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Collegiate Aviation Students' Perceptions towards the Integration of Diversity and Inclusion Training: A Qualitative Case Study

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Teaching diversity, equity, and inclusion (DEI) is a practice that has become more relevant in recent years (Albelo & O'Toole, 2021). The aviation industry, particularly the airlines, has adopted aggressive marketing strategies to increase and retain their diverse talents (Appelbaum & Fewster 2002; Opengart & Ison, 2016). Previous research has explored the definition of diversity initiatives (Morrison, 2021), the impact and effects of diversity training (Albelo & O'Toole, 2021), gender and racial disparity within the aviation industry (Stevenson et al., 2021), and the integration of cross-cultural backgrounds within crew resource management (CRM) training (Peksatici, 2018). However, there is scant literature related to how students perceive diversity and inclusion training in the aviation industry. Therefore, the central research question guiding this study was: what are collegiate aviation students' perceptions of the integration of diversity and inclusion training in the aviation industry? Using Lindsey et al.'s (2020) diversity training effectiveness theoretical framework, this study focused on an Embry-Riddle Aeronautical University graduating senior cohort's perception of diversity and inclusion training in the aviation industry and in their career development.

Lindsey et al.'s (2020) diversity training effectiveness theoretical framework "considers emotions and motivations as key, yet generally ignored, mediators in the process by which diversity training affects diversity-related attitudes, behaviors, and cognition" (p.139). Essentially, Lindsey et al.'s (2020) framework takes into consideration the "integration of emotions into the process by which diversity training produces its desirable effects" (p. 139). One advantage of this theoretical framework is that it considers the effectiveness, and practical importance, of diversity training. . Morrison (2021) concluded that the initiatives of increasing representation alone are not enough to truly understand how the aviation industry could be more inclusive and equitable. Particularly, Morrison (2021) points out that "part of the solution is the

recognition that diversity efforts focused on representation fail to account for the experiences of minoritized individuals" (p. 11). Therefore, using a qualitative methodology and Lindsey et al.'s (2020) diversity training effectiveness framework, the researchers aimed to understand collegiate aviation students' perceptions of the integration of diversity and inclusion training in the aviation industry. Graduating seniors bring a unique perspective to the expansion of diversity and inclusion training since they are the first to experience DEI initiatives in their aviation curriculum (Albelo & O'Toole, 2021) and to transition to an industry that is prioritizing DEI initiatives. Therefore, the purpose of this qualitative study is to provide an in-depth investigation of graduating aeronautical science seniors' perceptions of DEI training in the aviation industry as part of their career development.

Literature Review

Diversity, equity, and inclusion (DEI) are terms commonly included in mission statements, values statements, and strategic plans at the highest levels of an organization. How these terms manifest into a company's hiring process and day-to-day operations vary. DEI training is a function of how the terms are defined and to what depth. At the highest level, the University of Michigan (2021) defines DEI in the following way, "Diversity is where everyone is invited to the party. Equity means that everyone gets to contribute to the playlist. Inclusion means that everyone has the opportunity to dance." Most companies define diversity based on reporting requirements that the public, or the government, might hold them to. For example, VISA discloses its diversity metrics on its website, showing the workforce broken down by gender and ethnicity based on data reported for Equal Employment Opportunity requirements. Research suggests that it is worth considering definitions beyond what may be assumed by looking at a person when considering diversity. For instance, Quinn et al. (2018) calls for

expanding the definition of diversity to address mistrust between patients and healthcare providers. They point out that people can be categorized by race or ethnicity, but within those groups there are other dimensions, such as sexual orientation, socioeconomic status, religion, gender, or lack of identification with gender; the list is almost infinite. Quin et al. (2018) suggest that diversity is a continuous "reexamination, redefinition and recalibration… as diversity is not a stagnant concept" (p.48).

