$, 9.7%), undeclared

($n = 15$, 8.1%), and Elementary Education ($n = 10$, 5.4%) (see Figure 2). The majority of

participants without mentors missed between one to five classes in the past month ($n = 90$, 48.6%) or no classes ($n = 62$, 33.5%). Satisfaction with GPA was mixed, with the highest number of participants without mentorship reporting that they were "not satisfied" ($n = 42$, 22.7%), and others reported being "mostly satisfied" ($n = 40$, 21.6%) and "satisfied" or "completely satisfied" ($n = 39$, 21.1% for each). The majority of participants without a mentor aspire to a master's degree ($n = 109$, 58.9%) or bachelor's degree only ($n = 54$, 29.2%). When asked if they would choose Rhode Island College again, the majority of participants without mentorship chose "probably yes" ($n = 82$, 44.3%) and "yes, definitely" ($n = 48$, 25.9%). In this data set of students without mentors, 26 participants were graduate students.

Additional demographics of students in the full study are reported below (see Figure 3).

Correlations

Several significant correlations emerged from the data (see Tables 1 and 2). Regarding mentorship, students who reported having a formal mentor had higher scores on the College Student Mentoring Scale ($r = .33$, $p = .01$), the Psychological School of Membership scale ($r = .21$, $p = .01$), various subscales of the CSEQ including experiences with faculty ($r = .31$, $p = .01$) and the college environment ($r = .19$, $p = .01$), and the CSEQ overall ($r = .25$, $p = .01$). Similarly, students who reported having an informal mentor had higher scores on the College Student Mentoring Scale ($r = .28$, $p = .01$), the Psychological School of Membership scale ($r = .29$, $p = .01$), various subscales of the CSEQ including experiences with faculty ($r = .30$, $p = .01$) and the college environment ($r = .16$, $p = .01$), and the CSEQ overall ($r = .29$, $p = .01$). Students who participated in formal mentorship programs tended to be the same gender as their mentor ($r = .35$, $p = .01$). Further, students in formal programs were less likely to also have an informal mentor ($r = -.35$, $p = .01$).

Regarding demographics, age was correlated with several other independent variables (see Table 1). Older students reported more years in college ($r = .48$, $p = .01$) and more years at Rhode Island College ($r = .21$, $p = .01$). Correlation analysis revealed that older students tended to be transfer students to RIC ($r = -.30$, $p = .01$). With regards to academic performance, younger students reported missing more classes in the past month ($r = .21$, $p = .01$). Older students reported having a higher GPA ($r = .14$, $p = .05$). Age was also significantly correlated with specific scales on the CSEQ measure of school engagement. Older students endorsed using more campus facilities ($r = .27$, $p = .01$), engaging in more clubs and organizations ($r = .13$, $p = .05$), and engaging in more discussions of personal experiences related to college ($r = .15$, $p = .05$).

There were limited findings for other demographics, including gender and racial/ethnic label. Male students endorsed higher ratings of the Belief in the Utility of Education ($r = .17$, $p = .01$). Female students reported higher scores on school membership ($r = .17$, $p = .01$), hours spent per week on coursework ($r = .14$, $p = .03$), caring about grades ($r = .23$, $p = .001$), and use of campus facilities ($r = .12$, $p = .05$). Students of Color endorsed higher ratings on the mentorship scale ($r = .14$, $p = .05$), indicating more support in mentorship, and the CSEQ scale of experiencing more contact with students who were different from them (e.g., age, race, family background, political views) ($r = .12$, $p = .05$).

The data revealed significant findings based on how many classes students have missed in the past month. Students who reported missing more classes in the past month reported having a lower GPA ($r = -.34$, $p = .01$). However, students who missed fewer classes in the past month scored higher ratings on the Belief in the Utility of Education ($r = .14$, $p = .05$), the College Student Mentoring Scale ($r = .21$, $p = .01$), the Psychological Sense of School Membership scale

($r = .20$, $p = .01$), various subscales of the CSEQ including experiences with faculty ($r = .27$, $p = .01$) and the college environment ($r = .29$, $p = .01$), and the CSEQ overall ($r = .19$, $p = .01$).

Findings varied based on how many years students have attended college, and Rhode Island College, specifically. In general, students who reported more years in college reported spending more years at Rhode Island College ($r = .56$, $p = .01$) and were less likely to be transfer students ($r = -.13$, $p = .05$). Additionally, more years in college was associated with missing fewer classes in the past month ($r = .17$, $p = .01$), higher GPAs ($r = .30$, $p = .01$), and higher ratings on the Belief in the Utility of Education ($r = .15$, $p = .05$). The data also revealed that the longer students remained in college, the lower they rated the CSEQ subscale on course learning ($r = .14$, $p = .05$) and the less likely they were to have a mentor ($r = .17$, $p = .01$). Specifically, students who were at Rhode Island College longer were less likely to have either a formal mentor ($r = .25$, $p = .01$) or an informal mentor ($r = .21$, $p = .01$). Students who have spent more years at RIC had higher scores on the Belief in the Utility of Education ($r = .17$, $p = .05$) and lower scores on the CSEQ subscale of using clubs and other college organizations ($r = .14$, $p = .05$).

Students who reported a higher GPA scored lower on the College Student Mentoring Scale ($r = -.14$, $p = .05$), the Psychological Sense of School Membership scale ($r = -.16$, $p = .01$), and the CSEQ course learning subscale ($r = -.26$, $p = .01$). Further, students satisfied with their GPA also scored lower on the College Student Mentoring Scale ($r = -.22$, $p = .01$), the Psychological Sense of School Membership scale ($r = .-28$, $p = .01$), and various subscales of the College Student Experience Questionnaire including course learning ($r = -.24$, $p = .01$), experiences with faculty ($r = -17$, $p = .01$), information in conversations ($r = -.14$, $p = .05$), the college environment ($r = .-17$, $p = .01$), and estimate of gains ($r = .18$, $p = .01$).

Students who had higher GPA satisfaction spent more time on courses weekly ($r = .15$, $p = .05$). Additionally, students who spend more hours on courses reported caring more about their grades ($r = .13$, $p = .05$). Students who reported lower GPA satisfaction were less likely to be born in the U.S. ($r = .16$, $p = .01$). Students who reported higher GPA satisfaction reported not liking college ($r = -.21$, $p = .01$) and would be less likely to choose attending RIC again ($r = -.16$, $p = .01$). Educational aspiration level was negatively related to how well students reported liking college ($r = -.17$, $p = .01$).

