# Peer Mentoring:
# Benefits to First-Time College Students and Their Peer Mentors

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*The experiences of first-year, first-time college students are impacted by a variety of challenges that pose a threat to student success and retention. One intervention universities are implementing to address these challenges are peer mentorship programs. While the benefits to first-time students of peer mentorship programs are well-researched, there is a lack of research on the benefits for mentors themselves. The purpose of this study was to examine the perceived and demonstrable benefits for peer mentors working within a first-year seminar. This mixed-methods study assessed both first-time student achievement outcomes (i.e., first-term GPA and one-year persistence; N = 7,154) as well as the professional and personal development benefits of peer mentors (n = 52). Results showed first-time students who participated in the peer mentor program had significantly higher student achievement and peer mentors themselves had increased academic self-efficacy, improved communication, leadership, and interpersonal presence, and strengthened social and professional networks.*

*Keywords: peer mentoring, first-year seminars, retention, student achievement, professional development, peer mentor programs*

## INTRODUCTION

After their first year of college, 30% of students will drop out and at the end of six years, 60% of students will earn a degree from a four-year institution (Schneider, 2010). The research on persistence points to several reasons students may not earn degrees, and institutions are implementing strategies to mitigate these barriers (Schelbe, 2019; Schneider, 2010; Van Der Meer et al., 2017). Some of the reasons students drop out may be due to the difficult transition they face as they adjust to social environments, new responsibilities and roles, exploration of identities outside the context of their family of origins and friends, financial responsibilities, and academic reasons, such as lack of rigor (Crede & Niehorster, 2011; Grabsch et al., 2021).

As students navigate these challenges, they are also learning to operate as self-directed learners, shift their perceived academic control, become more self-efficacious, and regulate academic emotions (Apriceno et al., 2020; Respondek et al., 2017). Students who succeed academically and experience a sense of belonging and integration into the institution are more likely to remain at the institution and persist (Apriceno et al., 2020; Respondek et al., 2017; Schelbe, 2019). One intervention being implemented to mitigate the barriers students face and improve academic success is the use of peer support (Barefoot, 1992; Graham et al., 2022; Holt & Fifer, 2016; Permzadian & Crede, 2016). Peer mentorship programs have been implemented across universities, and particularly in first-year seminar courses. These programs have led to a variety of benefits for first-year students and mentors alike; however, the research on the benefits of mentorship to the mentors themselves is limited.

## FIRST-YEAR EXPERIENCES FOR UNDERGRADUATE STUDENTS

Programs intended to increase persistence often involve social and academic orientation to their respective institutions (Van Der Meer et al., 2017; 2020). First-year student seminars, or first-year experiences, in particular aim to integrate students into academic life, develop connections with the community, provide resources and services, and develop academic skills (Young, 2020). What is particularly helpful is the ability of these programs to orientate students to new environments and experiences (Van Der Meer et al., 2017). These programs are known to benefit students and positively contribute to academic performance and improve student outcomes (Jenkins-Guarnieri et al., 2015; Pickenpaugh et al., 2021; Ward et al., 2020; Young, 2020).

## PEER MENTORSHIP PROGRAMS

Many times, one component of these programs is peer support (Barefoot, 1992; Permzadian & Crede, 2016) or peer mentoring (Holt & Fifer, 2016). The purpose of these mentorship programs is to establish a relationship between returning students and first-year students. Research shows these relationships can have a positive impact on student knowledge, support, and feelings of the community (DeMarinis et al., 2017) and peers can act as informal advisors and connections to the larger campus community (Graham et al., 2022). As first proposed by Bandura (1977) in social learning theory, students model their behavior after others, and in the case of peer mentorship, they are modeling their behavior after a more experienced student. As a result, high-quality peer mentorship can lead to student academic gains and increased feelings of belonging (DeMarinis et al., 2017).

Peer mentoring is also known to provide mentees involved in such programs with enhanced academic performance, personal and professional guidance and development, and career choice development (Schmidt & Faber, 2016). Mentees learn better study skills, interpersonal skills, problem-solving, and critical thinking, and increase their confidence and sense of capability as learners (Schmidt & Faber, 2016). Furthermore, peer mentorship contributes to mentees feeling an increased sense of belonging, which is an essential part of student success and increases resilience (Tsang, 2020). This is particularly essential for first-generation students, where a sense of belonging and connection to the institution serves as a protective factor and is associated with increased retention (Schelbe, 2019).

