05-08-2024

# Quieted Voices: A Phenomenological Analysis of The Experiences of Black/African-American Collegiate Aviation Students

Theodore Wesley Johnson
*University of Nebraska Omaha*

The aviation industry lacks racial and gender diversity. It is White-male dominated, with 94% of professional pilots identifying as White males, only 3.4% identifying as Black Americans, and less than 5% are female. Research focusing on the participation rates and experience(s) of Black Americans in aviation is scant. The purpose of this study was to understand the experience(s) of Black American collegiate aviation students so higher education and aviation industry leaders could make informed policy decisions and rectify inhospitable work environments, respectively. A phenomenological approach was used to capture the phenomenon via semi-structured interviews of 10 participants. The study revealed three major battles Black aviation students fight due to external and/or internal pressures, which significantly impact their collegiate experience(s) and, to a certain degree, retention. Being a Black woman or a "double only" in an underrepresented space yielded an experience that Black males were unaware of and did not experience but made the collegiate experience of a Black woman very different than that of their male counterparts. Additionally, a student's involvement in a community of support seemed to be a notable difference-maker in one's collegiate experience(s). These communities provided salient socio-emotional support for students, helping reduce instances of social isolation and assimilation many of the participants described. Pointed recommendations on how to improve the retention of Black students and Black Americans in collegiate aviation programs and the aviation industry, respectively, were furnished to conclude the study, which were aimed at higher education and industry leadership.

**Introduction**

The U.S. workforce currently employs approximately 147,795,000 individuals across various industries with 300,000 working in the transportation sector (Bureau of Labor Statistics [BLS], 2021). Despite the increased diversification in the workforce over the past two decades, the diversity within the transportation sector has not experienced a similar trend in terms of race/ethnicity or gender (BLS, 2021). This is reflected within the aviation industry as it is White-male dominated, with 94% of pilots identifying as White while only a mere 3.4% identify as Black or African-American (referred to from this point forward as Black American(s)). When factoring in gender, less than 5% of airline pilots are female (Lutte, 2021a). An aging workforce and increased demand for commercial air travel have only exacerbated this issue, forcing many public and private sector entities to act (Lutte, 2021a). Albeit outreach efforts have been made by commercial airline operators, Black Americans are reluctant to enter the aviation industry, perhaps due to financial and social barriers, lack of awareness of aviation-related opportunities, and lack of representation, as suggested by interviews with Black American corporate pilots (Harl & Roberts (2011).

There has been very little research focalizing the participation rates of minorities in aviation and studies centralizing Black Americans in particular. There has also been little recent research with special emphasis on phenomenological studies conducted to understand the experiences of racial/ethnic and gender minorities in aviation or other STEM fields or studies conducted to explore the underpinnings of the lackluster racial diversity endemic to the aviation industry (Molloy, 2019; Kim & Albelo, 2020). The focus of the study by Molloy (2019) was to understand what it meant to be an underrepresented student in a collegiate aviation flight program via a phenomenological approach utilizing interviews, focus groups, questionnaires, and journal reflections. The impetus of Molloy's study stemmed from the lack of studies exploring the lived experience of being an underrepresented student in a collegiate aviation program, although some qualitative studies were conducted on undergraduates majoring in other STEM fields (Molloy, 2019). The focus of the research conducted by Kim and Albelo was to heighten awareness of race equality and gender in aviation within higher education to ultimately underscore factors that contribute to the academic success of minority women in aviation (Kim & Albelo, 2020).

Building upon the aforementioned studies, the purpose of this study is to understand the academic and social experience(s) of Black American collegiate aviation students. It explores the lived experiences of a specific demographic of underrepresented students, Black Americans enrolled in collegiate aviation programs and expands beyond just professional pilot programs. Additionally, this study supplements the research conducted by Kim and Albelo by elucidating factors that impact the academic success of racial minorities, specifically Black American students (male and female). The central research question addressed is: What has been the experience(s) of Black American collegiate aviation students? The two secondary research questions are: What has been the academic experience(s) of Black American collegiate aviation students? What has been the social experience(s) of Black American collegiate aviation students?

Since research focalizing these experience(s) of Black Americans in aviation is scarce and with the notion of diversity, equity, and inclusion becoming a priority for many, it is

paramount that these experiences be acknowledged and propagated. By sharing said experiences, recommendations to aid in the diversification of and enhance the aviation industry's ability to meet the increasing workforce demand may be discovered. Understanding these experiences may also aid in determining how a student's involvement in activities impacts retention within their aviation program and/or higher education in general. The rationale behind this is that involvement in activities or organizations may grant minority students access to pivotal services and programs that provide (peer) support or mentorship, financial support, and a sense of belonging (i.e., community). These factors may be difficult to find within their aviation programs, especially if located at a Predominantly White Institution (PWI). Further, they may be salient for academic and social integration within the collegiate environment, which has been suggested to increase their retention within higher education (O'Keeffe, 2013; Jama et al., 2009).

The following sections detail the literature review, which contextualizes the study and provides adequate background about the study's purpose. Following the literature review is the methodology section, which will describe the methodological procedures utilized to conduct the study, specifically detailing the data collection and explication methods as well as how data validity and trustworthiness were bolstered. The findings of the study are then presented, followed by a discussion of them. This study culminates with a description of where future research opportunities should be directed, the provision of robust recommendations for collegiate aviation administrators and aviation industry leaders, and a brief, conclusive statement about the study.

## Literature Review

The literature review will be divided into four sections. The first section will review the underpinnings of the diversity issue that has impacted the diversification of many sectors and organizations. The second section will outline the progress Black Americans have made professionally in the U.S. despite the inequity and discrimination they have been subjected to in society. The third section will detail the previous attempts to bridge the diversity gap that exists in U.S. society. The fourth section will explicate the advancement of Black Americans in higher education and the aviation industry to provide an adequate backdrop for this study. This allows the researcher to properly situate the urgency and salience of the research for those not familiar with its underpinnings.

### Underpinnings of the Diversity Issue

The current racial and gender workforce statistics surrounding the commercial aviation industry are concerning because possessing broad representation is integral for its longevity (Lutte, 2021a), which cannot be accomplished unless talent from underrepresented groups is sourced. However, sourcing this talent is easier said than done unless the latent underpinnings of diversity issues endemic to higher education and the aviation industry are addressed. One proponent of the aforementioned issue is that there is a lack of STEM graduates matriculating from undergraduate programs within the U.S. to fulfill essential STEM-related positions (Murillo, 2020). With this shortage now being recognized by scholars, researchers, and practitioners, pundits realize the U.S. will be unable to render ample graduates to meet the increasing demand to remain competitive in STEM fields unless swift action is taken. The lack

of STEM graduates is exacerbated in relation to minorities because of low recruitment into said programs and poor retention, which is compounded by minority students voluntarily leaving STEM programs at a much higher rate than non-minority students (Murillo, 2020). Consequently, the impact of notably low recruitment and retention of minorities in STEM programs has significantly contributed to the lackluster number of minorities matriculating from collegiate aviation flight programs. Subsequently, the racial/ethnic and gender diversity of the aviation industry, especially the commercial sector, has been impacted significantly and, as a result, adversely affected the industry's ability to meet the workforce demand.