Students who reported working more hours also reported caring more about their grades ($r = .13$, $p = .05$) and had higher scores on the CSEQ campus facilities subscale ($r = .13$, $p = .05$). Additionally, where students live was positively related to how much they cared about grades ($r = .13$, $p = .05$) and how much they liked college ($r = .12$, $p = .05$). Students' living situation was positively related to higher scores on the Psychological Sense of School Membership scale ($r = .16$, $p = .05$) and various subscales of the CSEQ including campus facilities ($r = .18$, $p = .01$), personal experiences ($r = .17$, $p = .01$), and student acquaintances ($r = .19$, $p = .01$), and the CSEQ overall ($r = .15$, $p = .05$). Data revealed that parents' education level was positively correlated with how students meet their college expenses ($r = .34$, $p = .05$). Parental education level had a negative relationship with students' ratings on the CSEQ course learning subscale ($r = -.13$, $p = .05$). Further, college expenses were negatively associated with the CSEQ information in conversations subscale ($r = -.16$, $p = .05$).

International students had lower ratings for the CSEQ subscales course learning ($r = -.17$, $p = .01$) and the college environment ($r = -.14$, $p = .05$). Students who reported liking college reported high ratings on the Belief in the Utility of Education ($r = .20$, $p = .01$), the Psychological Sense of School Membership scale ($r = .46$, $p = .01$), the College Student

Mentoring Scale ($r = .27$, $p = .01$), various subscales of the various subscales of the CSEQ including experiences with faculty ($r = .33$, $p = .01$) and the college environment ($r = .42$, $p = .01$), and the CSEQ overall ($r = .30$, $p = .01$). Students who reported liking school were more likely to choose attending RIC again if they had the chance ($r = .46$, $p = .01$)

Graduate students, regardless of formal mentorship, had lower scores on the College Student Mentoring Scale ($r = -.15$, $p = .01$), the CSEQ course learning subscale ($r = -.19$, $p = .003$), and the Psychological Sense of School Membership scale ($r = -.19$, $p = .002$). For graduate students with a mentor, students had lower scores on the CSEQ experiences with faculty subscale ($r = -.25$, $p = .03$) and the CSEQ overall ($r = -.23$, $p = .05$).

ANOVA

The majority of tests using ANOVA were nonsignificant. However, a one-way ANOVA revealed differences by racial/ethnic label on the Belief in the Utility of Education Scale. Students who identified as Middle Eastern ($M = 2.52$, $SD = 1.28$), multi-racial ($M = 2.31$, $SD = .95$) and African American ($M = 2.20$, $SD = 1.06$) had higher belief in education than students who identified as White ($M = 1.78$, $SD = .76$), $F(260) = 3.18$, $p = .01$).

Hypothesis Testing

Independent t-tests were largely non-significant. One t-test showed that students who did not identify as having a mentor had higher overall scores on the College Student Mentoring Scale ($M = 2.68$, $SD = .90$) than those with a mentor ($M = 2.04$, $SD = .65$), $t(259) = -5.65$, $p = .003$. While this scale largely reflects general support for the college experience, Hypothesis 1 was largely unsupported by data analysis.

Regression Models

Hierarchical multiple regression analyses were used to predict school engagement. The prediction models included an examination of the importance (i) demographic variables in step one, (ii) school membership in step two and (iii) mentorship experience in step three.

Model 1. Table 3 shows the results for the prediction of school engagement for all participants in the study. Demographic variables did not make a significant contribution to the variance of school engagement, however, age trended toward significance ($\beta = .12$, $p = .06$). In step two, age and school membership made significant contributions to the prediction of school engagement ($\beta = .12$, $p = .03$: $\beta = .55$, $p = .001$, respectively). In step three, age, school membership, and mentorship experience all made significant contributions to the prediction of school engagement. Age ($\beta = .10$, $p = .04$), school membership ($\beta = .43$, $p = .001$), and mentorship experience ($\beta = .28$, $p = .001$) were all positively related to school engagement. Overall, these independent variables contributed to 38% of the variance predicting school engagement.

Model 2. Table 4 shows the results for the prediction of school engagement for participants with formal mentorship. Demographic variables did not make a significant contribution to the variance of school engagement for these participants. In step two, only school membership made a significant contribution to the prediction of school engagement ($\beta = .49$, $p = .001$). In step three, school membership and mentorship experience made significant contributions to the prediction of school engagement. School membership ($\beta = .36$, $p = .001$), and mentorship experience ($\beta = .38$, $p = .001$) were positively related to school engagement. Overall, these independent variables contributed to 36% of the variance predicting school engagement.

Model 3. Table 5 shows the results for the prediction of school engagement for

participants without formal mentorship. Demographic variables did not make a significant

contribution to the variance of school engagement, however, age trended toward significance (β

= .14, *p* = .07). In step two, age and school membership made significant contributions to the

prediction of school engagement (β = .16, *p* = .01: β = .55, p = .001, respectively). In step three,

age, school membership and mentorship experience all made significant contributions to the

prediction of school engagement. Age (β = .14, p = .02), school membership (β = .47, p = .001),

and mentorship experience (β = .20, p = .003) were all positively related to school engagement.

Overall, these independent variables contributed to 36% of the variance predicting school

engagement.

In sum, Hypothesis 1 was largely not supported by data analysis. However, many of the

findings reported above indicate that students without mentorship reported factors that

contributed to their school membership and school engagement (Hypothesis 2).

Discussion

Although formal mentorship was not directly related to school engagement, students who

indicated that they had a formal mentor did fare better than students without mentorship in

several areas. Students with mentors missed fewer classes in the past month and were satisfied

with their GPA, similar to past research indicating that mentorship is positively correlated with

better attendance and better grades (Tierney & Branch, 1992; Tierney, Grossman, & Resch,

1995). Most students with mentors aspired to higher degrees over a bachelor's degree and the

majority would choose Rhode Island College again. These findings are parallel to Astin's

framework, suggesting that students who have frequent student-faculty interactions are more

likely to express overall satisfaction with their institutional experience (Astin, 1975; Cosgrove, 1986).