The key to high-quality mentorship is the program selection process, training, and supervision of the mentors (Holt & Fifer, 2016). With social learning theory at the core of quality mentorship, training should also be focused on improving mentor self-efficacy (Bandura, 1977; Holt & Fifer, 2016). The more confidence mentors had in their ability, the greater number of perceived benefits from the mentor-mentee relationship (Parra et al., 2002). Likewise, the enhancement of leadership skills seems to contribute to mentor self-efficacy, satisfaction, and the possibility of mentorship in the future (Haqqee et al., 2020). To improve mentor self-efficacy, training includes expectations of their role, goals for the experience, code of conduct, and skills development (Graham et al., 2022; Taylor et al., 2013; Zevallos & Washburn, 2014). Some skills to focus on are effective communication, listening, and strategies for academic success (Zevallos & Washburn, 2014).

In addition to their initial training, mentors should be monitored and guided throughout the process. Ongoing training provides opportunities for feedback on professional conduct and communication with mentees (Taylor et al., 2013; Zevallos & Washburn, 2014). Given the intensity of mentor training programs, it may be assumed the mentors themselves are also developing professional and learning skills that are transferable to their academic experiences and future careers.

### Benefits of Mentorship Programs on Mentors

Considering peer mentorship is a relationship between two people, it is likely mentors would also benefit from the mentorship experience as well, however, there has been limited research on these benefits. Much of the research on mentors speak to the personal satisfaction mentors walk away with and the leadership skills that are developed during the mentoring experience (McConnell et al., 2019; Schmit & Faber, 2016). Some other benefits include the development of communication and interpersonal skills, networking opportunities, and gained self-awareness of their strengths (Schmit & Faber, 2016). Additionally, mentors engage in reflective thinking and decision-making, improve psychosocial skills, such as empathy and compassion, and increase their confidence (Koutsoukos & Sipitanou, 2020; McConnell et al., 2019). For many mentors, serving in this type of leadership role is a step in their career development – research shows mentorship experiences help mentors hone their teaching skills, as well as receive teaching and research support (Booth et al., 2016; McConnell et al., 2019).

## PURPOSE

Beyond the research focused on leadership skills and personal development, there is limited research on mentor benefits and personal and professional growth in the context of undergraduate academic experiences. Given the mutually beneficial nature of the mentorship relationship, this study seeks to explore the benefits of mentorship on the mentors themselves. Specifically, this study explores how a first-year experience mentorship program led to students participating in leadership positions, promoted career development, and led to the development of specific skills necessary for academic success. As the literature shows, the development of these areas improves student persistence, graduation rates, and ultimately job satisfaction in the future (Sloan et al., 2017).

This study is a mixed-methods design with multiple sources of quantitative and qualitative data to assess both first-time student achievement and benefits to the peer mentors. The first research question was included to provide evidence that the peer mentoring program was effective at its primary objective, supporting first-time student academic success. If the peer mentoring program itself is not effective, examining the benefits to mentors would be irrelevant.

The two research questions are:

(1) What is the relationship between first-time students' academic achievement (i.e., first-term GPA and one-year persistence) and their enrollment in a course with a peer mentor (Class Leader)? What is this relationship for first-generation students, students of color, and those who identify as both?

(2) What are the perceived and demonstrable benefits of serving in the role of a peer mentor (Class Leader)?

## METHODS

Participants were divided into two groups to answer the two research questions. The students who were peer mentors or Class Leaders (CL) and the first-time, entering students they served. As such, the following is divided to represent the methods and results for these two groups; however, the CL program is described first as it applies to both groups.

### Class Leader Program

The program began in the Fall of 2016. Although there have been minor revisions to the program over the years to increase involvement with students and improve communications between instructors and CLs, the primary tenants of the program remain the same. CLs are incorporated into the first-year seminar (FYS) program, which is a 3-credit, 16-week research-based academic course that promotes the successful transition of first-time students and helps them meet the expectations of a research university. At the end of the semester, first-year students are nominated by their instructors and encouraged to apply in the spring to be CLs for the fall of their second year. CLs are selected through a competitive application and interview process and then attend at least eight hours of comprehensive training in the summer. Training objectives include effective mentoring and communication, event planning, understanding student and university policies (e.g., FERPA), leading discussions and activities, and team building.

The purpose of the CL program is to boost first-time student success and growth by promoting commitment to the mastery of course material (provided in the FYS) and by providing academic and social support to students. To accomplish this purpose, CLs are required to attend two FYS classes per week and assist the instructor in icebreakers, activities, and discussions. CLs also plan outside of class activities throughout the semester. Although CLs are assigned to one instructor and support one or two sections of the FYS, many times, CLs plan campus events and invite all students who are enrolled in the FYS. This leads to the participation of 100-plus students and creates greater student engagement.