The aviation industry has struggled to increase its workforce's diversity for several reasons beyond this paper's scope. Nonetheless, current statistics from the U.S. Bureau of Labor Statistics (2023) show that the pilot profession is 95.7% White, 2.6% Black, 1.6% Asian, 9.7% Hispanic, and 9.2% Female. Aircraft mechanics are 84.3% White, 10.8% Black, 3.2% Asian, 23% Hispanic, and 5.4% Female. Particularly, airlines have been facing a critical shortage of qualified pilots that is expected to worsen over the next few years, in addition to the effects of the Covid-19 pandemic. For instance, the latest Pilot and Technician Outlook published by Boeing (2022) forecasts that between 2022 and 2041, over 2.1 million personnel will be needed worldwide to sustain a 2.5% economic growth. The situation has come to the attention of the highest levels of government, with the House of Representatives, Subcommittee on Aviation holding a hearing in July of 2021 titled, "Bridging the Gap: Improving Diversity and Inclusion in the U.S. Aviation Workforce." The subcommittee members heard from many aviation stakeholders, including the Latino Pilots Association, JetBlue Airways, and the Organization of Black Aerospace Professionals. Recognizing the importance of this topic to the aviation industry, the President and CEO of the Regional Airline Association, Faye Malarkey-Black issued a statement in support of the hearing. Their statement concluded that the "lack of diversity within aviation careers is an affront to the goals of a modern, vibrant and inclusive workforce. This lack

of diversity ultimately undermines the financial health of the aviation industry" (Malarkey-Black, 2021).

Including diversity and inclusion statements on the company website is a start but having a diverse and inclusive workforce can have tangible benefits. Companies that are successful in implementing diversity and inclusion initiatives see a positive impact on their bottom line. Researchers have found that increased workplace diversity in race and gender can positively impact sales revenues, the number of customers, and market share (Herring, 2009). However, diversity is much more complex than what might be apparent by just looking at somebody. A review of research on diversity and company performance found that diversity of social psychological characteristics and team interaction abilities play a role equal to or greater than bio-demographic diversity (McMahon, 2010).

Diversity initiatives are invariably supported by some type of diversity and inclusion training. Bezrukova et. al. (2016) defines diversity training as "a distinct set of instructional programs aimed at facilitating positive intergroup interactions, reducing prejudice and discrimination, and enhancing the skills, knowledge, and motivation of participants to interact with diverse others" (p. 1228). The training is usually a part of the initial new hire process for many companies, along with an annual requirement for follow-up training. The format can vary from in-person facilitated training to online interactive training. Extensive research has examined various aspects of diversity training within many fields. In the same study, Bezrukova et. al. (2016) conducted a large meta-analysis of research related to the effects of diversity training. The authors found, in general, that DEI training is more effective when integrated into other programs and aspects of the business that promote and support diversity efforts, resulting in the most substantial overall positive effects. The cognitive knowledge gained during training

remained over time, where reactions and affective learning appeared to degrade (Bezrukova et al., 2016). There was no significant difference between training that was focused on one or more diverse groups versus training that was more generic, and there was no significant effect based on the demographics of the trainers. These are all valuable findings to consider when designing and implementing diversity and inclusion training.

In the aviation industry, a company may require diversity and inclusion training as part of a crewmember's onboarding process. DEI training, however, does not always translate directly to the flight deck. For example, the Federal Aviation Administration (FAA) recognizes the importance of the role of culture, specifically in everyday flight operations. Therefore, the FAA advises commercial carriers to incorporate cultural training into their Crew Resource Management (CRM) training. For instance, Advisory Circular (AC) 120-51E (FAA, 2004) lays out the guidelines for CRM training.

> While individuals and even teams of individuals may perform well under many conditions, they are subject to the influence of at least three cultures – the professional cultures of the individuals themselves, the cultures of their organizations, and the national cultures surrounding the individuals and their organizations. If not recognized and addressed, factors related to culture may degrade crew performance. Hence, effective CRM training must address culture issues, as appropriate in each training population. (FAA, 2004, p. 16)

The AC 120-51E also suggests that CRM curricula include training on "dealing with diverse personalities" (p. 12). An AC, however, is not regulatory in nature and therefore does not outline exactly how to conduct the training. The airline must consider its current staffing make-up and identify areas where education may decrease the risk within the flight deck. The type of risk

most identified is communication barriers (Matteson, 1997). Airlines have traditionally relied on Standard Operating Procedures (SOP's) to help reduce the risk of a communication error or a procedural error due to diverse thought processes between two pilots on the same flight deck.

When it comes to diversity training within the aviation industry, outside of CRM, research is almost non-existent. Al-Romaithi (2014) studied the impact of cross-cultural flight crews on performance. The study found an increase in unsafe events on flights with pilots belonging to two distinct cross-culture groups. The author also pointed out that while CRM training and SOP's can reduce the risk, crew members might experience more fatigue and increased workload and tension due to poor communications or misunderstandings. Al-Romaithi (2014) offers a new iteration of CRM training to include a cultural aspect as a solution to the increased risk found in the study.