In this study, students with formal mentors were mainly female and White. Nearly three fourths of these students identified as the same gender as their mentor, in alignment with Erkut and Mokros' (1984) findings that female students are more likely to pick female mentors and male students are more likely to pick male mentors. Further, students of all backgrounds gravitate toward mentors that are similar to themselves in terms of background, race, and sex (Erkut & Mokros, 1984). Students who reported having formal mentorship had better school membership and school engagement, as well as reporting positive interactions with their mentor. The data found that, for students with formal mentors, their perception of school membership and the ability to talk to someone at their school in a mentor capacity was a strong predictor of school engagement. These findings are consistent with prior research (Apriceno, Levy, & London, 2020). School engagement has been positively linked to student learning in previous studies (Astin, 1993; Hu & Kuh, 2003; Pascarella & Terenzini, 1991). Students with formal mentorship in the current study reported higher GPAs and higher GPA satisfaction. Also consistent with previous research (Pittman and Richmond, 2007), students in the current study who reported higher school membership tended to do better academically.

Students who did not have a mentor indicated that they spent more years at Rhode Island College. This finding could indicate that mentors help students complete their degrees quicker. Students without a mentor missed more classes in the past month and had higher dissatisfaction with their grades. While more students without a mentor were satisfied with a bachelor's degree, nearly half did aspire to obtain a master's degree. Students with and without a mentor responded alike in saying that they would choose Rhode Island College again, similarly to Astin's (1975)

study. Students indicating that they would choose RIC again if given the chance may suggest a positive college experience and satisfaction with their education.

        With regards to Rhode Island College students overall, younger students reported missing more classes and less satisfaction with GPA. Older students reported using more campus facilities, engaged in more clubs and organizations, and had more regular discussions with their experiences related to college. Regardless of mentorship status, older students showed a stronger prediction of school engagement through school membership and having someone to talk to (mentor experience). Regarding gender, male students at Rhode Island College had more belief in the utility of education; female students had higher school membership, cared more about their grades, spent more time on coursework, and used more campus facilities. Students who were at RIC longer tended to use clubs and organizations less frequently.

        Several problems emerged from students who missed more classes in the past month. Consistent with past research, those who missed more classes in the past month had lower GPAs, less belief in the utility of education, less school membership, less school engagement, and reported not having anyone to talk to during their college career (Tierney & Branch, 1992; Tierney, Grossman, & Resch, 1995). Missing classes is

        Students who identified their racial/ethnic labels as other than White reported more contact with students who were different from them. Integration into the college environment is considered one of the most challenging encumbrances for minority students in particular, which mentoring programs aim to help (Pope, 2002). Students who identified as Middle Eastern, multi-racial and African American have a higher belief in education than students who identified as White. Previous studies have also shown that African American students value someone to talk to and personal consideration as a means of fitting in at the institution (Ishiyama, 2007). This is

particularly important for students who identify with minority racial/ethnic labels. Mentors

should have a desire to know their mentee in academic, personal, and professional settings to

develop a comfortable campus climate (Pope, 2002). Additionally, Students of Color reported

someone in their life who supports their college career, which has shown to be particularly

effective for minority students (Stromei, 2000; Ishiyama, 2007). The data revealed that students

who did not identify as White had higher ratings of their mentorship experience, indicating a

positive impact from their mentor. This finding suggests that Students of Color had more

satisfaction from their mentorship, which may contribute to their overall learning experience

according to past research (James, 1991; Pope, 2002).

For graduate students specifically, they reported lower school engagement and school

membership. These findings are similar to Golde and Dore (2004), which suggests graduate

students are less engaged on campus than undergraduates despite having an interest in getting

more involved. Additionally, they rated their overall college experiences lower than their

counterparts. In this study, graduate student mentorship was not as common as students having a

mentor, indicating a different graduate experience than previous research has reported (Jacobi,

1991; Dunstan, Eads, Jaeger, & Wolfram, 2018). Satisfaction with mentoring was low for all

graduate students, regardless of formal mentorship status. Other studies have shown that student

engagement for graduate students has heavily contributed toward building relationships with

other students, faculty, and staff across campus (Dunstan et al., 2018). Engagement experience

among graduate students contribute toward their leadership skills, a key element that promotes

academic success for both graduates and undergraduates (O'Meara, 2008; Day et al., 2012;

O'Meara & Jaeger, 2016). Considering most students with mentors aspire to obtain a higher

degree, O'Meara (2008) similarly found that students who participate in applied research are

more likely to continue pursuing research and faculty careers in academia. Correspondingly, graduate students of color have been shown to often engage in research opportunities that involve challenges presented by their native culture (Jaeger & Haley, 2016).

Limitations

The main limitation in this study is that the College Student Mentoring Scale did not work. The CSMS was endorsed more by students without formal mentorship. When examining the items on the scale, they ask about general support for the college experience. The scale itself does not seem to specifically indicate formal mentorship nor capture the formal mentorship experience. Additionally, the COVID-19 pandemic likely had some effect on the outcome of the study, many of which could not have been quantified. For example, many students have not experienced a traditional in-person learning curriculum at Rhode Island College or have returned to campus. Therefore, students' school engagement and/or school membership may have been lower than previous levels prior to the pandemic. Lastly, due to sample size limitations, it was difficult to assess differences between the experiences of undergraduate and graduate students. Although the response rate for graduate students was impressive given the small nature of Master's Programs on campus, the sample size was small in comparison to the number of undergraduate participants.

Conclusion

This study found that student-faculty mentorships was positively related to producing higher grades, educational aspirations, and completing students' degrees quicker than those without a mentor. Further, mentorship may be a factor in how much students like their specific institution. Students with mentors reported that they would choose their school again with certainty if given the chance. Despite limitations of the study, mentorship is only one factor of a

student's engagement. Regardless of external factors, a student ultimately decides how much

effort they would like to put forward toward their academic trajectory. According to Astin's

theory, students should be documenting how much time and effort they are spending on a task

and what the educational outcome is to monitor quality assurance and control for other variables.

To enhance student engagement opportunities in higher education further, institutions should

recruit faculty with diverse backgrounds and intent to be relatable to all demographics of

students attending the institution. Doing so could largely beneficial, especially for students who

do not identify as White and excel with mentorship in academic settings, as research has shown.