STEM programs encompass aviation and aerospace-related programs at the collegiate level, which has not always been the case as it was previously considered a vocation rather than a formal field of study (Halleran, 2019). This is imperative because collegiate aviation programs essentially serve as pathways to funnel recent graduates into various sectors of the aviation industry to meet the demand for management, professional pilot, maintenance, and other essential STEM-related positions pertinent to the industry. The implications of this graduation issue stem from other issues, such as lackluster exposure, inadequate representation, and ineffective marketing to certain demographics (National Research Council [NRC], 1997; Murillo, 2020). These three aforementioned issues constitute long-standing barriers to effective recruitment and retention within the industry (Murillo, 2020). Despite the many barriers that have impacted the participation rates of Black Americans in various industries, such as aviation, they have still made significant progress professionally.

**Progression of Black Americans in the U.S.**

Racial/ethnic and gender minorities have been historically repressed personally, academically, professionally, and socially. Racism and discrimination against racially minoritized citizens, especially Black Americans, have been endemic in the U.S., with the most axiomatic instances being slavery and Jim Crow laws (Cline, 2019). Simply, U.S. laws, policies, and organizations never considered racial equity a priority unless mandated by federal legislation, media pressure, or citizenry outcry. Black Americans have made substantial progress entering various industries of the workforce that are traditionally underrepresented, yet they still encounter significant racism, discrimination, and prejudice. However, some citizens in society believe that since Black Americans have experienced professional success, the U.S. has made notable progress toward racial equality/equity (Evans & Feagin, 2012). Such a belief is rooted in false maxims and ignorance. Albeit Black Americans have made monumental progress socially and professionally, racism and prejudice are still prevalent, and it is more sinister than ever since it is covert, embedded within certain policies and programs, dialogue, and administrative behaviors. There have been numerous attempts to 'bridge' the diversity gap throughout history, beginning in the early 1960s at the federal level to help Black Americans continue to progress and overcome certain unethical policies, processes, and programs.

**Previous Attempts to Bridge the Diversity Gap**

The era of 'Affirmative Action' marked the first holistic attempt to increase employment and educational opportunities for minorities, specifically for Black Americans. In 1961, President Kennedy used Executive Order 10925 to require federal contractors to take

"affirmative action" to ensure applicants were treated equally regardless of race, color, religion, sex, or national origin. This legislation was predicated upon five premises, with the most prominent being to foster legal and social coercion to force change to pursue racial equity because women, Black Americans, immigrants, and other minorities were not allowed in certain spaces or professions due to widespread racial, ethnic, and sexual prejudice that consumed the country (American Association for Access, Equity and Diversity [AAAED], 2019; Thomas, Jr., 1990). Since its inception, affirmative action has aided an innumerable number of minorities in gaining entry to certain opportunities and into places that were historically scant, such as higher education and aviation. However, affirmative action on its own is not enough to redress the diversity disparity that exists within the U.S. workforce and society today, but it has served its purpose as the impetus for such a movement.

More recent research has noted that to build upon the impact affirmative action has had on helping minorities advance in society, robust partnerships between collegiate aviation programs and the commercial airline industry are needed. The NRC (1997) and Ison et al. (2016) recommended airline operators work aggressively to build linkage with aviation programs situated in Historically Black Colleges and Universities (HBCUs) as well as PWIs that possess large minority and female student bodies to increase the racial/ethnic and gender diversity of the applicant pool. This highlights the salience and necessity of pathway programs between the airline industry and collegiate aviation programs, as these programs will supply fresh graduates into the workforce with the knowledge, skills, abilities (KSAs), and qualifications necessary for the job. Furthermore, since most aviation outreach activities focus on pre-college age groups, a prime opportunity is missed that exists for outreach and support within collegiate institutions that enroll significant numbers of minority students in aviation education programs (NRC, 1997; Murillo, 2020). With the rising cost of college tuition coupled with the immense cost of flight training, financial assistance programs are necessary for aspiring aviators to pursue their dreams of taking flight, especially those identifying as low-income.

It is widely recognized that certain occupations within the aviation industry possess a high earning potential, such as professional pilots, but the financial burden of entering has served as an insurmountable roadblock for many students. The NRC (1997) recommended financial assistance programs be established for pilot positions to help applicants meet the costs of flight and transitional training. Such programs have proven to be beneficial, but financial support is desperately needed when these applicants are undergraduate students in pursuance of their initial certificates/ratings. Despite financial aid packages being offered by universities, they often do not cover the costs of aircraft rental, instructors, supplies, examination fees, and traditional coursework expenses. The fear is that if the immense cost of entering the aviation industry to become a professional pilot is not addressed swiftly within collegiate aviation programs, the industry's ability to meet the workforce demand will be exacerbated, and a unique, diverse talent pool will be further isolated. Despite the long-standing adversity and repression used to hinder Black American progression in the U.S., they have still made significant advancements in higher education and aviation.

**Black American Advancement in Higher Education and Aviation**

Tracking women and minorities within higher education, aviation, and collegiate aviation programs has seen lackluster effort for quite some time. Many scholars, researchers, and aviation experts contend the need to monitor the progress of underrepresented groups via trend analysis in postsecondary aviation education is paramount (Bowen, 1990; Ison et al., 2016). This is warranted because of the dearth of data collected regarding women and minorities in the aviation industry, scant research and literature about the topic, and the extremely low participation of these groups in STEM-related fields. Over the past 10-20 years, within collegiate flight programs, minorities comprised 27.3% of the student population, which exceeds the approximation of 18.4% participation rate within the profession (Ison et al., 2016). Additionally, research by Ison (2018) suggests minorities (including women) now make up 30% of the professional pilot program student body, which exceeds the participation rates in the industry, with 5.5% of pilots being minorities and 4.2% of pilots being women. This indicates the participation rates of minorities have experienced steady improvements over recent years, suggesting a high likelihood of continued advancement within higher education programs. Statistics such as 1.14% and 0.89% increase in Black men/women and Black men, respectively, between 1996 and 2007, contradict this notion (Ison, 2018). Albeit the trends in participation rates by minorities within aviation higher education are positive, overall participation rates of Black Americans indicate little progress. Thus, while there has been notable progress for minorities in higher education over the past several decades, these participation rates do not parallel those in the aviation industry.