Throughout the semester, training is ongoing. Class Leaders are required to meet with their instructor weekly to discuss the topics and activities for the week. Additionally, all the CLs as a group meet weekly with the program coordinator. This time allows the instructors to mentor the CLs and provide one-on-one training, feedback, and support, and allows for community building and an expanded support network.

### Research Question 1

What is the relationship between first-time students' academic achievement (i.e., first-term GPA and one-year persistence) and their enrollment in a course with a peer mentor (Class Leader)? What is this relationship for first-generation students, students of color, and those who identify as both?

This question and analysis were included to provide evidence that the CL program is effective in accomplishing the primary objective of the program, supporting first-time college students academic success. Without positive student outcomes, it is unlikely that the CL program would be justified.

#### *Participants*

Participants included full-time, first-time students ($N$ = 7,154) enrolled at a four-year public university in the Rocky Mountain Region in each fall semester from 2016 to 2019. This included 962 students who had a Class Leader and 6,192 students who did not. Students of color were identified through self-report when entering the university where they could select from the following ethnicities/races: African American, Asian, Pacific Islander, Native American, Hispanic or White. If a student selected any ethnicity or race other than White, they were classified as a student of color for this study. First-generation status was also identified through student self-report in the admissions process and defined as neither of their parents or guardians had earned a four-year degree. Table 1 includes demographic information.

**TABLE 1**
**DEMOGRAPHIC INFORMATION 2016 – 2019**

| | 2016 *N* = 1849 | | 2017 *N* = 1842 | | 2018 *N* = 1711 | | 2019 *N* = 1752 | | 2016 - 2019 *N* = 7154 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *n* (%) | CL | Non-CL | CL | Non-CL | CL | Non-CL | CL | Non-CL | CL | Non-CL |
| Total | 177 | 1672 | 210 | 1632 | 169 | 1542 | 406 | 1346 | 962 | 6192 |
| Female | 128 (72) | 1045 (63) | 139 (66) | 1064 (65) | 122 (72) | 1002 (65) | 264 (65) | 929 (69) | 653 (68) | 4040 (65) |
| First generation | 77 (44) | 723 (43) | 98 (47) | 700 (43) | 87 (51) | 708 (46) | 186 (46) | 542 (40) | 448 (47) | 2673 (44) |
| Students of color | 47 (27) | 599 (36) | 74 (35) | 615 (38) | 81 (48) | 615 (40) | 170 (42) | 546 (41) | 372 (39) | 2375 (38) |

*Data Collection*

Institutional data were collected each fall semester after the census date (i.e., end of add/drop period) to gather student demographic and achievement information (i.e., first-term GPA and one-year persistence) beginning with the Fall 2017 semester and each subsequent fall semester (2018 - 2020). Data reported contained participants' full-time/part-time status, gender, ethnicity/race, first-generation status, Class Leader participation, high school GPA, and credits enrolled and completed. All data were de-identified before the generation of the report. Access to this information was granted through the university registrar and the office of first-year curriculum and instruction. All protocols were approved through the Institutional Review Board (IRB).

*Data Analysis*

A quasi-experimental design was used to assess differences in student outcomes (i.e., first-term GPA, one-year persistence) due to participation in the CL program.

The first step was to create two comparison groups: the CL participants (that is, the treatment group) and a quasi-experimental control group using propensity score matching (PSM). Propensity score matching is a technique that can be used to draw causal conclusions in nonrandomized observational studies. In other words, this technique helps to classify treatment and control groups so that direct comparisons make sense and are informative just like in randomized experiments (Rosenbaum & Rubin, 1983). Thus, the propensity score for a participant is the probability of assignment to CL program participation conditional on the observed covariates (Rosenbaum & Rubin, 1983). The propensity scores were created from predictive probabilities in a logistic regression model that included the following observed covariates: a) gender, b) first-generation status, c) race (White or non-White binary variable), d) high school GPA, and e) fall credit load. Matching variables were selected due to their potential relationship with the achievement outcomes (Ishitani, 2016; Stewart et al., 2015; Swanson et al., 2017; Yue & Fu, 2017). By using the nearest neighbor (NN) matching algorithm, the closest unmatched participant from the control group was then paired with the participant in the treatment group based on a single-level propensity score (Austin, 2014). However, the NN matching runs a risk of making poor matches when the closest neighbor is far off. According to Zhang et al. (2019), this can be corrected by using the caliper and was set to 0.1 based on recommendations.