This study found that graduate students, specifically, had lower ratings of school

engagement and school membership. Despite the decent sample size of graduate students, many

graduate students reported not having a mentor. Future research should consider how to keep

graduate students engaged with their campus, faculty, and institution. More institutions should

implement formal mentorship programs and assess frequent evaluations to assess progress over

the course of students' academic career. Not only is it important for students to network within

an institution and build a community, but mentorship also allows guidance to be passed down

from one person to the next. Experienced professionals should want to help rising professionals

and so on. Additionally, future research may also consider how graduate students can help

undergraduates navigate through college and examining peer mentorship programs that assess

for student learning and personal development.

As a graduate student, I have experienced having a mentor within higher education at

both the undergraduate and graduate levels. Undoubtedly, it appears to be there are less

structured and formal mentorship programs at the graduate level, where the students are expected

to become more autonomous. However, mentorship and guidance can still positively impact

students at any level. The qualities in a mentor that I have found to be strong predictors of being

attuned with students are being approachable, understanding, and dedicated to meeting students'

goals. The role of a mentor is to show genuine interest in the success of their mentee, which may

include but not be limited to bringing relevant opportunities to their attention, communicating in

a timely manner, and helping them set and achieve goals. These mentorships should be formed

on the foundation of mutual respect, work, and open-mindedness from both parties.

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Appendix A: Survey

Instructions: Please answer each of the following questions to the best of your ability.

All questions related to "mentors" will indicate <u>an identified faculty member</u> that you <u>regularly meet with</u>.

Demographic Questionnaire

1.   What is your age? _____
2.   What is your gender? _____
3.   What is your preferred racial/ethnic label (e.g., African American)? _____
4.   What is your current major? _____
5.   How many years have you been in college?
    1. One year (undergraduate)
    2. Two years (undergraduate)
    3. Three years (undergraduate)
    4. Four years (undergraduate)
    5. Five+ years (undergraduate)
    6. Graduate student year one
    7. Graduate student year two
    8. Graduate student year 3+
6.   How long have you been at Rhode Island College?
    1. Less than 1 year
    2. 1 year
    3. 2 years
    4. 3 years
    5. 4 years
    6. 5 or more years
7.   Are you a transfer student to Rhode Island College?
    1. Yes
    2. No
8.   Do you have someone at Rhode Island College that you consider to be a "MENTOR", as defined by a faculty member that you meet with regularly?
    1. Yes
    2. No
9.   Are you in a formal program that assigned you to work with a mentor?
    1. Yes
    2. No
10.   Do you and your mentor identify as the same gender?
    1. Yes
    2. No
    3. Unsure

11. Do you have someone at Rhode Island College that you consider to be an informal "MENTOR" (e.g., someone you naturally began meeting with outside of class but is not assigned to you in an official capacity)?
    1. Yes
    2. No
12. In the past months, how many classes have you missed in your school?
    1. 0
    2. 1-5
    3. 6-10
    4. 11 or more
13. What is your current GPA?
    1. Below C (1.7 or below)
    2. C (2.0)
    3. C+ (2.3)
    4. B- (2.7)
    5. B (3.0)
    6. B+ (3.3)
    7. A- (3.7)
    8. A (4.0)
14. Are you currently satisfied with your current GPA?
    1. Not satisfied at all (1)
    2. Not satisfied (2)
    3. Satisfied (3)
    4. Mostly satisfied (4)
    5. Completely satisfied (5)
15. What education level do you aspire to in your future?
    1. Bachelor's (1)
    2. Master's (2)
    3. Ph.D./ M.D./ J.D. (3)
    4. Other (4)
16. On average, how many hours per week do you spend on courses (including reading, reviewing notes, writing papers)?
    1. Less than 3 (1)
    2. 4-6 (2)
    3. 7-9 (3)
    4. 10-14 (4)
    5. 15 or more (5)
17. On average, how many hours per week do you spend at work?
    1. Less than 3 (1)
    2. 4-6 (2)
    3. 7-9 (3)
    4. 10-14 (4)
    5. 15 or more (5)
18. How much do you care about your grades?
    1. Not at all (1)
    2. A little (2)

       3. Moderately (3)
       4. Quite a bit (4)
       5. Extremely (5)
19.   Where do you currently live?
       1. On campus
       2. Off campus alone
       3. Off campus with friends/roommates
       4. Off campus with family
20.   Did either of your parents complete college?
       1. Both
       2. One
       3. Neither
       4. Don't know
21.   Are you an international student?
       1. Yes
       2. No
22.   Were you born in the United States?
       1. Yes
       2. No
23.   How do you meet your college expenses? (Fill in the predominant source)
       1. Self
       2. Parents
       3. Partner
       4. Employer
       5. Scholarship
       6. Loans
       7. Other_____

College Student Mentoring Scale (CSMS)

While in college, I have had someone in my life who…

(Strongly agree=5, agree=4, neutral=3, disagree=2, strongly disagree=1)

1. I look up to regarding college-related issues
2. Helps me work toward achieving my academic inspirations
3. Helps me realistically examine my degree or certificate options
4. I can talk with openly about social issues related to being in college
5. I admire
6. Helps me perform to the best of my abilities in my classes
7. Encourages me to consider educational opportunities beyond my current plans
8. I want to copy their behaviors as they relate to college-going
9. Provides ongoing support about the work I do in my classes
10. Gives me emotional support
11. Encourages me to talk about problems I am having in my social life
12. Sets a good example about how to relate to other people
13. Helps me to consider the sacrifices associated with my chosen degree

14. Expresses confidence in my ability to succeed academically
15. Serves as a model for how to be successful in college
16. Discusses the implications of my degree choice
17. Makes me feel that I belong in college
18. Encourages me to use him or her as a sounding board to explore what I want
19. Shares personal examples of difficulties they have had to overcome to accomplish academic goals
20. Helps me carefully examine my degree or certificate options
21. I can talk with openly about personal issues related to being in college
22. Encourages me to discuss problems I am having with my coursework
23. Questions my assumptions by guiding me through a realistic appraisal of my skills
24. Recognizes my academic accomplishments
25. Provides practical suggestions for improving my academic performance

College Student Experience Questionnaire (CSEQ)

In your experience at this institution during the current school year, about how often have you done each of the following? Indicate your response using the scale from very often, often, occasionally, never.

