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Impact of Mentoring on College Mentors: A Student Perspective in an Aviation-Focused Program

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Serving as a mentor can offer numerous benefits, including the development of interpersonal and leadership skills, increased confidence, and a sense of purpose. However, mentors may also face challenges related to time management, emotional commitment, and balancing academic and personal responsibilities. Despite the growing popularity of mentoring programs, limited research has examined the specific impacts that mentoring has on the mentors themselves—particularly in terms of academic performance, emotional well-being, and career aspirations. This mixed-methods research project investigates the experiences of college-level female students who mentor female high school students pursuing aviation or aerospace-related education. Participants are members of STEM-focused student organizations and serve as mentors to students enrolled in high school programs such as Embry-Riddle Aeronautical University's Aerospace Career Academies (ACA) and/or Jr. ROTC programs. The study aims to explore how mentoring experience affects college students' academic progression, leadership development, and emotional resilience. Data collection includes a pre-survey and post-survey administered via Qualtrics, as well as a 45-minute recorded focus group conducted via Zoom. All identifying information will be kept confidential, and pseudonyms will be assigned after initial data collection to protect participants' identities. By better understanding the effects of mentoring on mentors, this research seeks to inform the development of future programs that foster mutual growth and support, enhancing the mentoring experience and encouraging more individuals to serve in such a role, formally or informally. Additionally, the study aims to explore how serving as a mentor helps students develop transferable skills and professional competencies that positively impact their transition into the workforce and future career paths.

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Literature Review Summary

Emerging research shows that mentoring can be a powerful and meaningful experience for mentors, supporting both emotional and psychological growth. Prummer et al. (2024) found that mentoring helps develop emotional intelligence by increasing empathy, self-awareness, and emotional control. Serving as a mentor gives students structured opportunities to reflect on their experiences and improve how they relate to others. Through this process, student mentors strengthen their ability to manage emotions and build supportive relationships within academic and social settings. These findings suggest that mentoring helps mentors grow personally and interpersonally, not just professionally.

Pölczman et al. (2025) also found that student mentors in a near-peer mentoring program reported higher levels of resilience and confidence. Their study showed that helping and guiding peers builds coping skills, adaptability, and self-belief. These results highlight that mentoring is a two-way learning process; mentors benefit emotionally and mentally as they support others.

Further recent studies by Higson (2025) and McCleary-Harris (2025) reinforce that mentoring has influences in both directions, demonstrating continued scholarly interest in understanding how mentoring impacts those who serve as mentors. Higson (2025) observed that mentoring encourages students to build emotional intelligence and resilience by learning to handle challenges and adapt to change. Likewise, McCleary-Harris (2025) found that mentoring enhances communication, flexibility, and relationship-building skills, while also fostering a stronger sense of belonging in academic communities. Together, these recent contributions add evidence that mentoring benefits both mentors and mentees across multiple areas of development.

Despite the growing body of evidence, more research is needed to understand how mentoring specifically affects student mentors across different academic contexts. Exploring how mentoring supports mentors' emotional intelligence, resilience, and sense of belonging is important for designing programs that provide lasting benefits to both participants. The present study aims to address this gap by focusing on the mentor's experience as a key part of effective mentoring practices in higher education.

Program Overview

The mentorship program originated within the Women in Aviation (WAI) Chapter at Embry-Riddle Aeronautical University (ERAU) and was initially designed to connect college mentors from the WAI Chapter with high school students enrolled in the Gaetz Aerospace Institute's Aerospace Career Academies.

Recruitment focused on volunteer mentors, which achieved 23 student mentors who signed up. However, 15 high school mentees participated in the first cohort, which meant some mentors were never paired or were paired in partnership with another mentor, giving two mentors to one mentee.

The program's objectives were rooted in the belief that mentorship promotes leadership development and self-awareness through real-world engagement; enhances emotional intelligence, empathy, and resilience through interpersonal connection; strengthens communication and adaptability; and fosters belonging and purpose within academic and professional aviation communities.

Research Purpose and Design

The purpose of this study is to examine the developmental outcomes experienced by college-level female mentors who support high school students in aviation and aerospace education pathways. While mentoring programs are often evaluated based on the benefits to mentees, comparatively little is known about the effects of mentoring on the mentors themselves. This study seeks to address that gap by investigating how mentoring shapes mentors' academic engagement, leadership development, resilience, and career aspirations within the context of a gender-imbalanced field.

Specifically, this research aims to understand how the mentoring relationship functions as a reciprocal learning process for college women in aviation-related programs. Serving as mentors may foster a sense of belonging and self-efficacy in a field where women remain underrepresented. Through semi-structured mentoring activities, reflection, and relationship-building, mentors may develop enhanced communication skills, empathy, adaptability, and confidence in professional settings. In addition, mentoring can offer meaningful opportunities for personal growth, including encouraging self-reflection, purpose development, and an expanded understanding of leadership and community contribution.

By focusing on mentors' experiences, this study contributes to a broader understanding of how peer-based outreach initiatives can serve as transformative learning opportunities for emerging professionals. The findings aim to inform the design of mentoring programs that intentionally support both mentor and mentee development, with particular attention to fostering persistence and leadership among women in STEM and aviation disciplines.