The next step was assessing balance after PSM. Stuart et al. (2013) demonstrated through simulation that prognostic score considerably surpasses significance tests and mean difference in assessing balance. The prognostic score is the probability of the outcome predicted under the condition of the control (See Hansen, 2008 for more details). The standardized mean difference (SMD) of the prognostic scores should be less than 0.1 to indicate a balanced sample (Stuart et al., 2013). Rubin's (2001) criteria (difference in means (or SMD) and ratio of variances between the two groups) were also used to assess balance after PSM to ensure that within each covariate no statistically significant differences were observed between the groups. If the balance is present between the treated and control groups after PSM, SMD is expected to be

less than 0.1, and the ratio of variance to be less than 2. Other commonly used assessments for imbalance after PSM like Love plots, density function plots, and significance testing were carried out.

The final step was data analysis. Following the propensity score matching to create a comparison group with similar characteristics to those in the CL participation group, first-term GPA averages for the two groups were compared using an independent samples t-test. The outcome variable has a skewed distribution thereby failing the normality assumption. However, it is enough to use the independent samples t-test because the two distributions are similar in shape and there were no outliers. One-year persistence was assessed using a Chi-squared test of homogeneity because independent samples from the same population were collected. Persistence was coded as a dichotomous variable indicating the continued enrollment in the university as shown through credits attempted (at least 12 credits, full-time) in the following fall semester. Students who persisted were coded as "1" and students who did not were coded as "0".

Additionally, three student groups who were at additional risk were separated from within the larger sample of CL and matched non-CL participants to further examine how enrollment affected the achievement outcomes within these groups. The same analyses were conducted for these student groups who were chosen from previous research findings and included 1) first-generation students, 2) students of color, and 3) those who identify as both first-generation and students of color.

**Research Question 2**

What are the perceived and demonstrable benefits of serving in the role of a peer mentor (Class Leader)?

This question was the primary focus of the study, which included data from a variety of quantitative and qualitative sources.

*Participants*

Participants were second or third-year students who were selected as Class Leaders ($N$ = 52) for fall semesters 2016 – 2020. Every Class Leader participated in the FYS as an entering, first-time student and then applied and was selected to the program. Four students served two fall semesters and the remaining served as a CL for one semester. There were eight male students and 44 female students and 20 students of color.

*Measures*

**Observation Rubric.** The observation rubric (see Appendix 1) was created to help assess CL growth by assessing differences observed in the classroom between the beginning and the end of the semester. Although specific scores were not shared with CLs, the rubric was used to guide feedback given to CLs about their performance and needed areas of personal and professional development. The rubric measured four areas: information delivery, interpersonal presence, communication skills, and professionalism. These were measured on a four-point scale: (1) not acceptable, (2) could improve, (3) acceptable, and (4) excellent. There was also an opportunity to mark not applicable or not observable.

**CL Benefit Survey.** The CL Benefit Survey was created to measure CL experiences and participation in various activities since leaving the program as well as their perceptions of the benefits of participating in the program. It was a 55-item online survey that was sent through email inviting all CLs to participate. Example items include: Since being a Class Leader, have you applied for any scholarships?; Please describe any community service you have participated in or are currently participating in.; I feel that my experience working with FYS instructors has promoted positive relationships for me with faculty on campus.; and, Thinking back on when you started the Class Leader position, how strongly do you agree or disagree that the following skills were improved or developed during your experience? (e.g., time management, leadership, professional communication, etc.).

*Data Collection*

To assess perceived and demonstrable benefits to CLs, a variety of data was collected and analyzed. The Observation Rubric was used to assess personal and professional growth and the CL Benefit Survey was used to gather information about their experiences and perceptions since leaving the role. Lastly, focus

groups were conducted with CLs at the end of each semester to help them understand and give voice to their experiences. All protocols were approved through the Institutional Review Board (IRB).

A former FYS instructor conducted all of the observations over the course of the Fall 2019 semester. Using the Observation Rubric, she visited at least one class for each CL during the first three weeks of the semester and then returned to the same classes during the last three weeks. The CL Benefit survey was sent to all former CLs during the Spring 2021 semester through direct email inviting them to participate.

Focus groups were conducted at the end of each fall semester during the last two weeks of the semester. Semi-structured questions were used to understand their experiences including what they perceived went well, what were some of the challenges, help identify any gaps in training or support, and what they perceived as benefits from participating for themselves and for the students they served.

*Data Analysis*

For the quantitative data, the Observational Rubric outcomes were analyzed using a paired-sample t-test to measure differences in observations at the beginning of the semester and then again at the end of the semester on each of the 16 areas of the rubric. Each of the four assumptions of the paired-samples t-test was also assessed and a Hedges' g was used as a corrected effect size due to the small sample size. CL Benefit survey results are shared using descriptives.