Course Learning

1. Completed the assigned readings for class
2. Took detailed notes during class
3. Contributed to class discussions
4. Developed a role play, case study, or simulation for a class
5. Tried to see how different facts and ideas fit together
6. Summarized major points and information from your class notes or readings
7. Worked on a class assignment, project, or presentation with other students
8. Applied material learned in a class to other areas (your job, other courses, etc.)
9. Used information or experience from other areas of your life (job, internship, interaction with others) in class discussions or assignments
10. Tried to explain material from a course to someone else
11. Worked on a paper or project where you had to integrate ideas from various sources

Experiences with Faculty

1. Talked with your instructor about information related to a course you were taking
2. Discussed your academic program or course selection with a faculty member
3. Discussed ideas for a term paper or other class project with a faculty member
4. Discussed your career plans and ambitions with a faculty member
5. Worked harder as a result of feedback from an instructor
6. Socialized with a faculty member outside of class
7. Participated with other students in a discussion with one or more faculty members outside of class
8. Asked your instructor for comments and criticisms about your academic performance

9. Worked harder than you thought you could to meet an instructor's expectations and standards
10. Worked with a faculty member on a research project

Campus Facilities

1. Used a campus lounge to relax or study by yourself
2. Met other students at some campus location
3. Attended a cultural or social event in the campus center or other campus location for a discussion
4. Went to a lecture or panel discussion
5. Used a campus learning lab or center to improve study or academic skills
6. Used campus recreational facilities
7. Played a team sport
8. Followed a regular schedule of exercise or practice for some recreational sporting activity

Clubs and Organizations

1. Attended a meeting of a campus club, organization, or student government group
2. Worked on a campus committee, student organization, or project (publications, student government, special event, etc.)
3. Worked on an off-campus committee, organization, or project (civic group, church group, community event, etc.)
4. Met with a faculty member or staff advisor to discuss the activities of a group or organization
5. Managed or provided leadership for a club or organization, on or off the campus

Personal Experiences

1. Told a friend or family member why you reacted to another person the way you did
2. Discussed with another student, friend, or family member why some people get along smoothly, and others do not
3. Asked a friend for help with a personal problem
4. Read articles or books about personal growth, self-improvement, or social development
5. Identified with a character in a book, movie, or television show and wondered what you might have done under similar circumstances
6. Taken a test to measure your abilities, interests, or attitudes
7. Asked a friend to tell you what he or she really thought about you
8. Talked with a faculty member, counselor, or other staff member about personal concerns

Student Acquaintances

1. Became acquainted with students whose interests were different from yours
2. Became acquainted with students whose family background (economic, social) was different from yours
3. Became acquainted with students whose age was different from yours
4. Became acquainted with students whose race or ethnic background was different from yours

5. Became acquainted with students from another country
6. Had serious discussions with students whose philosophy of life or personal values were very different from yours
7. Had serious discussions with students whose political opinions were very different from yours
8. Had serious discussions with students whose religious beliefs were very different from yours
9. Had serious discussions with students whose race or ethnic background was different from yours
10. Had serious discussions with students from a country different from yours

Information in Conversations

1. Referred to knowledge you acquired in your reading or classes
2. Explored or different ways of thinking about the topic
3. Referred to something one of your instructors said about the topic
4. Subsequently read something that was related to the topic
5. Changed your opinion as a result of the knowledge or arguments presented by others
6. Persuaded others to change their minds as a result of the knowledge or arguments you cited

Opinions About Your College or University

1. How well do you like college?
    a. I am enthusiastic about it
    b. I like it
    c. I am more or less neutral about it
    d. I don't like it

2. If you could start over again, would you go to the same institution you are now attending?
    a. Yes, definitely
    b. Probably yes
    c. Probably no
    d. No, definitely

The College Environment

Thinking of your experience at this institution, to what extent do you feel that each of the following is emphasized? The responses are numbered from 7 to 1 with highest and lowest responses indicated (7=strong emphasis, 1= weak emphasis)

1. Emphasis on developing academic, scholarly, and intellectual qualities
2. Emphasis on developing aesthetic, expressive, and creative qualities
3. Emphasis on developing critical, evaluative, and analytical qualities
4. Emphasis on developing an understanding and appreciation of human diversity
5. Emphasis on developing information literacy skills (using computers, other information resources)

6. Emphasis on developing vocational and occupational competence
7. Emphasis on the personal relevance and practical value of your courses

The next three questions have a seven-point scale ranging from different responses, (7) indicates a strong emphasis, (1) indicated a weak emphasis.

8. Relationship with other students (7=friendly, supportive, sense of belonging; 1=competitive, uninvolved, sense of alienation)
9. Relationships with administrative personnel and offices (7=helpful, considerate, flexible; 1=rigid, impersonal, bound by regulations)
10. Relationships with faculty members (7=approachable, helpful, understanding, encouraging; 1=remote, discouraging, unsympathetic)

Estimate of Gains

In thinking about your college or university experience up to now, to what extent do you feel you have gained or made progress in the following areas? Indicate your response from the four items: very much, quite a bit, some, very little.

1. Acquiring knowledge and skills applicable to a specific job or type of work (vocational preparation)
2. Acquiring background and specialization for further education in a professional, scientific, or scholarly field
3. Gaining a broad general education about different fields of knowledge
4. Gaining a range of information that may be relevant to a career
5. Developing an understanding and enjoyment of art, music, and drama
6. Broadening your acquaintance with and enjoyment of literature
7. Seeing the importance of history for understanding the present as well as the past
8. Gaining knowledge about other parts of the world and other people
9. Writing clearly and effectively
10. Presenting ideas and information effectively when speaking to others
11. Using computers and other information technologies
12. Becoming aware of different philosophies, cultures, and ways of life
13. Developing your own values and ethical standards
14. Understanding yourself, your abilities, interests, and personality
15. Developing the ability to get along with different kinds of people
16. Developing the ability to function as a member of a team
17. Developing good health habits and physical fitness
18. Understanding the nature of science and experimentation
19. Understanding new developments in science and technology
20. Becoming aware of the consequences of new applications of science and technology
21. Thinking analytically and logically
22. Analyzing quantitative problems
23. Putting ideas together, seeing relationship similarities, and differences between ideas
24. Learning on your own, pursuing ideas, and finding information you need
25. Learning to adapt to change