The study employs a mixed methods design to capture both quantitative and qualitative dimensions of the mentoring experience. Pre- and post-surveys assess shifts in mentors' academic engagement, confidence, and self-perceived leadership competencies, while focus group interviews explore the emotional and interpersonal aspects of mentoring relationships. Together, these data sources provide a holistic view of how serving as a mentor contributes to students' academic and personal development, ultimately supporting their transition from higher education to professional practice in aviation and aerospace careers.

Research Questions:

1. How does participating as a mentor impact academic progression and growth?
2. How does mentoring influence interpersonal and leadership skills?
3. What challenges do mentors encounter?
4. How do these challenges shape the mentoring experience overall?

Data were collected through initial applications, monthly reflection forms, and planned but unexecuted post-event focus groups. While reflection submissions were limited (16 total, from 7 unique mentors), qualitative insights revealed that mentors often discussed topics such as college life, work, and resume preparation. Mentors expressed varying levels of success and engagement, from highly productive sessions to frustration with mentee participation.

Findings and Challenges

Preliminary findings indicate that mentors experienced increased confidence and empathy, though they also struggled with time constraints and mentee engagement. While mentors claimed they had sufficient resources, informal conversations revealed a desire for more support materials and guidance. Challenges included inconsistent data collection, rolling pairings that limited longitudinal tracking, and variable mentor commitment. Despite these obstacles, enthusiasm for continued involvement remained high, suggesting that increased participation may occur with minor adjustments.

Program Evolution and Future Directions

The program has since expanded beyond its original cohort. It is not limited by gender for both mentor and mentee participation, and reaches dozens of dual-enrollment high schools across Florida. Program management tools such as Monday.com and improved Canvas design have increased efficiency and mentor accountability. Recruitment efforts remain ongoing and continue to evolve to reach a broader demographic of potential mentors and mentees.

Intentional Growth: Considering Middle School Involvement

As the program matures, organizers are exploring the inclusion of middle school students through early exposure initiatives. However, this expansion will be approached intentionally to ensure developmental appropriateness, mentor readiness, and resource sustainability. Engaging middle school students presents unique opportunities: fostering interest in STEM and aviation earlier, nurturing long-term academic pathways, and building continuity across educational stages. Yet, it also introduces challenges—such as the need for age-appropriate mentorship strategies and additional mentor training.

Conclusion

Mentorship provides dual benefits: empowering mentees while cultivating leadership, communication, and emotional intelligence among mentors. Findings from this study suggest that even limited engagement as a mentor can yield meaningful personal and professional growth for college students. Participants reported increased confidence, empathy, and self-awareness, as well as a greater sense of purpose and belonging within the aviation community. These outcomes align with prior research highlighting mentoring as a transformative, reciprocal process that promotes emotional resilience and leadership development among participants.

However, the study also illuminated several challenges, including inconsistent participation, limited time availability, and the need for clearer program structure and ongoing

mentor support. These findings underscore the importance of intentional program design. This is more emphasized given that this is a volunteer-based initiative where academic and personal responsibilities compete for participants' attention, both mentors and mentees. Strengthening mentor training, providing structured reflection opportunities, and incorporating feedback mechanisms can enhance both mentor satisfaction and developmental outcomes.

From an institutional perspective, mentoring programs such as this can serve as powerful tools for retention, engagement, and leadership cultivation among underrepresented groups in aviation and aerospace. By fostering supportive relationships and opportunities for meaningful contributions, universities can help mentors translate their mentoring experience into tangible career readiness and self-efficacy. Moreover, programs that explicitly acknowledge and assess mentor development are better positioned to sustain participation and achieve long-term impact.

As the ERAU mentorship initiative expands to include a wider variety of participants and potentially middle school partnerships, the lessons learned from this research will guide evidence-based growth. Continued data collection and longitudinal tracking will be critical to understanding how mentoring influences academic persistence, professional identity formation, and leadership trajectories over time. Future research should also explore the intersection of gender, discipline, and mentorship dynamics to further refine strategies for fostering inclusive pathways into aviation and STEM careers.

Ultimately, this study reinforces that mentoring is not a one-sided endeavor. Mentoring is a collaborative, evolving process that benefits both mentors and mentees. By centering mentor experiences, educators and program designers can create sustainable frameworks that empower students to grow as leaders, advocates, and future professionals in the aviation and aerospace industries.

References

- Higson, H. E. (2025). *The powerful impact of mentoring and coaching*. AACSB Insights.
- McCleary-Harris, S. (2025). *Rams Helping Rams: How Alumni Mentors Boost Student Success*. Fordham Magazine.
- Pölczman, L., Árvai, D., Györffy, Z., Jámor, M., Végh, A., Kristóf, G., Purebl, G., & Girasek, E. (2025). Enhancing resilience: the impact of a near-peer mentoring program on medical students. *Frontiers in Education (Lausanne)*, 9. <https://doi.org/10.3389/educ.2024.1523310>
- Prummer, K., Human-Vogel, S., Graham, M. A., & Pittich, D. (2024). *The role of mentoring in developing leaders' emotional intelligence: Exploring mentoring types, emotional intelligence, organizational factors, and gender*. *Frontiers in Education*, 9, Article 1393660. <https://doi.org/10.3389/educ.2024.1393660>