Data were collected via focus groups and open-ended survey questions. Focus group data were transcribed and all data was provided to the research team to analyze the responses for themes separately. Members kept reflexive journals and practiced bracketing to reduce bias during the coding process (Creswell & Poth, 2018). Following coding, the members met to develop a master codebook that accurately represented the data. The research team captured rich thick descriptions and quotes to exemplify the codes and themes within the results to promote transferability (Tracy, 2010)

## RESULTS

### Research Question 1

*Propensity Score Matching*

**PSM.** The PSM resulted in 958 students in the CL program who were then matched with 958 out of the 6,192 students who did not have a CL. Using prognostic score to assess imbalance after PSM, the SMD of the prognostic scores for first-term GPA was -.0229; and the SMD of the prognostic scores for one-year persistence was -.0243. Observe that both values are less than 0.1, which indicates a balanced sample. Using Rubin's (2001) criteria, SMD for each covariate was found to be less than 0.1 with *p*-values greater than 0.5; and the ratio of variances were less than 2 as shown in Table 2. Thus, Rubin's criteria were met suggesting an appropriate balance between the groups. To further evaluate the balance after PSM, a visual inspection for covariate balance was carried out using the Love plot, which showed that the balance criteria were satisfied. While significance testing was not relied upon, it was still carried out. This hypothesis testing with the corresponding *p*-value checks whether there is a statistically significant difference between the distribution of the covariates. There was no evidence of true difference, which suggests balance, but the results were not included in this paper. See Table 2 for student characteristics for each group. All subsequent analyses utilized the participants (CL $n$ = 958, non-CL $n$ = 958) from these two matched groups.

**TABLE 2**
**MATCHING RESULTS OF CL AND COMPARISON GROUP ON SINGLE-LEVEL MATCHING**

| Variable | CL ($n$ = 958) | Matched control group ($n$ = 958) | SMD | $p$ | *Variance Ratio* |
|---|---|---|---|---|---|
| Gender – female | 649 | 659 | .022 | .659 | . |
| First generation | 447 | 446 | .002 | 1.000 | . |
| Students of color | 370 | 378 | .017 | .743 | . |
| High school GPA | 3.32 | 3.33 | .023 | .616 | 1.010 |
| Fall credits | 14.55 | 14.57 | .016 | .722 | 1.104 |

*Student Outcomes*

Again, assumptions for the independent samples t-test and the Chi-squared test of homogeneity were checked and all except homogeneity of variance and normality assumptions were met. Homogeneity of variance was assessed by the Levene's test ($p < .001$), and normality was checked by Shapiro-Wilk's test ($p < .001$). The Welch's t-test was used due to the unequal variance. Normality assumption was resolved as mentioned in the data analysis section. First-term GPA averages for all students and student subgroups are shown in Table 3. Observe that students who had a CL had significantly higher ($p < .001$) GPAs than students who did not have a CL. For students who were at additional risk, some of their average GPA differences were almost 0.5 points higher (on a 4.0 scale) for students who had a CL. These differences are statistically significant as shown in Table 3.

**TABLE 3**
**FIRST-TERM GPA AVERAGES AND ONE-YEAR PERSISTENCE FOR CL AND NON-CL MATCHED GROUPS**

| | | First-Term GPA | | | | |
|---|---|---|---|---|---|---|
| Student groups | $n$ | CL | $n$ | Matched control group | $t$ | $p$ |
| All students | 958 | 3.10 | 958 | 2.90 | -7.38 | < .001 |
| First generation | 447 | 3.06 | 446 | 2.74 | 3.73 | < .001 |
| Students of color | 370 | 3.00 | 378 | 2.57 | 4.91 | < .001 |
| First generation and students of color | 250 | 2.74 | 269 | 2.25 | -5.29 | < .001 |
| | | One-Year Persistence | | | | |
| Student groups | $n$ | CL # (%) | $n$ | Matched control group # (%) | $\chi^2$ | $p$ |
| All students | 958 | 714 (75) | 958 | 667 (70) | 5.49 | .019 |
| First generation | 447 | 325 (73) | 446 | 283 (63) | 1.29 | .256 |
| Students of color | 370 | 270 (73) | 378 | 243 (64) | .642 | .423 |
| First generation and students of color | 250 | 183 (73) | 269 | 162 (60) | 9.22 | .002 |

Chi-squared tests of homogeneity were used to assess the difference in one-year persistence for all students and for student subgroups as presented in Table 3. Overall, students who had a CL had significantly higher ($p = .019$) one-year persistence than students who did not. Similarly, for students who were at additional risk (that is, both first-generation and students of color) – those with a CL had significantly higher ($p = .002$) one-year persistence than those who did not have a CL. For first-generation students and students of color, the differences were approximately 10% although not statistically significant.