In summary, in a review of the literature, the authors found that while there has been much interest in the topic of DEI recently, there needs to be more research done within the aviation field. Generally, research has shown the benefits of a diverse workforce and the importance of diversity of thought to influence positive change (Herring, 2009). Diversity in social-psychological characteristics and team dynamics play a more significant role in the success of the workplace (McMahon, 2010). There is a vast amount of research about DEI training that covers many industries and fields. A large meta-analysis showed, among other things, that training was most effective when threaded throughout the company and took form in various initiatives outside of the classroom or online training itself (Bezrukova et al., 2016).

Aviation leaders should recognize that the current lack of diversity is hurting the industry. Airline hiring is at an all-time high, and by limiting its target population, companies are missing out on potential candidates. The FAA has even incorporated some guidance for training and

where to introduce the concepts, such as during Crew Resource Management training (FAA, 2004). However, of the few studies that combined CRM and DEI concepts, Al-Romaithi (2014) identified and addressed operational issues rather than training. As the aviation industry works hard to increase diversity within its workforce and incorporate DEI concepts into its initial training, the authors deemed it essential to study the perceptions of aviation college students heading out into the aviation industry. The results of the present study could serve as the foundation to further improve DEI training within the aviation industry and improve career development.

Methodology

The present study utilized qualitative research to examine graduating seniors' perceptions of DEI training in the aviation industry. Specifically, the researchers followed case study protocols as outlined by Ebneyamini and Moghadam (2018) and Merriam and Tisdell (2016). According to Ebneyamini and Moghadam (2018) "the essence of a case, […], is that it tries to illuminate a decision or set of decision: why they were taken, how they were implemented, and with what results" (p. 2). In terms of the present study, Ebneyamini and Moghadam (2018) definitions translate to: given the current inequitable work environment in the aviation industry, integration of DEI training has been one of the first steps taken as a measure to attract and retain diverse talent, yet we must consider the participants' emotions to evaluate its desirable effects accurately. Furthermore, Merriam and Tisdell (2016) state that a case study is "an in-depth description and analysis of a bounded system" (p. 39), meaning that because there is an actual end to the number of participants that could be interviewed, the phenomenon is bounded enough to qualify as a case. This case followed the systematic and engaged process to prevent the

equivocal evidence from influencing the direction of the findings and conclusions (Yin, 2018).

Setting and Data Collection Procedures

This research took place at Embry-Riddle Aeronautical University (ERAU), in Daytona Beach, Florida. Prior to the data collection, Institutional Review Board (IRB) approval was sought through ERAU for the use of archival data (IRB #22-003). The data collection consisted of two different sources of evidence: archival records and direct observations. The archival record consisted of a writing assignment given to graduating seniors during their capstone course that explored their perceptions towards DEI training in the aviation industry. Prior to the writing assignment, the researchers did not provide any direct lectures on DEI training and or practices in the aviation industry; however, the course structure followed the recommendations outlined by Albelo and O'Toole (2021) about implementing DEI in aviation education. The researchers wanted to allow the students the opportunity to reflect on their lived experiences regarding diversity and inclusion and use those experiences to guide the class discussion afterwards. The assignment consisted of a three-question prompt: 1) Based on your lived experiences, what are your thoughts on Diversity and Inclusion (D & I) training? 2) Do you think training flight crew members in D&I practices enhances a flight's operational safety? 3) Provide at least one example to support your answer. The minimum response length was set to 500 words. A total of 217 assignments were retrieved from Spring 2020, Summer B 2020, and Fall 2020 semesters.

As suggested by Mthuli et al. (2021), the researchers used saturation as an indicator of sample size. After 18 random assignment selections, the researchers started to notice that themes and explanations stopped emerging from the data (Mthuli et al., 2021); yet they decided to incorporate two additional assignment narratives to have a round sample of 20 data points. The

researchers then assigned pseudonyms to the narratives collected to increase the clarity of the findings (see Appendix A).