The underrepresentation of minorities, specifically Black Americans, has been a persistent issue in many sectors for years. The aviation industry is no exception and is in desperate need of more Black pilots, maintenance technicians, aerospace engineers, etc. This is evident through research conducted by Lutte (2021a), which demonstrates that only 3.4%, 10.8%, and 6.8% of pilots, maintenance technicians, and aerospace engineers, respectively, identify as Black Americans. Part of this diversity disparity is because there has been little to no concern in understanding what the 'lived experiences' of Black Americans are, which also obscures the cognizance of racial barriers specific to them that hinder their advancement in aviation and STEM-related fields (Harl & Roberts, 2011). Despite some research to understand their experiences, it is not nearly enough to move the needle in terms of collective cognizance about the gravity of their experiences and issues. Furthermore, research surrounding this phenomenon in aviation has been limited across all sectors. There are additional barriers that have notably hindered the advancement of Black Americans in aviation, which can be seen in both aviation higher education and the aviation industry itself. The most common and prominent of these barriers consist of lackluster peer support, financial constraints (e.g., high flight training costs), and social isolation (i.e., lack of belonging or community) (Murillo, 2020; Molloy, 2019).

There is a lack of recent research explicating a Black American student's experience of effectively integrating within the academic and/or social aviation collegiate environment and how integration impacts their academic performance. The research that does exist explores the lived experiences of underrepresented minorities (as a whole), women in aviation, gender implications, or practices within aviation maintenance facilities. There have been a few dissertations that delve into the experiences of minorities or underrepresented groups in aviation,

but only one of them utilized a phenomenological approach, and none of them focalized the experiences of Black American students exclusively, which is where this study can add to the extant literature. Furthermore, there is a tendency for aviation-related research to only be concerned with collegiate flight programs rather than collegiate aviation programs as a whole (Molloy, 2019; Kim & Albelo, 2020; Gagliardo, 2020; Murillo, 2020).

This research will build upon the existing literature and expand the experience of Black American students enrolled in a four-year aviation program. Specifically, this research seeks to explore the academic and social experiences of Black American collegiate aviation students to ascertain and understand barriers or issues aiding in their attrition within collegiate aviation programs. These experiences may have cross-cultural implications for other racial and gender minority students, underscoring the salience of the literature contribution.

## Methodology

The methodological approach used for this study was phenomenological in nature. Existential phenomenology is an approach leveraged by qualitative researchers to focus on the commonality of a lived experience within a particular demographic of people (Creswell & Poth, 2013; Tracy, 2019). Phenomenology allows the researcher to capture the essence of human experience(s) by deriving an adequate description of the phenomenon at hand to ultimately comprehend the present living moment. This approach was chosen because it has the potential to yield extensive insight into the collegiate experience(s), such as academic and social, of Black American aviation students and what factors have assisted, influenced, or (positively or negatively) impacted their collegiate aviation experience (Murillo, 2020). Research questions were addressed through interviews with ten undergraduate aviation students located in different programs in four states (Nebraska, Michigan, Ohio, and Florida), asking about experiences within their collegiate aviation program. Data was collected until theoretical saturation occurred (Murillo, 2020). This sample size is in the range of typical small phenomenological studies (Beiten, 2012; Creswell & Poth, 2013; Smith & Osborn, 2003) and appropriate given the small number of Black Americans participating in the industry (Lutte, 2021a; Silk, 2020).

Participants were recruited in two ways. One was via LinkedIn and Facebook. The researcher also identified prospective participants from an administrative report generated by a collegiate aviation administrator that included a list of students from the particular institution. All potential participants were emailed or directly messaged to establish initial contact. In the correspondence, a formal invitation was extended to them to participate.

Interviews asked two broad questions: 1) What have you experienced in terms of the phenomenon and 2) What contexts or situations have typically influenced your experiences of the phenomenon (Creswell & Poth, 2013). The interviews were conducted in two meetings. The first meeting consisted of interviews; the average duration of these interviews was 43.6 minutes, with the shortest and longest interviews ranging from 24 minutes to 59 minutes, respectively. The second meeting consisted of a

brief phone call to verify and confirm the accuracy of the extracted themes. All first interviews were conducted via Zoom, recorded through the software's record functionality, transcribed by Zoom, and then checked by the researcher for errors and accuracy. Each of the second verification calls was conducted via phone. Participants were promised confidentiality, which was accomplished via the use of pseudonym codes and the removal of any identifying information to prevent instances of deductive disclosure. To further protect the anonymity of the interviewees, the academic institution where their collegiate aviation program was housed was simply referred to as 'Institution' in the findings and discussion sections.

The data and themes were extracted and derived. The researcher also took detailed notes (i.e., memos) during each interview to ensure they captured keywords, statements, emotions, and non-verbal cues exhibited by the interviewees as a means to enrich the rigor of the study. The reflective notes taken were handwritten on the printed interview protocol for each participant and later digitized into an electronic spreadsheet for quick reference.

**Data Explication**

The researcher explicated[1] The data was collected to extract the various themes that emerged from participant responses. The thematic analyses continued until all interviews were explicated. The unit of analysis occurred at the micro-level since the goal was to understand the participants' academic and social experience(s) as Black American collegiate aviation students. A phenomenological analysis proved beneficial in identifying essential features, relationships, ideological functions, and power relations Black American collegiate aviation students experienced within their programs between peers and faculty/staff. Such an analysis was optimal in transforming the data through interpretation, allowing for the emergent experiences and themes to be articulated clearly (Coffey & Atkinson, 1996). Simply, it rendered a unique opportunity to frame the actors (e.g., peers and faculty/staff) mentioned in the participants' testimonies to underscore the power relations and dynamics of the environment. This revealed certain issues that prevented integration, stymied academic success, and aided in attrition. This explication method was used to convey the themes as detailed in the five steps below and is commonplace within phenomenological studies.

***Step 1: Bracketing and Phenomenological Reduction***

The researcher wrote down all their preconceived notions, pre-existing knowledge, and personal experiences associated with the phenomenon in an Excel spreadsheet to bracket the information. This was conducted prior to the data collection

---

[1] The term 'data explication' is used in lieu of 'data analysis' because of the adverse connotations the term has for the phenomenological approach (Groenewald, 2004). Usage of the term 'analysis' indicates 'breaking into parts', which diminishes the phenomena or essence of the experience compiled while the term 'explication' denotes investigating a phenomena without losing paramount context (Groenewald, 2004).

process, was performed during each interview via handwritten notes on the interview protocols (and were later digitized), and was performed during the explication phase of each interview (Groenewald, 2004).