Psychological Sense of School Membership (PSSM)

Please use the following scale to rate how true each of the following statements is for you. Select the most appropriate answer (5=completely true; 1=not at all true)

1. I feel like a real part of this school
2. People here notice when I'm good at something
3. It is hard for people like me to be accepted here
4. Other students in this school take my opinions seriously
5. Most teachers here are interested in me
6. Sometimes I feel as if I don't belong here
7. There's at least one teacher or other adult in this school that I can talk to if I have a problem
8. People at this school are friendly to me
9. Teachers here are not interested in people like me
10. I am included in lots of activities at this school
11. I am treated with as much respect as other students
12. I feel very different from most other students here
13. I can really be myself at school
14. The teachers here respect me
15. People here know I can do good work
16. I wish I were in a different school
17. I feel proud of belonging to this school
18. Other students here like me the way I am

The Belief in the Utility of Education (BUE)

Please use the following scale to rate how true each of the following statements is for you. Select the most appropriate answer (5=very true for me; 1=not at all true for me)

1. Going to college is necessary for what I want to do in the future
2. Doing well in school is the best way for me to succeed as an adult
3. I need to get good grades in school to get a good job as an adult
4. It is important for me to do well in school to earn a good living as an adult
5. Doing well in school is the best way for me to get ahead in life

Appendix B: Informed Consent

TITLE OF STUDY

Mentorship Functions and Educational Outcomes in Higher Education

PRINCIPAL INVESTIGATOR
PI: Traci Weinstein, Ph.D.

Graduate Student Researcher: Alyssa Graham

Department of Psychology

600 Mt. Pleasant Ave, Providence, RI 02908

Ph: 401-456-8585, 401-830-9785

Email: tweinstein@ric.edu, agraham_9775@email.ric.edu

You are being asked to be in a research study about your experience at Rhode Island College. Participation in this study is voluntary and it is anticipated that you would be involved for no longer than 30 minutes. You are being asked because you are enrolled in either an undergraduate or graduate program at Rhode Island College. Please read this form and ask any questions that you have before choosing whether to be in the study.

Alyssa Graham, a graduate student in the Psychology program, is conducting this research in collaboration with the faculty advisor Dr. Traci Weinstein, a professor at Rhode Island College.

Why this Study is Being Done (Purpose)
The purpose of this study is to promote student involvement and improve satisfaction with students' overall learning experience. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information.

What You Will Have to Do (Procedures)
Participation in this study is voluntary and it is anticipated that it will take no more than 30 minutes to complete. The research involves you reading and answering questions about you and your college experiences. The survey questions will be administered through an online link using Qualtrics.

Risks or Discomforts
You may find that answering some questions is upsetting. We think it would be similar to the kinds of things you talk about with family and friends. You can skip any questions you don't want to answer, and you can stop the interview at any time. If you want to talk to someone about

your feelings or about problems that you're having, you can contact the campus counseling center at 401-456-8094. They will charge a fee for their services which is paid by you. We will not pay this fee.

Benefits of Being in the Study
Being in this study will not benefit you directly.

Compensation
As a way to thank you for your time, you will have the opportunity to win a $10 Amazon eGift card. Upon completion of the survey, participants will be redirected to a new window to enter their email address. Participation in the raffle is completely voluntary and participants may opt out of the survey by closing their browser after completing the study. The selected winner will be notified by email with their $10 Amazon eGift card on March 01, 2022 at 5PM EST. Participants have approximately a 1 in 100 chance at winning the eGift card. Additionally, Introduction to Psychology students who complete the research study will receive 3-credits toward research experience points.

Deciding Whether to Be in the Study
Being in the study is your choice to make. Nobody can force you to be in the study. You can choose not to be in the study, and nobody will hold it against you. You can change your mind and quit the study at any time, and you do not have to give a reason. If you decide to quit later, nobody will hold it against you.

How Your Information will be Protected
Because this is a research study, results will be summarized across all participants and shared in reports that we publish and presentations that we give. Your name will not be used in any reports. We will take several steps to protect the information you give us so that you cannot be identified. Instead of using your name, your information will be given a code number. Your responses in the research study will be anonymous. All data will be stored on a double password protected computer only accessible by the research team to ensure participants' confidentiality. The only time I would have to share information from the study is if it is subpoenaed by a court, or if you are suspected of harming yourself or others, then I would have to report it to the appropriate authorities. Also, if there are problems with the study, the records may be viewed by the Rhode Island College review board responsible for protecting the rights and safety of people who participate in research. The information will be kept for a minimum of three years after the study is over, after which it will be destroyed.

Who to Contact
You can ask any questions you have now. If you have any questions later, you can contact Alyssa Graham at agraham_9775@email.ric.edu or 401-830-9692. If you think you were treated badly in this study, have complaints, or would like to talk to someone other than the researcher

about your rights or safety as a research participant, please contact the IRB Chair
at IRB@ric.edu.

You may download or screenshot this form for your records.

<u>Statement of Consent</u>
I have read and understand the information above. I am choosing to be in the study "Mentorship
Functions and Educational Outcomes in Higher Education." I can change my mind and quit at
any time, and I don't have to give a reason. I have been given answers to the questions I asked,
or I will contact the researcher with any questions that come up later. I am at least 18 years of
age.

Appendix C: Recruitment Email

Hello!

I am a master's student at Rhode Island College in the Department of Psychology. I am interested in researching the experiences of college students here at RIC.

I hope that you are willing to help me! If you are enrolled at RIC in either an undergraduate or graduate program, you are eligible to participate. (Note that you must be over the age of 18.)

If you meet these requirements, please click on the following link to take the survey -- it should take no more than 30 minutes to complete. The survey is completely anonymous and has been approved by the Institutional Review Board at RIC. No identifying information will be linked to your survey responses.

https://ric.qualtrics.com/jfe/form/SV_3yqUl7J9YZWvIN0

We think you will find this process interesting and your participation will be essential in increasing our understanding of the unique experiences of students at Rhode Island College.