Direct observations consisted of six lecture observations conducted during the Spring and Summer 2021 semesters of a DEI-guided discussion that was part of the graduating aeronautical science students' capstone course. Each observation lasted between 50 and 75 minutes, and an average of 28 students participated in each lecture. The guided DEI discussions included divergent, focal, and brainstorming questions. Tofade et al (2013) defines divergent questions those who are open in nature that allow exploration of diverse perspectives and encourage dialogue. Moreover, focal questions were used to push the students to justify their position, while brainstorming questions were used to allow the students to generate a list of ideas and viewpoints (Tofade et al., 2013). Divergent questions included: "Why do you think the aviation industry is integrating DEI practices?" and "Why do you think the aviation industry has become more open towards DEI dialogues?" Focal questions included: "How can we define Diversity, Equity, and Inclusion within the aviation industry?" and "How important do you perceive DEI training is in aviation as part of your career development?" Lastly, an example of the brainstorm questions give includes: "If you could develop the ideal flight training, one that can be widely used in both academia and the industry, what DEI initiative would have (or exclude)?"

Although students' answers were not evaluated with the purpose of receiving a grade in the course, the purpose of the guided discussion was to expose the students to different worldviews towards current DEI practices in the aviation industry. The use of observers allowed researchers to capture an extra layer of perspectives that otherwise would have been omitted by the researchers. According to Yin (2018), "observational evidence is often useful in providing additional information about the topic being studied" (p. 122). The use of direct observations

added a new dimension for understanding the actual phenomenon (Yin, 2018). Two different observers were employed in this process to enhance the trustworthiness of the study. After both sets of data were acquired, the researchers combined each categorical file into a master document.

Data Analysis

This qualitative case study's data analysis followed Gribbs (2018) and Yin's (2018) data analysis procedures. First, the archival data was de-identified to ensure the confidentiality of the participants. Initially, the researchers used NVivo, a qualitative data analysis software, to generate a frequency count of similar ideas among all the archival data retrieved. After similar statements were narrowed down, the researchers engaged in open coding to catalog the generated data (Yin, 2018). After conducting the direct observations, the observers' notes were transcribed to enable the researchers to work with neat textual descriptions of the recordings (Gribbs, 2018). The researchers then transferred the transcribed observations to NVivo for initial open coding. Then, both data sets were merged into a single file, enabling the researchers to narrow the categories to significant themes (Gribbs, 2018; Yin, 2018). The researchers in this study sorted out the codes, developed a categorical aggregation, and then used naturalistic generalizations grounded in Lindsey et al.'s (2020) diversity training effectiveness theory to uncover the best philosophical approach. Figure 1 depicts a visual representation of all the codes and themes that emerged from the data.

Trustworthiness

To establish rigor of the selected qualitative research method, the researchers followed Yin's (2018) principles of data collection: 1) Used multiple sources of evidence, 2) Created a case study database, and 3) Maintained a chain of evidence. To ensure construct validity, the

researchers used data triangulation to establish the use of multiple sources to converge evidence (Yin, 2018). Reliability was strengthened through the observational evidence by having two observers make observations of the lectures. Then, the direct observations were transcribed to enable the researchers to work with neat textual descriptions of the recordings (Gribbs, 2018). The use of an audit trail increased the validity and reliability of the findings (Gribbs, 2018; Yin, 2018). Transferability was established through the philosophical underpinnings of qualitative research (Merriam & Tisdell, 2016). This means that the researchers provided "sufficient descriptive data to make transferability possible" (p. 254).

Findings

The researchers examined the information collected from the responses of the collegiate aviation students to formulate an understanding of how the integration of diversity and inclusion training is perceived in the industry. The unique structure of this qualitative case study allowed the researchers to study graduating aeronautical science students' perceptions of DEI training in the aviation industry as part of their career development. The study focused specifically on the impact of diversity and inclusion training on the enhancement of operational safety and safety culture in training. After further examination of the participants' responses, the findings were divided into three themes to understand the perception of collegiate aviation students on the implementation of diversity and inclusion training.

Theme 1: Necessity of DEI Training for Positive Safety Enhancement Inside the Flight Deck

The first theme revealed that the students' perception of DEI training would result in positive safety enhancement on operations inside the flight deck. Collegiate aviation students from the data collection were enrolled in an aviation training program or were on a path to

corporate and airline flying. As a result, many of them focused on the benefits of DEI training in a conventional flight deck environment where the captain and the first officer share the responsibility of a safe and efficient flight. Tables 1 and 2 serve as a visual representation of the open codes and most relevant text excerpts that led to the development of Theme 1.