### Step 2: Key Word, Phrase, or Statement Isolation

Once bracketed and reduced phenomenologically, the units of meaning were delineated. This step was done in two phases to ensure accuracy, diligence, and objectivity. The first phase consisted of replaying each interview with closed-captioning while reviewing and revising the associated transcript. During the replay, keywords, phrases, or statements made by each participant were noted. This was repeated for each interviewee until all six were completed, effectively creating a 'master list' of isolated statements that were categorized by the participant. The second phase consisted of thoroughly reviewing this master list to eliminate any redundancies (of statements) in terms of content and significance (Groenewald, 2004).

### Step 3: Isolated Words, Phrases, or Statements Clustered to Formulate Themes

After the units of meaning were delineated through isolation, they were clustered to formulate themes. The list of previously reviewed isolated statements was reviewed again, but with a broader lens to aid in the clustering of these phrases based on shared meaning. Statements with similar meanings were grouped together based on topical significance, which effectively formulated the associated theme for each category. By the end of this step, there were nine themes formulated; this process aided in the development of central themes, underscoring the essence of the clusters (Groenewald, 2004).

### Step 4: Theme Validation and Modification

The summation of each interview consisted of a summary that incorporated all the emergent themes from the data to render a holistic context of the experiences (Groenewald, 2004). The researcher referenced the list used in step three to assign the recently formulated themes that were appropriate to each participant. The participants were then asked during their second interview to review the extracted themes for accuracy. This provided participants with an opportunity to determine if the essence of their interview was properly captured, denoting a "validity check" of the data (Groenewald, 2004).

### Step 5: General Themes Derived and Composite Summary of Phenomena Drafted

After the first four steps were completed, the general themes for all the interviews were derived, and a composite summary of the phenomenon was drafted. This summary was included in the findings section and reiterated more laconically in the conclusion. The purpose was to transform the essence of the interviewees' experiences into expressions commensurate with scientific discourse (Groenewald, 2004). The general themes were derived by examining the list of themes that were

validated during step four and searching for common themes amongst each interview (Groenewald, 2004).

## Validity and Trustworthiness Issues

Validity assesses the accuracy of the results, and since the knowledge gleaned from this phenomenological study cannot be measured for accuracy through statistical means, an issue is posed (Creswell & Poth, 2013; Merriam & Tisdell, 2016). To overcome this issue, the researcher ensured the research design and methodology encompassed salient concepts such as self-reflexivity, thick description (using direct quotes from participants), and multivocality via the incorporation of several participant voices. To convey trustworthiness, the researcher appeared sincere to the participants by demonstrating a sense of openness to their life experiences, which denoted a willingness to share certain aspects of one's own experience and showcased vulnerability on both sides of the 'notepad'. Sincerity, a precursor of establishing trustworthiness, was obtained via two practices: self-reflexivity and thick description. Self-reflexivity entails possessing an honest awareness of one's own identity, research approach, attitude towards, and respect for participants (Tracy, 2019). Self-reflexivity was practiced by sharing the researcher's personal motivation for the study with the participants and keeping memos of their own thoughts, especially during the data collection and explication phases of the study.

## Findings

Of the 10 participants interviewed, five (50%) were male and five (50%) were female (Table 1). Participants were 22 years old, on average, with the age of those interviewed ranging between 20 and 25. Six participants resided in Michigan, one in Florida, one in Ohio, and two in Nebraska. Five participants majored in Aviation Flight (50%), three majored in Aviation Management (30%), and two double majored in Aviation Flight and Management (20%) (see Table 1). Six participants (60%) were current students pursuing a four-year collegiate aviation degree, and four participants (40%) were recent graduates from a four-year collegiate aviation program (see Table 1). Further, the education level was rather high as four participants recently graduated, and of the four, two (50%) were actively enrolled in graduate programs (RT#2 and RT#6).

Table 1
*Characteristics of the Interview Sample (n=10)²*

| Pseudonym/Code | Age | Gender | Major | Education Status |
|:---:|:---:|:---:|:---:|:---:|
| RT#1 | 21 | M | Aviation Flight | Student |
| RT#2 | 24 | M | Aviation Flight & Management | Graduate* |
| RT#3 | 25 | M | Aviation Flight | Student |
| RT#4 | 25 | M | Aviation Management | Graduate |
| RT#5 | 21 | M | Aviation Flight | Student |
| RT#6 | 23 | F | Aviation Management & Flight | Graduate* |
| RT#7 | 23 | F | Aviation Flight | Graduate |
| RT#8 | 21 | F | Aviation Management | Student |
| RT#9 | 20 | F | Aviation Management | Student |
| RT#10 | 20 | F | Aviation Flight | Student |

Eight themes emerged from the analysis of the interview transcripts and reflective memos. These themes are listed in Table 2 and discussed further below.

Table 2
*General Theme(s) Overview*

| Theme | Name | CQ/RQ Addressed |
|:---:|:---:|:---:|
| 1 | Communities of Support | CQ, RQ1, and RQ2 |
| 2 | Scholastic 'Sink or Swim' | RQ1 |
| 3 | Social Isolation & Assimilation | CQ and RQ2 |
| 4 | Financial Need/Support | CQ |
| 5 | Socio-Emotional Support | RQ2 |
| 6 | Institutional Cultural Competency/Sensitivity | CQ |
| 7 | First Generation(al) Student Pressure(s) | CQ |
| 8 | Gender Differential - The "Only" | CQ |

---

² The **'**Student' designation means the participant is currently enrolled and actively pursuing an aviation-related degree from a four-year collegiate aviation program; 'graduate' means the participant graduated within the past 12-15 months from a four-year collegiate aviation program; 'graduate*' means the participant is either actively pursuing or enrolled in a graduate degree program. Due to the nomenclature varying across four-year academic institutions pertaining to collegiate aviation programs, the general terms of 'Aviation Flight' and 'Aviation Management' were utilized to standardize the responses rendered for the 'major identification' category based upon the participants explanation of their respective program of study. The participants' institution and their state of residence were excluded from the table to further protect their anonymity.

### Communities of Support

The most dominant theme that emerged from participants' explication of their lived experience as Black American collegiate aviation students was *Communities of Support*. Each participant was involved in at least one Registered Student Organization (RSO) on campus. Two participants mentioned the RSO they were involved in was not minority-serving (i.e., non-MSO). The remaining eight participants noted that the RSOs they were involved in were minority-serving (MSOs). Of significance was the MSO in which seven of these participants were involved, which was the Organization of Black Aerospace Professionals (OBAP). One student also participated in Women in Aviation. Thus, eight participants mentioned being involved in an aviation-centric organization.