Thank you for your time and consideration!

Please pass this opportunity on widely to your colleagues and friends!

Sincerely,

Alyssa Graham

Appendix D: Figures
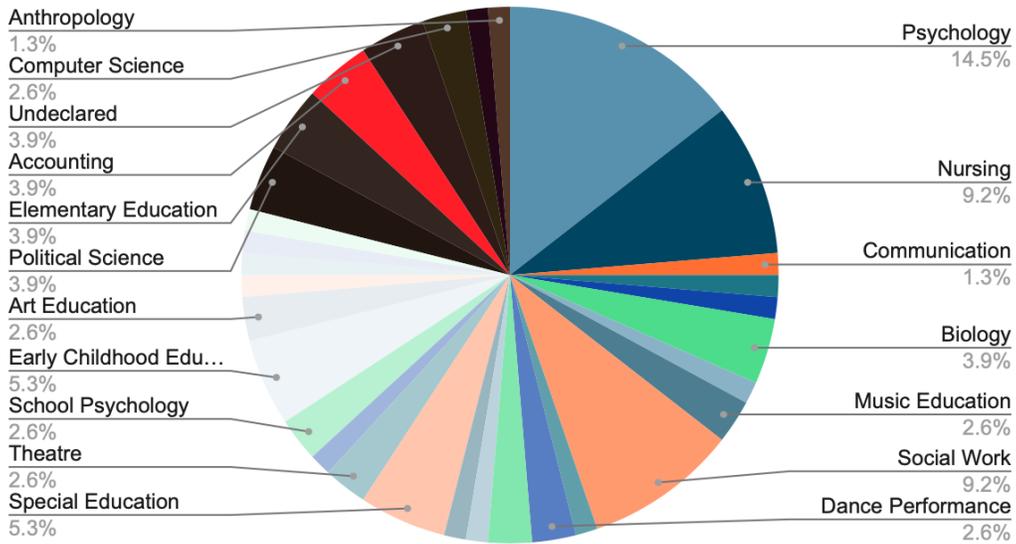
Figure 1: Major for Students with Formal Mentorship
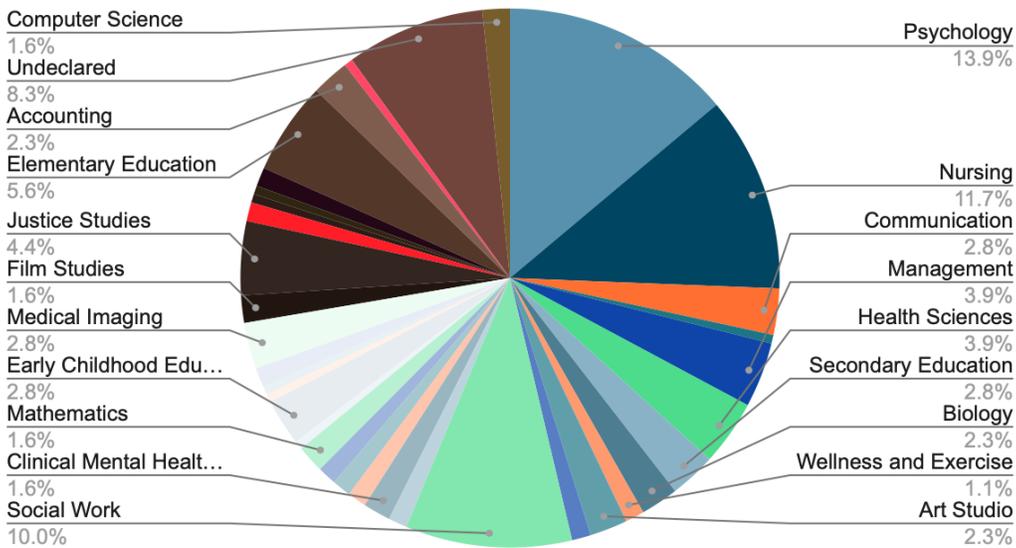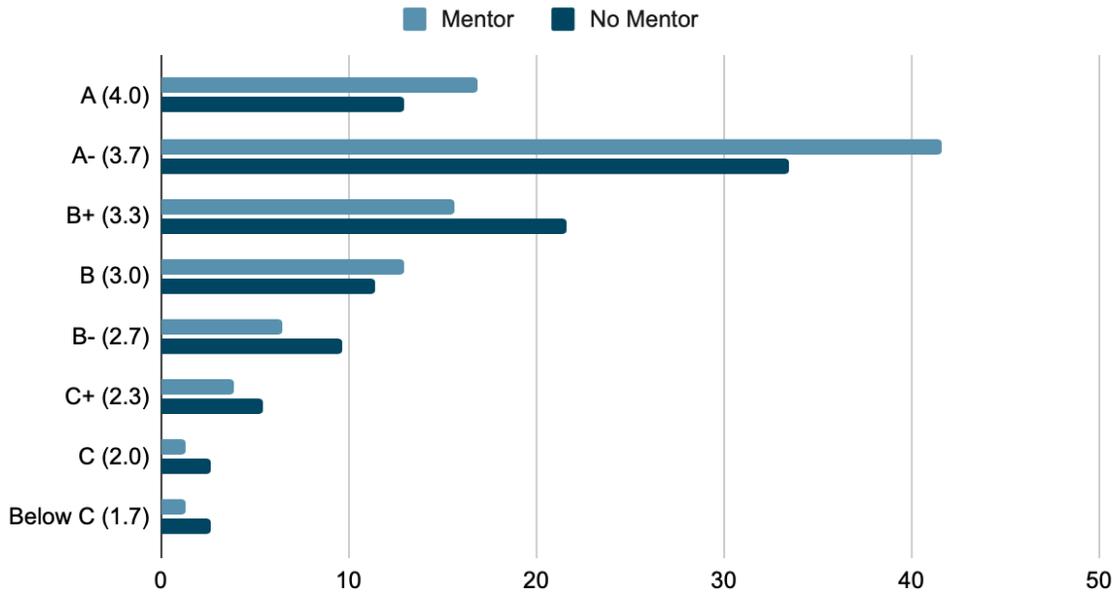