Table 1

Sub-Theme #1: Communication

Code	Frequency	Quote Example
Safety	20	"D&I training will allow the crew to acknowledge their differences. . . in order to create a more professional environment for the crew and decrease the risk of a lack of communication"
Understanding	15	
Working environment	11	
Enhancement	7	
Language barrier	3	
Lack of communication	2	"D&I training will help the crew to be able to build a professional relationship and communicate more effectively"
Miscommunication	2	
		"D&I training will help to prevent issues with misunderstandings and different cultures mixing"

Table 2

Sub-Theme #2: CRM/Effectiveness

Code	Frequency	Quote Example
Operational safety	22	"Most flight decks currently have varying background and ethnicities and it is extremely important that you get along to promote good <u>crew resource management</u>"
Effectiveness	17	
Professionalism	8	
CRM	7	
Efficiency	5	
Relationship	5	"When employees are able to work well together, <u>CRM can become more effective,</u> and employees are more mentally sound in the aircraft."
Productivity	3	
		"It can be helpful because it <u>can enhance CRM,</u> if people can put their differences aside"

Many students believed that DEI training would lead to better communication and crew resource management on the flight deck which would result in safer and more efficient operations. For example, Aaron emphasized that many crew members come from a diverse cultural background, so proper DEI training would enhance their conflict resolution skills and sensitize them to real-world application. Many participants agreed that the lack of communication or the hesitance to speak up to a figure of authority due to cultural differences could lead to an unsafe or unprofessional environment on the flight deck. Howard best exemplified this point when he stated, "when employees are able to work well together, CRM can become more effective, and employees are more mentally sound in the aircraft."

Many students emphasized that mutual understanding and respect for the flight crew's differences in culture and opinion would lead to clear communication and more efficient crew resource management. Charlotte highlighted that DEI training would lead to enhancement of operational safety as the flight crew will be able to build a more professional relationship and reduce the chance of miscommunication. Calvin echoed this point when he stated that the differences and potential conflict that may be introduced into the flight deck would not be strictly on ethnic or cultural basis, but also related to the gender of the flight crew. He emphasized that DEI training would bring more inclusion of minority groups and the underrepresented aviators will feel less pressured to prove a point which can lead to hazardous attitudes. This theme of collegiate aviation students' perception on the implementation of DEI training placed great emphasis on the positive outcome it will have in the flight deck environment.

Theme 2: Positive Outcome of DEI Training on Corporate Hiring and Customer Service

Many of the participants branched out in their responses regarding the impact of DEI training on hiring and customer service quality of their future employers. Participants believed that the diverse experience and the background of the flight crew could diversify the working staff of the company, encouraging inclusion and creative collaboration. Anne emphasized that diversity and inclusion is especially relevant in a traditionally more conservative industry such as the airlines. As previously highlighted, the U.S. Bureau of Labor Statistics stated that most of the airline industry consists of white male pilots. Another participant, Joyce, stated that organizations should focus on hiring a diverse group of staff to expose different cultural traditions to the customer and the crew members, which can further promote a positive social image of the company to the customer base. Many students believed that DEI training was one

step in the right direction in encouraging camaraderie among the staff with inclusivity and respect.

Relating DEI training to enhancing the customer experience was another point that was widely highlighted among the participants. Participants believed that DEI training was crucial for the crew to be more sensitive to customers' needs and their experience. Kelly and George stated that DEI training can bring people together for better understanding not just between the flight crew but also with the crew's abilities to handle passengers from different cultures. Another point that was emphasized as to why DEI training would enhance customer service experience was related to the language barrier. Alyssa pointed out that DEI training "can reduce difficulties in communication between people from different cultures and backgrounds and having no barrier to communication on the flight deck can only be advantageous." The importance of DEI training appears to expand outside the flight deck and further impact the industry's corporate and customer service experience. Tables 3 and 4 serve as a visual representation of the most relevant text excerpts that lead to the development of Theme 2.