**Research Question 2**

*Observation Rubric*

For both the beginning and ending observations, 13 Class Leaders were scored on the 4-point scale for each of the 16 items in the rubric. For the analysis, these scores were averaged at both time points across CL's for each of the items, which created 16 pairs for the paired samples t-test. All assumptions were checked and satisfied. As Table 4 shows, there was a positive change over the course of the semester for each of the items where the smallest mean increase was 0.85 and the largest increase was 1.58. All mean differences were statistically significant ($p < .001$), and the hedges' effect sizes ranged from 0.29 to 0.67.

**TABLE 4**
**PAIRED SAMPLES T-TESTS FOR 16 RUBRIC ITEMS**

| | | | 95% *CI* of the difference | | | | |
|---|---|---|---|---|---|---|---|
| | *MD* | *SD* | Lower | Upper | *t* | *df* | Hedges' *g* |
| Information delivery | | | | | | | |
| Pair 1 - CL added their examples or experiences to aid student learning throughout the class. | 1.08 | 0.49 | 0.78 | 1.38 | 7.87 | 12 | 0.51 |
| Pair 2 - Examples shared by CL were relevant to the overall purpose of the class. | 1.23 | 0.44 | 0.97 | 1.50 | 10.12 | 12 | 0.45 |
| Pair 3 - CL was knowledgeable about the topic. | 1.00 | 0.58 | 0.65 | 1.35 | 6.25 | 12 | 0.60 |
| Pair 4 - CL had an appropriate level of confidence or efficacy in sharing information. | 1.23 | 0.60 | 0.87 | 1.59 | 7.41 | 12 | 0.62 |
| Interpersonal presence | | | | | | | |
| Pair 5 - CL engaged with students before class/ welcomed them into class. | 1.58 | 0.52 | 1.26 | 1.91 | 10.65 | 11 | 0.53 |
| Pair 6 - CL assisted and participated in class activities. | 1.08 | 0.64 | 0.69 | 1.46 | 6.06 | 12 | 0.66 |
| Pair 7 - CL responded to students appropriately. | 1.39 | 0.65 | 0.99 | 1.78 | 7.68 | 12 | 0.67 |
| Pair 8 - CL and Instructor had a positive working relationship. | 0.85 | 0.38 | 0.62 | 1.07 | 8.12 | 12 | 0.39 |
| Communication skills | | | | | | | |
| Pair 9 - CL was listening to students carefully (verbal and nonverbal attending skills). | 1.15 | 0.38 | 0.93 | 1.38 | 11.08 | 12 | 0.39 |
| Pair 10 - CL maintains good eye contact. | 1.08 | 0.28 | 0.91 | 1.25 | 14.00 | 12 | 0.29 |
| Pair 11 - CL uses clear and audible voice. | 1.31 | 0.48 | 1.02 | 1.60 | 9.82 | 12 | 0.50 |
| Pair 12 - CL is able to effectively articulate their ideas. | 1.15 | 0.38 | 0.93 | 1.38 | 11.08 | 12 | 0.39 |
| Professionalism | | | | | | | |
| Pair 13 - CL was prepared and ready to start on time. | 1.08 | 0.28 | 0.91 | 1.25 | 14.00 | 12 | 0.29 |
| Pair 14 - CL was actively engaged in class. | 0.92 | 0.49 | 0.63 | 1.22 | 6.74 | 12 | 0.51 |
| Pair 15 - CL understood their role in the classroom. | 1.00 | 0.58 | 0.65 | 1.35 | 6.25 | 12 | 0.60 |
| Pair 16 - CL presented in an appropriate physical manner (dress, posture, positioning). | 1.15 | 0.38 | 0.93 | 1.38 | 11.08 | 12 | 0.39 |

*Note.* All p values < .001.

*CL Benefit Survey*

**Quantitative Results.** The survey was sent to 52 former Class Leaders and 27 students responded (52% rate of response). The responses were divided into two main areas (1) activities pursued since their CL experience and (2) perceived benefits. Perceived benefits responses were based on a 5-point Likert scale (strongly disagree to strongly agree). Table 5 shows the results of the survey. In addition to these results, CLs strongly agreed that both the training before the semester ($M$ = 4.3; on a 5-point scale) and the ongoing training, meetings, and mentorship over the course of the semester ($M$ = 4.6; on a 5-point scale) was effective in developing their skills.