Figure 2: Major for Students without Formal Mentorship

Figure 3: GPA for Students with and without Formal Mentorship

Appendix E: Tables

Table 1

Correlations among Independent Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	----	-0.06	-0.04	-0.02	-.17**	.48**	.21**	-.30**	-0.31	-0.01	0.07	0.06	.21**	.14*
2. Gender		----	-0.04	0.06	0.06	-0.09	-0.04	-0.01	0.004	0.05	.32**	-0.002	0.10	-0.02
3. Racial Label			----	0.05	0.10	-0.03	0.03	-0.05	-0.01	0.03	0.03	-0.05	0.05	-.15*
4. Major				----	.43**	-0.05	-0.01	0.05	-0.04	-0.06	0.01	0.03	0.01	-0.10
5. Major Cluster					----	-.27**	-.19**	0.05	0.00	0.01	0.05	-0.01	0.11	-0.12
6. Years in College						----	.56**	-.13*	-.15*	-0.02	0.05	-0.10	.17**	.30**
7. Years at RIC							----	0.10	-.25**	-0.03	-0.05	-.21**	-0.05	0.06
8. Transfer								----	-0.05	0.11	-0.12	-0.06	0.04	0.08
9. Mentor									----	-0.15	0.11	.36**	0.10	-0.11
10. Formal Program										----	.35**	-.35**	0.05	0.04
11. Mentor Same Gender											----	-0.03	-0.09	0.03
12. Informal Mentor												----	0.05	-0.1
13. Classes Missed													----	-.337**
14. Current GPA														----
Mean	24.75	1.25	1.74	17.35	2.87	3.61	3.16	1.64	1.71	1.64	1.42	1.76	1.86	5.99
SD	8.00	.49	1.29	14.16	1.69	1.98	1.72	.48	.46	.48	.59	.43	.83	1.67

Note. Gender (1 = female, 2 = male, 3 = non-binary); *p* < .05. **p* < .01

Table 2

Correlations among Independent and Dependent Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Formal Mentor	----	.36**	.10	-.11	-.16**	-.10	.16**	.12*	-.01	.21**	.33**	.25**	.18**	.22**
2. Informal Mentor		----	.05	-.12*	-.16**	.05	.17**	.13*	.002	.29**	.28**	.29**	.16*	.27**
3. Classes Missed			----	-.32**	-.06	-.07	.30**	.21**	.14*	.20**	.21**	.19**	.29**	.33**
4. GPA Satisfaction				----	-.01	-.11	-.21**	-.16**	-.03	-.28**	-.22**	-.11	-.17**	-.18**
5. Education Aspiration					----	-.04	-.17**	-.10	-.07	-.13*	-.14*	-.11	-.04	-0.11
6. Living Arrangement						----	.12*	.02	.01	.16*	0.06	.15*	.07	.05
7. Like College							----	0.46**	.20**	.46**	.27**	.30**	.42**	.35**
8. Choose RIC								----	.12*	.29**	.26**	.22**	.51**	.33**
9. Belief in the Utility of Education									----	.18**	.14*	.14*	.33**	.29**
10. School Membership										----	.43**	.55**	.54**	.53**
11. Mentorship Values											----	.47**	.53**	.47**
12. College Experience												----	0.46**	.68**
13. College Environment													----	.66**
14. College Gains														----
Mean	1.71	1.76	1.86	3.23	1.89	3.33	2.24	2.07	1.83	2.89	2.49	2.78	3.11	2.29
SD	.46	.43	.83	1.31	.65	1.06	.83	.92	.82	.43	.88	.51	1.19	.64

Note. *p < .05. **p < .01.

Table 3

Predicting School Engagement for All Participants

Step/Variable	β	R^2_{change}	F_{change}
1. Demographic Variables		.01	1.75
Age	.12		
Gender	.00		
2. School Connectedness		.30	56.34***
Age	.11*		
Gender	.05		
Belief in Education	.02		
School Membership	.55***		
3. Mentorship		.06	25.54***
Age	.10*		
Gender	.03		
Belief in Education	.01		
School Membership	.43***		
Mentorship	.28***		

$R^2_{total} = .38$, $F(5,256) = 30.89$***

Note. Gender (1 = female, 2 = male, 3 = non-binary); R^2_{change} = the percentage of variance accounted for by variables when entered into the regression equation at that step; F_{change} = F value associated with R^2_{change} at that step; R^2_{total} = the total amount of variance predicted jointly by all of the independent variables entered into the regression equation.

p < .05. **p* < .01. ***p* < .001.

Table 4

Predicting School Engagement for Participants with Formal Mentorship

Step/Variable	β	R^2_{change}	F_{change}
1. Demographic Variables		.00	.07
Age	.03		
Gender	.04		
2. School Connectedness		.23	10.95***
Age	.01		
Gender	.02		
Belief in Education	-.10		
School Membership	.49***		
3. Mentorship		.12	13.30***
Age	.05		
Gender	.03		
Belief in Education	-.13		
School Membership	.36***		
Mentorship	.38***		

$R^2_{total} = .36$, $F(5,71) = 7.83$***

Note. Gender (1 = female, 2 = male, 3 = non-binary); R^2_{change} = the percentage of variance accounted for by variables when entered into the regression equation at that step; $F_{change} = F$ value associated with R^2_{change} at that step; R^2_{total} = the total amount of variance predicted jointly by all of the independent variables entered into the regression equation.

*p < .05. **p < .01. ***p < .001.

Table 5

Predicting School Engagement for Participants with No Mentorship

Step/Variable	β		R^2_{change}	F_{change}
1. Demographic Variables			.02	1.72
Age	.14			
Gender	-.01			
2. School Connectedness			.31	42.00***
Age	.16**			
Gender	.08			
Belief in Education	.07			
School Membership	.55***			
3. Mentorship			.03	8.91**
Age	.14*			
Gender	.06			
Belief in Education		.06		
School Membership	.47***			
Mentorship	.20**			

$R^2_{total} = .36$, $F(5,179) = 20.36$***

Note. Gender (1 = female, 2 = male, 3 = non-binary); R^2_{change} = the percentage of variance accounted for by variables when entered into the regression equation at that step; $F_{change} = F$ value associated with R^2_{change} at that step; R^2_{total} = the total amount of variance predicted jointly by all of the independent variables entered into the regression equation.

p < .05. ***p* < .01. ****p* < .001.