Table 3

Sub-Theme #1: Experience/Background

Code	Frequency	Quote Example
Knowledge	22	"D&I training should be included in the training process as it will allow crew members to better communicate if they are from different cultural backgrounds"
Experiential	17	
Exposition	14	
Minority	10	"Having different perspectives and different mindsets coming together can only improve operational safety"
Encounter	9	
		"D&I training will increase the operational safety of crews, as they will trust each other more and understand cultural differences better"

Table 4

Sub-Theme #2: Passenger Interactions

Code	Frequency	Quote Example
Communication	29	"A well-trained crew member... may <u>speak the language to help communicate the message</u> with a passenger"
Interactions	22	
Approachable	12	
Serve	8	
Caring	5	"Because when an organization diversifies the type of staff that they hire, they are <u>exposing their customers to a different tradition</u> each time that there is an interaction between both parties"
Empathy	4	
		"D&I training enhances the operational safety of a flight, by establishing a respectful and <u>approachable environment between the flight crew and the passengers</u>"

Theme 3: Concerns Regarding the Implementation of DEI Training

Some participants expressed some doubt and concerns regarding the implementation of DEI training. Many believed that mandatory training could be a waste of capital and time if improperly executed and that these companies should focus on hiring and working more qualified members rather than achieving a certain racial or gender quota. Agatha believes that companies nowadays are pushing for diversity and inclusion only for customer perception and requiring mandatory DEI training would be a waste of money. Nicolas similarly expressed his concern regarding DEI training being a potential waste of capital because he believed that there

would not be a need for mandatory DEI training with mutual respect and understanding being part of the aviation community. Despite numerous participants supporting the idea of implementing DEI training, a few have clearly expressed their doubts as they believe the training would not be retained or taken seriously by the employees if poorly designed.

Another concern some participants expressed in their responses was related to hiring a group of staff to achieve a certain racial or gender quota of the company while more qualified and skilled candidates were overlooked. Bruce believed that "all people should be made to feel included . . . and their race or gender or identity is equally represented in their profession." Bruno pointed out the focus on hiring should not be swayed by gender or race but be based only on qualification and skills, especially in an industry that emphasizes safety and operational skills. These participants' argument was on racial discrimination in the hiring process that showed favoritism to a racial or gender minority group for these organizations to impress the media or their customers. The implementation of DEI training would not necessarily result in selective hiring process, but these participants expressed their valid concerns and doubts. Tables 5 and 6 serve as a visual representation of the most relevant text excerpts that lead to the development of Theme 3.

Table 5

Sub-Theme #1: Waste of Money and Time

Code	Frequency	Quote Example
Costly	21	"Many companies heavily promote [DEI] mainly to capitalize on customer perception rather than truly attempt to make a difference"
Time Consuming	21	
Tedious	15	
Waste	8	
Expensive	7	"Mandatory "diversity" classes for everyone are just a money-waste in my opinion"
Optics	4	
		"I feel like diversity training would be a waste. It's just another expense of training that no one will truly pay attention to"

Table 6

Sub-Theme #2: Qualification Emphasis

Code	Frequency	Quote Example
Qualifications	31	"I feel that if airlines focus less on meeting quotas and focus more on hiring people that are the most qualified. . . then that will ensure the operational safety of a flight"
Relevance	23	
Expertise	13	
Discrimination	6	"Qualified people are in such a limited supply it is hard to pick and choose who you want"
		"Largest issue with D&I is the diversity portion and the usage of it to force certain policies that discriminate against certain people in order to look more 'favorable'"

Discussion

This study's purpose was to understand the perception of diversity and inclusion training by collegiate aviation students. The result from the qualitative data collection revealed three distinct themes: the impact of DEI training on flight deck safety enhancement, hiring and passenger interaction, and concerns regarding DEI training. The researchers hope to bring insight into the discussion of diversity and inclusion specific to the aviation industry. Identifying and analyzing these aviation students' perceptions in higher education is unique, as many of these pilots are working towards the airline and corporate flying industries. The general perception of the implementation of DEI training by collegiate aviation students is a valid representation of

students who are already involved in the flight training environment and may already be exposed to different national and organizational cultures.

The findings of this study could inform the leaders of educational institutions and the aviation industry that students value DEI framework's positive safety contributions as part of their flight training. Mainly from the findings that indicate the perception of better communication and crew resource management in the flight deck, one can see how elements of inclusion and a sense of belonging directly impact the dynamics of flight operations. The teaching and training of DEI can further attract more underrepresented minorities as it is seen as an effort by the industry to increase diversity in the workforce. For aspiring pilots to see the growing trend of safety and diversity promotion within the aviation industry could increase the demand for further recruitment and retention.