Participants explained the profound impact being involved in RSOs or MSOs made on their undergraduate experience, especially when contrasting their initial social and academic experiences (i.e., freshmen year) to their contemporary social and academic experiences (i.e., senior or current year). Some participants were unaware of student organizations earlier on at their respective institutions, only learning about and joining them during their years as upperclassmen, which they regretted joining so late in their collegiate careers. The MSOs, which are RSOs tailored to minority students, were described by the participants as having a significant impact on their experience as Black American collegiate aviation students. Participants asserted joining these MSOs, specifically OBAP, benefited them significantly with respect to (effectively) integrating academically and socially within the collegiate environment. One participant reported: "Being a part of OBAP was just comforting; being around people that know exactly what you're going through and the things that you can't always put into words, but because they experienced that same thing you [have, they] just have an [innate] understanding" (RT#2). Another participant also reported:

> The only thing that has been disappointing is just not having people like me, not a lot of people like me in the aviation community who look like me. And that's why you see like a kind of connection with people like [name excluded by the researcher for confidentiality purposes] and OBAP, and making sure we look out for each other because, at the end of the day, we are going to look out for each other [the] best. (RT#5)

When asked about contemporary social experiences, participants sounded more excited and joyous, emphatically furnishing vivid memories of fun experiences. Many explicated they had a small friend group they could rely on for anything they needed personally, professionally, or academically. The foundation of most of their friendships was constructed through RSO or MSO involvement and was fortified over the course of their undergraduate career to formulate their own sense of 'community'. One participant posited: "If you are not in any of the organizations and stuff, you really wouldn't know anything about the community." (RT#1) Another participant propounded: "Find more people who are looking for success like you are." (RT#3) A few participants reiterated the beneficence of being involved in communities of support such as RSOs or MSOs, because their involvement within these organizations, specifically OBAP, provided

them with another layer of socio-emotional support from a communal perspective. Albeit beneficial, some participants were not fortunate enough to have access to certain RSOs or MSOs, so their access to communal socio-emotional support was rather limited. One participant, when asked to describe the communal support within their collegiate aviation program, stated:

> The main organizations they put emphasis on at the school are predominately white organizations; the minority organizations that are either created or are trying to start a chapter, we don't get the [same] support from the staff or from the school as the other organizations. (RT#6)

Participants noted some of their closest friends, best experiences, and treasured memories were made possible because of their involvement in OBAP, which was a pivotal community of support for them. This was accomplished through participant attendance at chapter events and national conferences, providing opportune platforms for peer bonding, student/faculty interaction, and networking with industry professionals. While discussing her involvement in OBAP and reflecting upon past events, one participant stated, "It's just a really good journey just being in OBAP, and I'm definitely proud to be in OBAP." (RT#9) Such a positive sentiment was prevalent in other participants' testimonies, but one participant credited the financial support that was made available for him to attend various events. When referencing OBAP, one participant stated, "Our former President went to like two or three conferences, and they got Financial Aid through the Dean's office every time." (RT#2) When asked what advice they would render to newer or younger collegiate aviation students, many responded with, "Join a RSO," adducing the (positive) impact and beneficence of communities of support, specifically RSOs and MSOs with especial emphasis on entities like OBAP, had on their respective collegiate experience(s).

### Scholastic 'Sink or Swim'

Participants noted they either had a great first year or a rough start within the first year of their collegiate aviation program with respect to academics; there seemed to be no in-between. Four participants explicitly stated they entered their program with relative ease and excelled academically, while the remaining six either stated they struggled or alluded to the fact they underperformed scholastically. A few participants expressed they had been excellent students in high school, with some taking advanced courses (e.g., AP or IB), which they felt helped prepare them for the rigor of collegiate coursework. Despite being high-achieving scholars, most found the aviation coursework to be challenging, but the workload was manageable. When asked about their initial academic experience, one participant described: "Everyone came from some part of aviation, and they had that 'step in'. I never had that step in, so private pilot education, academically, was really hard for me." (RT#6) When asked to contrast their initial academic experience to their contemporary experience, the participants expressed their senior year was much more difficult, but due to natural maturation and progression, they gained more perspective and knowledge, thereby making the rigor easier to handle.

When discussing strategies or techniques to overcome certain academic challenges, one participant sounded very distressed and somewhat disappointed when preparing to share about a time they asked a female professor in the program for assistance. The participant stated, "She helped me out because I changed myself to cater to what she wanted at the time, and I did that for four years…to get what I needed…so I could succeed." (RT#6) This parallels and accentuates the experience of another participant who (when discussing program faculty/staff) stated: "I feel like it doesn't always feel like they [the faculty and staff] always care 100% whether we succeed or fail." (RT#5)

The underpinnings of the scholastic experience(s) of all the participants had one thing in common: they each had to learn what "worked" for them to avoid failure. This is clearly encapsulated by a participant who explained: "I'm personally not a person that can sit down for multiple hours at a time and study. It's very difficult for me, and at a certain point, I don't retain information… and the biggest thing was realizing that I need to study for an hour and take a 30-minute break and keep repeating that…and that was the biggest thing I found helped me out freshmen year; figuring out my study habits, how to study, and what type of studying works best." (RT#5)

### *Social Isolation and Assimilation*

Several participants described their initial social experience(s) in a negative light using words such as, "alone" and "lost", because they did not know anyone. Put eloquently, one participant stated, "I felt out of the loop." (RT#4). Some entered college knowing they were rather introverted and sought to change that in college, prompting them to take a more active role in socializing with others and, in some cases, to no avail. Most participants found their freshmen year to be the roughest of their undergraduate career in terms of social experience because they had difficulty integrating into the social environment despite meeting and/or bonding with other aviation students. As such, they spent the first year somewhat socially isolated; those who were not isolated were forced to assimilate into groups they did not necessarily relate to racially, ethnically, or culturally. This was eloquently vocalized by one participant who noted:

> There are other girls to talk to in the program besides the instructors. [There were] not a whole lot of other people [females specifically, in the program] besides the guys, and so you just kind of become one of the guys and assimilate, and that's kind of what you gotta do to survive, really. (RT#10)

One participant explained they joined a predominately white (social) fraternity just to be somewhat connected socially, even though they were rather inactive with said organization. Assimilation in the academic environment, especially within collegiate aviation programs, was a dominant trend in the participants' responses. This is supported by one participant who expressed:

I felt as though I always had to put on this kind of front or persona to make them comfortable, or to make my friends comfortable, or my professors comfortable. I mean comfortable in the way of, which honestly sounds bad, but like de-black myself; like take my vernacular [away], take away the way I say things or express myself. I just felt like I had to fit the mold of White men. (RT#6)

When asked probing questions to describe the social climate of their collegiate aviation program in terms of students and leadership, the same participant stated, "It was inclusive, but I think inclusivity always hits a point when there are predominantly White men and so little minorities." (RT#6) Of significance, the same participant alluded to instances of imposter syndrome during a line of probing questions regarding this topic of social isolation and assimilation. This notion of imposter syndrome is evident in the first quote included in this paragraph. In this quote, the participants mentioned they had to "de-black" themselves in terms of vernacular, actions and behaviors, and identity to make their friends or professors comfortable. The "imposter" presented to their friends or professors to enhance the comfortability of these individuals was a necessary façade, as posited by RT#6, to increase the likelihood of their academic success, social integration, and opportunities within the program.