**TABLE 5**
**CL BENEFIT SURVEY QUANTITATIVE AND QUALITATIVE RESPONSES**

| Activities | % | Perceived benefits | *M* |
|---|---|---|---|
| Applied for scholarships | 44 | Improved time management | 4.5 |
| Awarded scholarships | 30 | Improved public speaking | 4.7 |
| Planning to apply for scholarships | 67 | Improved event planning | 4.5 |
| Participated in extracurriculars | 41 | Improved peer support | 4.2 |
| Planning to participate in extracurriculars | 74 | Improved professional communication | 4.8 |
| Participated in community service | 37 | Improved teamwork | 4.6 |
| Planning to participate in community service | 70 | Improved leadership skills | 4.8 |
| Sought out research opportunities with faculty | 26 | Improved networking | 4.3 |
| Sought out presentation opportunities with faculty | 15 | Improved socio-emotional skills | 4.4 |
| Planning to seek out research and presentation opportunities with faculty | 37 | Improved achievement in college | 4.7 |
| Planning to apply to graduate school | 63 | Improved confidence in academic abilities | 4.5 |

| Major theme | Definition | Subtheme | Definition |
|---|---|---|---|
| Professional development | Activities that promote desired workplace behaviors including research, communication, and leadership skills | Service | Dedicated time and effort to their community through planning activities and supporting student success |
| | | Teaching | Passing on knowledge to others |
| | | Mentorship | Promoting commitment to the mastery of course material, and providing academic and social support to students |
| Future leadership | The desire to hold a position where mentorship and advocacy are central tenants of responsibility | Career goals | Identification and confirmation of career goals |
| Personal development | The process of building efficacy that promotes improving oneself in desired ways | Confidence | The confirmation of one's abilities to effectively lead |

**Qualitative Results.** Within the survey, many open-ended items provided opportunities for Class Leaders to share more details about their experiences. Analysis of these qualitative responses showed that 97% of the CLs completed these open-ended prompts and spoke positively of the program and described how it helped to foster their growth in a myriad of ways. Professional development, future leadership, and personal development were identified as the major themes in these qualitative responses. Table 5 shows the major themes, their definitions, and subthemes.

Many of the responses from participants had multiple facets of the response that fell into numerous themes. For example, this quotation below exhibited concepts from numerous different themes:

> "I have always been interested in teaching but wasn't interested in K-12 education. Being a CL made me realize that teaching college classes would be perfect for me and gave me experience planning and running activities/lectures in a way that was effective for college students."

This quotation shows professional development through the Class Leader program, confirmation of career goals, teaching, mentorship, and confidence. Other responses show a more direct way that the Class Leader has helped them improve certain skills:

> "I was able to be a better leader within my fraternity and Student Senate. I learned how to work with other people and plan events, how to get my opinions heard without being rude or obnoxious, and how to be more empathetic with those around me. I am now a leader within these organizations, and I think being a Class Leader helped me progress those skills faster than I would have otherwise."

Many Class Leaders reported already having some of the skills that arose as themes and felt that the Class Leader program help them foster and grow those skills at a more efficient rate than they would have outside of the program.

*Focus Groups*

Similar to the survey responses, focus group responses gathered from previous Class Leaders were overwhelmingly positive and shared many of the same themes. However, the major themes beyond those shared in the survey centered around the relationships built within the program. Class leaders reported enjoying building relationships with students, their instructors, and the other Class Leaders.

> "I had such a close connection with my students and my instructor, and I valued my time in the program. So, if I had the opportunity, I would 100% without even thinking, do it again."

The relational benefits appeared to be focused on social and personal gain. Some CLs reported not wanting to go into education, yet feeling they benefitted from being in the classroom and becoming more connected with the students. Some CLs also reported feeling supported by their instructor which helped them during difficult academic years.

> "I definitely felt like my ideas were listened to, whenever we would have weekly meetings, my instructor and myself. He would ask what things I thought were especially important."

> "In our weekly meetings, he'd always ask how I'm doing outside of the class, like in my other classes, so I definitely felt supported in that way as well."

The other significant relationships were built within the CL team itself. They also viewed these relationships as another area of support and critical to their growth and development as they shared ideas, acknowledged and normalized struggles, and provided encouragement.

> "I liked getting to meet the other Class Leaders. I think that was helpful and hear their ideas and opinions and what they wanted to see for their class."

## DISCUSSION

The findings from the first research question provide strong evidence the Class Leader program is effective in achieving its primary mission to support first-time college student academic success. These findings align with previous research that shows first-year seminars and peer mentor programs are related to higher student achievement in the first year, especially for students who may be at increased risk (Graham et al., 2022; Vaughan et al., 2019; Young, 2020). For first-term GPA, some of the differences were 0.5 points higher on a 4-point scale for students who identify as students of color and those who identify as first-generation, students of color. Additionally, for this same group, one-year persistence was 13% higher. Although persistence was not significant for each group assessed, the differences were approximately 10% higher for first-generation students and students of color.