Furthermore, the obstacles and concerns that oppose the implementation of DEI training can be subjective, but they provide a valid insight into the issues that need to be addressed for DEI training to be adequately implemented. This study highlights a detailed set of concerns and doubts related to DEI training that aviation students have expressed based on their lived experiences. These constructive concerns can be used to reinforce the effective implementation of DEI training in the aviation industry. Conversely, many students highlighted the benefits of DEI training as enhancing operational safety in the aviation training environment and including underrepresented minority personnel in the aviation industry for better collaboration. The findings highlight a welcoming consensus toward DEI training by collegiate aviation students. The increasing trend of including diversity in the workforce signifies to the aviation industry that flight students are expected to be exposed to different national and organizational cultures.

As a result, the growing importance of diversity on the flight deck is a much larger social issue that needs to be wholly addressed by aviation leaders.

The study consisted of an assignment given to graduating seniors who are part of ERAU's flight training program to explore their perception of DEI training. The researchers further collected direct observations from DEI-guided discussions among the graduating seniors of the aeronautical science program. The qualitative case study investigated graduating aeronautical science seniors' perceptions of DEI training in the aviation industry as part of their career development. These principles could become the backbone of guidelines for the aviation industry on how DEI training can be effectively utilized in the current, evolving aviation workforce. Understanding the perceptions of aspiring professional pilots related to DEI training can be expanded to the training conducted at the airline level. Throughout effective DEI training, as highlighted in this study, students and educators can better understand the effects of making someone feel included, visible, and heard translates to efficient and safe crew resource management.

In closing, understanding that the upcoming generations of aviators are more receptive to DEI initiatives supports and justifies investing in a multifaceted curriculum that will enable the students to interact more effectively and safely within their aviation field. The overlying themes that emerged from the study demonstrate the need for an increased awareness of diversity and inclusion in higher education and flight training curricula. As the emphasis on improving diversity and inclusion grows across the industry, many aviation training programs must reassess the impact of DEI training programs on the safety and cultural diversity of the growing aviation industry.

Implications for Future Research

The importance of inclusion and diversity in creating a safer and more professional workplace has been a growing topic of discussion in the aviation industry. The reality is that promoting DEI training is a fundamental aspect of creating a fair and just society. Based on this study's findings, four elements could drive the need for future research: safety, talent acquisition and retention, customer satisfaction, and innovation. In terms of safety, not only is the aviation industry responsible for the safety of those in the national airspace system, but diverse teams can bring different perspectives and experiences, leading to better crew resource management and effective problem-solving. From a talent acquisition and retention point of view, DEI training can lead to a more engaged, productive, and satisfied workforce. Since aviation is a customer-centric industry, DEI training will also impact customer satisfaction. A diverse team, for example, can better understand and cater to the needs of a diverse customer base. Lastly, diversity fosters creativity and innovation by bringing together individuals with different perspectives and experiences. Finally, as the aviation field continues to innovate, DEI can generate solutions to meet the ever-evolving needs and challenges of the industry.

For collegiate aviation students, the issue is relevant considering their future employers and colleagues who would treat one another with respect and mutual understanding for the safety of flight operations. Future studies can explore different approaches and methods for implementing DEI training to achieve the same goal. In addition, similar research can be conducted to study the need to implement or the perception towards DEI training in other parts of flight operations, whether that will be for the flight crew, flight attendants, or ground operations. Moreover, some of the recommendations proposed by the participants that could be considered when integrating DEI training are to (1) design a dynamic program that is specifically

related to the flight operation environment rather than creating dull human resources training, (2) implement consistent training early on in the training/education phase, (3) not limit the training to one group but rather across all gender, race, ethnicity, and generations, (4) use DEI training as an optional class or for discipline purposes rather than implementing a mandatory program.

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Appendix A

Selected Participants' Information

Assignments (Pseudonyms)

Pseudonym	Assignment Number
Aaron	1
Agatha	2
Alyssa	3
Anne	4
Bruce	5
Bruno	6
Calvin	7
Charlotte	8
Christina	9
Elizabeth	10
Eric	11
George	12
Helena	13
Howard	14
Jonathan	15
Joyce	16
Kelly	17
Melissa	18
Nicolas	19
Samuel	20