During one interview, a participant framed their initial social experience as positive, which turned out to be a double-edged sword. The participant noted:

I would say supportive, but supportive in the way of I was the only Black female in my program. So it was support because I was the only Black female in the program and I was the person that you were going to put on the institution page (i.e., website); I was the person you were going to put in all the camera film, and anything that had to do with diversity or something - that's who I was. (RT#6)

### *Financial Need/Support*

The need for financial support or inability to acquire it was mentioned in each interview, with the exception of one. Those majoring in Aviation Flight and yearning to become professional pilots richly described the financial hardship associated with the major. The tone surrounding the conversations pertaining to this theme was one of negativity and disappointment; the sheer exhaustion of carrying around this "financial burden" was draped over the participants' faces and nearly tangible. Several participants described their struggles of having to work one, two, or even three jobs to afford flight training costs on top of living expenses, tuition, and other necessities whilst being full-time students. When asked why one participant chose his particular collegiate aviation program over another, he responded with, "They gave me financial aid and scholarships." (RT#2). When asked a follow-up question about a different program that was brought up during the interview, he replied with,

The institution [name of the program removed by the researcher for confidentiality purposes] was out of the question. The out-of-state tuition was

astronomical before applying flight fees. Tuition and out-of-state fees would have been in the ballpark of $60k, double that for aviation fees. (RT#2)

One participant expressed discontent with their program, comprising a very frustrating undertone that was palpable for the vast majority of the interview. When asked what his major was, the participant explained that an older aviation flight student briefly outlined the logistics of the aviation flight program. The participant added:

Once he told me the prices, you know, I guess, that sparked something in me that said wow, I may not be able to afford this nor can my parents so I should probably switch my major. I wanted to switch my major to something else, but then I found out that the aviation business was a thing…then that's what put me on that path. (RT#4)

This frustration was compounded by the sense of defeat he experienced when he realized he was likely going to have to change his major from Aviation Flight to Aviation Management or something entirely different because he was unable to secure the funding necessary. He expressed his frustration and discontent, which stemmed from the severe lack of direction and guidance given to him as a freshman. The participant noted: "So, my first year, I had a conundrum. I didn't know like if I should start like taking out loans for flight or, you know, pursue just the management side, and I was just kind of stuck my first year." (RT#4)

For another participant, the availability of financial support dictated their academic course load and was the primary factor in deciding whether or not they could pursue an Aviation Flight major at their institution. The participant stated,

Academically, it just comes down to finance because I have never been on a scholarship, and once again, I am not on a scholarship. It's just pretty much me trying to finance the whole thing, trying to figure out how I am going to pay for this and pay for that. I think, more [than] likely, it will be difficult as I keep going on towards the future trying to get my ratings because that is the expensive part. (RT#3)

### *Socio-Emotional Support*

The notion of having support or people you can depend on, especially when times get tough, was a common undertone within each interview. The primary sources of socio-emotional support the participants' received were from their parents, relatives, and their friends. Several participants described how they would often lean on their family or their friends depending upon the type of support needed at the time. One participant expressed feelings of relief when discussing the salience of his friends and the pivotal role their support played in his academic progression and performance. When asked about what advice he would provide to newer or younger collegiate aviation students, he noted,

I would say that's another big thing - find people who are driven, who are as passionate about aviation as you are because I guarantee you, at the end of the day, how passionate they are going to seep into you. (RT#5)

Only three participants mentioned there was someone within the aviation faculty/staff they could go to for support or guidance. Of significance, one participant mentioned there was a Black American woman who worked within their respective program, which provided support and was an ally. This particular staff member went above and beyond her duties to speak up on behalf of this particular participant, advocated for other students (in potentially adverse situations), fed them, and provided them with various resources. The support was so profound that the same participant stated, "She's probably the number one reason why I didn't leave the program, to begin with." (RT#8). Such a statement underscores the impact this one staff member had on the participant and likely others, which also emphasizes the importance of socio-emotional support in the collegiate environment as well as active representation in underrepresented spaces (e.g., higher education and aviation). Others in the sample were not as fortunate, which seemed to be more commonplace based on the responses rendered in the interviews. During an interview, when discussing collegiate aviation program faculty/staff, one participant appeared saddened based on his body language and facial expressions while describing his interactions with his program's faculty/staff. While recounting a specific conversation with the program's director and in a melancholy tone, he added, "…You know like what else is out there like/ what can I use with this degree, you know. There is no real direction, there's no encouragement to be able to find anything…" (RT#4).

Several participants spoke about the importance of socializing, specifically networking, and its salience within the aviation industry. This concept of networking was discussed in contexts internal and external to the classroom as two participants recommended newer or younger aviation students develop relationships with their professors and become comfortable with speaking to industry professionals, respectively. There was also a strong emphasis placed on being smart and conscientious with one's social media since inappropriate content can be a potential career-ender if discovered by recruiters. The overarching consensus amongst the participants was that making connections and having individuals provide socio-emotional support was necessary to navigate the social and academic environments within their program and, ultimately, the aviation industry. When asked what other recommendations or insight participants had for newer aviation students, one participant responded with: "Get a good circle of people in the program." (RT#10) Such a simple piece of advice was a cornerstone in her success in networking within the industry and, more importantly, navigating the nuanced social and academic structures of the academy. Further, this advice coincides with a statement made by RT#9, who stated:

I would definitely say the first thing to do is find an RSO you think suits you. Because we have so many aviation RSOs on campus, [it] definitely makes it a lot easier to find people with the same interests as you and the same goals.

By surrounding oneself with like-minded individuals that would be a part of a RSO, one can extend their personal and professional networks, thereby expanding their access to socio-emotional support and enhancing their potential to gain knowledge about certain social events or access to academic resources they might not have obtained otherwise. This underscores the gravity of the participants' recommendation(s) and warrants the serious tone they possessed when sharing such a pivotal piece of information.