With this substantiation for the Class Leader program, the second research question assessed the benefits to the Class Leaders themselves. Although the number of students who participated in this study are smaller, the positive results could persuade other universities with large populations of peer mentors to use these types of programs as another retention tool beyond the first year. Consistently, there is significant focus and research on supporting college students in the first year; however, the "sophomore slump" is a real concern (Webb & Cotton, 2019). By employing these types of programs, resources can be maximized while attaining benefits across student populations (i.e., freshmen, sophomores, first generation, etc.).

In this study, the findings from multiple data sources overlapped and confirmed the different results. Specifically, CL perceptions from the survey and the focus groups aligned with the observed outcomes of the observation rubric. With the rubric, it is apparent that real change occurred over the course of the semester in each of the areas. The lowest mean difference was 0.85 (CL and Instructor had a positive working relationship) and the greatest difference was 1.58 (CL engaged with students before class/ welcomed them into class). On a 4-point scale, these are both practical and statistically significant differences. The interpersonal presence and communication skills sections had the highest mean differences, which is similar to the findings from the CLs' perspectives shared in the survey. CL's perceived their highest areas of improvement were public speaking ($M$ = 4.7), professional communication ($M$ = 4.8), and leadership ($M$ = 4.8). The open-ended responses, also aligned with the major themes of professional and personal development. These observed and perceived benefits are consistent with previous research (Booth et al., 2016; McConnell et al., 2019; Schmidt & Faber, 2016); however, this study contributes another tool that can be used to assess peer mentors more objectively with the observation rubric rather than solely relying on students' perceptions.

Additionally, CLs desired future leadership opportunities, identified or confirmed career goals, increased academic self-efficacy, and strengthened social and professional networks. These developed skills will likely extend beyond their educational experiences and provide benefits over the long term and impact their career trajectories (Booth et al., 2016; McConnell et al., 2019).

## LIMITATIONS AND FUTURE RESEARCH

The primary limitation of this research is that it was conducted at one institution; however, data collection and analysis for both the student achievement and peer mentor outcomes benefited from the similarity in the campus context, the FYS curriculum, and the peer mentor training over the multiple years. Another limitation is that many students are self-selected into the FYS. The potential errors were minimized by the use of several years of data and the quasi-experimental design. The small sample size of the peer mentors is a limitation; nevertheless, the multiple sources and overlap of quantitative and qualitative results provide rich detail that will be helpful to inform future research. The first-time use of the observation rubric and its results provide the promise of extending more objective assessments of peer mentors and peer mentor training programs.

Future research could assess programs across universities to identify similarities and differences to maximize peer mentor program design and training. Additionally, longitudinal research could examine

graduation rates and post-college success while qualitative studies could determine the how and the why of these experiences over the long term.

## CONCLUSION

Peer mentor programs have consistently supported first-time, first-year college student success including underrepresented populations (Graham et al., 2022). As challenges increase and universities continue to struggle with decreasing enrollments and increased attrition, administrators seek interventions that can provide cost-effective benefits to multiple populations. Peer mentor programs continue to demonstrate substantial benefits to each of the students involved that are both perceived and concrete over both the short and long term.

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**APPENDIX: CLASS LEADER OBSERVATION TOOL**

This observation tool is designed to help an observer in rating specific Class Leader behaviors to guide feedback and facilitate personal and professional growth in the Class Leader role.

| | | |
|---|---|---|
| Class Leader: | Instructor: | Date: |
| Section: | Time: | Topic: |

**INFORMATION DELIVERY:**

| N/A | Not Acceptable (1) | Could Improve (2) | Acceptable (3) | Excellent (4) | Not Observable |
|---|---|---|---|---|---|

1. CL added their own examples or experiences to aid student learning throughout the class.
2. Examples shared by CL were relevant to the overall purpose of the class.
3. CL was knowledgeable about the topic.
4. CL had an appropriate level of confidence or efficacy in sharing information.

**INTERPERSONAL PRESENCE:**

1. CL engaged with students before class/ welcomed them into class.
2. CL assisted and participated in class activities.
3. CL responded to students appropriately.
4. CL and Instructor had a positive working relationship.

**COMMUNICATION SKILLS:**

1. CL was listening to students carefully (verbal and nonverbal attending skills).
2. CL maintains good eye contact.
3. CL uses clear and audible voice.
4. CL is able to effectively articulate their ideas.

**PROFESSIONALISM:**

1. CL was prepared and ready to start on time.
2. CL was actively engaged in class.
3. CL understood their role in the classroom.
4. CL presented in an appropriate physical manner (dress, posture, positioning).