### *Institutional Cultural Competency/Sensitivity*

Each participant described at least one instance of cultural incompetence or insensitivity exhibited by their program's faculty/staff or a fellow colleague within their program. Several participants stated they had numerous stories they could share that underscore this notion of lackluster competence but felt it unnecessary because the event had passed and it was essentially the "norm" within their respective collegiate aviation programs and, to a certain extent, the aviation industry. The overarching experience and sentiment expressed by each participant was rooted in assimilation or conformity to whatever the norm was. Some participants asserted they experienced instances of overt and covert racism or prejudice within their respective institutions. One participant explicitly stated their program (and institutional personnel) should be required to take Diversity and Inclusion training from experts to become more emotionally intelligent. When describing a specific encounter this participant had with a faculty/staff member; the participant displayed non-verbal cues of slight frustration. The participant noted the faculty/staff member stated, "I'm tired of your excuses. If aviation is not a priority, then you need to get your priorities in order." (RT#2). This same participant added that the conversation was rooted in disrespect, and they (the participant) were confused about the exchange because he had not missed a flight lesson nor incurred a tardiness.

The cultural competence and sensitivity of administrators, faculty/staff, and the student body were commonly referenced during the interviews. Several participants described situations or encounters with faculty/staff or students that could have been more positive had the aforementioned parties been more culturally competent or sensitive. While describing his social experiences at one institution, one participant stated, "The social climate and environment at [institution name removed by the researcher to protect confidentiality] was not really my speed." (RT#2). This same participant also added the social climate was one of many factors that prompted his transfer to a different institution.

The participants all sounded extremely disheartened while describing their various social encounters within their respective institutions, and some appeared (emotionally) exhausted. When asked probing questions about their social experience, specifically pertaining to their encounters with faculty/staff, one participant spoke about having to always fit the "room." They asserted:

The issue is that the room is always 96% White male, so I'm always catering to this crowd that always excludes me. Honestly, I don't think freshmen year I noticed, but by senior year, I was exhausted, and I am tired now. (RT#6)

### First-Generation(al) Students Pressure(s)

Albeit not a question asked by the researcher nor included in the interview protocol, two participants explicitly verbalized they were first-generation students. They sounded proud of this designation; one expressed they had to shoulder the weight of their parents' academic dreams and ambitions, which served as a motivator for him to do well in college. When asked why he chose to pursue aviation as a major, the participant responded with:

I didn't come in with any surefire plan. I just knew that I wanted to be the first in the family to graduate, so I had a goal in mind, but I didn't even know what I wanted to study at the time. (RT#4)

The same question was posed to another participant, who noted:

I looked into the professional flight program, as I said, and the courses and content were just $40k for me to fully complete it. And at that time, I had nothing. I mean, I still don't, but at the time, it was just very risky because my parents' goal was for me to be the first person in my family to get a college degree. (RT#3)

Despite these responses being provided by two different participants who possess stark backgrounds, the tone of their voices, coupled with the stiff facial expressions, emanated their seriousness and the gravity of their desire to make their respective families proud by any means necessary.

### Gender Differential – The "Only"

All five female participants either explicitly stated or alluded to part of their experience in their collegiate aviation program being impacted, typically in a negative manner, due to them being the "only" female or, in many instances, the "double only." This means they were the only Black female in their classes and/or programs. When expounding upon this in several of the questions, the tone and emotion underpinning the responses was nearly palpable, as if the function of their race and gender cast a spotlight on them for the world to see. This spotlight illuminates the gender differential that often exists in collegiate aviation programs, which may go unnoticed (intentionally or unintentionally) by students and/or faculty/staff identifying as non-minority. However, for those in the minority, specifically Black female students, it cannot help but be noticed, which causes very somber and alienated feelings, as described by one participant who stated:

In a lot of my classes, I have probably been one of the only, or one of two Black students in my class, let alone [there] probably being five girls, and I am the only Black girl;l so I guess just not feeling like I belong there (RT#8).

The above quote encapsulates the gender differential theme that was stressed amongst the female participants and adds depth to the large divide between White-males, White-women, and minorities several of the participants stated existed in their respective programs. When detailing experiences about being the "only," one participant shared something profound about how the lack of Black female representation in the industry placed additional pressure on her. She stated: "I felt like when I started [in my program] because I didn't see anyone else that looked like me, I had to carry the weight of everyone who would ever look like me that would come in there" (RT #7). This feeling was further accentuated when the same participant spoke about being the first Black female student to graduate from her program; she stated:

Since I might be the first one…I felt like I had to keep an image and a stature that was perfect pretty much so that whatever other girl came in there, she wouldn't have to worry about how the last Black girl would impact her in a bad way. [I] wanted to make sure that I was giving them an upper hand instead of harming them in any way (RT#7).

When asked if she perceived such pressure stemming from the prominent gender differential as a barrier, she agreed unequivocally, almost with a sigh of relief, as if what she explained was understood without a long, drawn-out explanation. She responded to the follow-up question with the following statement: [It was] definitely a barrier because I didn't really know how to carry. I guess the burden of being the only one adds to the social awkwardness (RT #7). Albeit the spotlight and pressure from being the "only" emanated from the vocalization of participants' experiences, often in a negative manner, there was an instance of a silver lining stemming from the notion. For one participant, this silver lining came as a complete surprise during a volunteer shift at the local Girls in Aviation Day event, where she shared the spotlight with another person: a young Black girl whose horizons had been broadened through one interaction. While describing how her collegiate aviation program and aviation had impacted her personally, she recalled the encounter and noted:

A mom came over to me, and she tapped me on my shoulder, and she was like, can you take a picture with my daughter… it was a little Black girl that kept staring at me…and her mom looked over at me and said she has never seen a Black female pilot before; she didn't know that was possible until she just saw you (RT #7).

Despite the many negative interactions this participant and the others elucidated upon as they fought through what sounded like emotional fatigue during the interview, this particular experience was shared with a sense of joy, excitement, and hope for the future with respect to racial and gender diversification within the industry. This

supports an explicit goal shared by a participant who is "Hoping to reach more Black girls to get into aviation" (RT#9).

**Discussion**

The aim of this study was to ascertain the experiences of Black American collegiate aviation students as a means to explore and understand what factors have impacted their experience(s) as collegiate aviation students. The underlying rationale was to determine how these may have influenced their recruitment and retention within their aviation program and/or the aviation industry as a whole. The emergent themes from this phenomenological analysis demonstrate that the experience(s) of Black American collegiate aviation students are multifarious but share commonalities regardless of their geographic location, age, and academic institution attended. The central research question and both secondary research questions were thoroughly addressed by the eight themes that emerged from this study.

The CQ for this study sought to ascertain and understand what the experience(s) of Black American collegiate aviation students has been. An analysis of the interviews, transcripts, and reflective notes determined the overall experience of these students has been positive yet heart-wrenching and by no means easy. As Black American students pursuing education in a historically underrepresented field that has less than 3.5% of their demographic in it, students are often fighting three battles, two of which are internal. These battles consist of: 1) Combatting emotional and mental fatigue from being forced to fit within society's standards; 2) Refusal to succumb to certain pressures and challenges endemic to the higher education environment and; 3) Struggle to maintain the balance between one's personal, academic, and professional lives.

The first (internal) battle, which is due to external influence(s) (i.e., societal pressures), is with themselves as these students combat instances of imposter syndrome, bouts of emotional and mental fatigue as they attempt to fit the societal "norm," and repudiate the iron wall of doubt that is bestowed upon them. This is best outlined by the emergent themes of *Social Isolation and Assimilation*, *Institutional Cultural Competency/Sensitivity*, and *Gender Differential – The "Only"*. The themes of *Social Isolation and Assimilation* and *Institutional Cultural Competency/Sensitivity* provide integral insight into the holistic collegiate aviation experience(s) of Black American students whilst underlining the mental and emotional hardship they encounter on two fronts: from their colleagues/peers and faculty/staff. If these students are experiencing inordinate difficulty integrating within their new environment because they encounter issues finding common ground with their peers and are unable to confide in program faculty/staff due to their lackluster cultural competence (via verbal and non-verbal) means, then it is not farfetched to see why many of the participants described their overall collegiate experience as "rough" or "lonely". However, many of the participants only expressed positive sentiments about their collegiate experience as they discussed details about their junior or senior years. This means they only experienced reprieve and somewhat enjoyed their undergraduate studies towards the end of their collegiate sojourn, and this was not because of institutional or personnel improvement. The

participants had to adapt to their environment, learn to make do with the friends they had, circles they were allowed to enter, and block ignorant, or in some cases discriminatory, comments made by faculty/staff. Part of this adaption process, which aided in their "survival", can be traced back to their involvement in a RSO or MSO. The positive role their organization played in these years cannot be overstated, specifically supplying them with colleagues they could rely on for advice or resources necessary to overcome certain obstacles whilst serving as a positive source of support.

The *Gender Differential – The "Only"* theme is a profound one that only intensifies the battle many Black American collegiate aviation students must endure. However, this particular battle is gender specific, impacting the Black American female students who are effectively isolated and alienated from the remainder of the aviation students. Several of the female participants asserted there is a noticeable divide between the white-male and white-female students and the minority students, implying the alienation is intentional potentially due to their race and/or gender (as Black women). Thus, based on the experiences shared by the female participants, they felt Black American women do not fit within the societal and historic standard carried within the white-male-dominated aviation industry. Further, there was an underlying perception shared by all the participants that they were looked down upon and, in some cases, ostracized for attempting to break barriers. This was explicitly connoted by two of the participants who shared feelings of not belonging in the classroom with their peers and receiving lackluster support from students, faculty, and staff at their respective institutions. The emotional and mental fatigue and, I would argue, borderline exhaustion from being a Black American in U.S. society can be overwhelming on its own, but when this is compounded by others in the academic environment where students should feel safe and accepted, how are students who represent the "only" supposed to combat the feelings of not belonging, alienation, and frustration? This is a rhetorical question, one the Black American male students that were interviewed did not have to answer nor necessarily experience, emphasizing the gender differential facet of the theme. Such a blatant perpetuation and confinement of gender inequity in social and academic spaces constitute a detour from the ideals of equality and equity, two principles upon which higher education and civil society are predicated (Parente & Martinho, 2018).

On a lighter, more positive note, the experience of being the "only" has yielded a favorable outcome for some but is not nearly enough to tip the equity scales pertaining to the female participants' collective experience(s). Specifically, one participant was the first Black American female graduate from her program, resulting in her receiving attention and unwanted remarks from students, faculty, and some community members. Although this was an amazing feat, the participant who shared this testimony was under the perception the attention she received was only given out of envy and wonderment since a Black American female student had managed to matriculate rather than being applauded for her academic merits performance. This tends to happen far more than some realize, is a disservice to the individual, and diminishes accomplishment. Due to such a distinguishing accomplishment, this same graduate inspired a young Black girl who had never met a Black female pilot before and, until the encounter, believed

aviation and, specifically, becoming a pilot was not something she could do. Therefore, through passive representation, the gender differential of being the "only" helped overcome the invisibility cloak that tends to be thrust upon women socially to ultimately make strides towards breaking out of the confinement of the secondary labor market where women are often shelved (Parente & Martinho, 2018). Simply, the strength of visibility resides in its ability to empower minority youth to aspire to positions they thought not obtainable, which works to provide reprieve for those fighting mental and emotional battles while reforming societal norms to be more equitable.

The second (internal) battle is one that is nearly inevitable for many Black American collegiate aviation students, especially for those who come from low-income households and were not fortunate to have family members involved in the aviation industry. This battle primarily consists of not succumbing to the constant pressure of being a first-generation student, navigating a new space, and doing well scholastically. None of the aforementioned are easy feats individually and may seem insurmountable as a collective. The pressure of being a student is already momentous for the layperson; when factoring in additional responsibilities such as having to work or handle other external obligations while being a full-time student who happens to be first-generation, it is nearly crushing. This narrative is far too common for Black American students, and the sentiments conveyed by two participants accentuate this notion, which is encompassed by the theme of *First-Generation(al) Student Pressure(s)*. Carrying the dreams, goals, and ambitions of one's parents, as well as their entire family, places an inexplicable amount of pressure on first-generation students that is almost palpable. Navigating the higher education environment can prove challenging for even seasoned students, making routine ventures to find the library or the cafeteria appear daunting for new students, with special emphasis on those who may have never been on a college campus. This is only exacerbated by the fact that they cannot seek answers to certain questions from those they may trust the most as they are first-generation, forcing them to rely on fellow colleagues who may be just as confused as them or (some) faculty/staff that may be reluctant to assist for various reasons.

The third battle Black American collegiate aviation students fight is an outward one that is seemingly perennial. The bout consists of Black American students fighting to maintain the delicate balance that is required to work their jobs so they can satisfy their economic and social needs and earn good grades to maintain their scholastic commitments (e.g., contingent scholarships). This is not a fair fight for most students, but for Black American collegiate aviation students, specifically those majoring in Aviation Flight, the odds are almost never in their favor. This stems from the immense cost of flight training on top of traditional higher education costs (e.g., tuition, books, fees, etc.)

The emergent theme of *Financial Need/Support* encapsulates the sobering figures detailed by the participants to describe the disparate impact flight training imposes on those yearning to become professional pilots. Such a financial constraint adds undue stress, lowers morale and motivation, and can cause the student to feel defeated. This

was axiomatic, with one participant stating he was forced to change majors and even contemplated leaving his aviation program altogether. Despite receiving financial aid from his institution, it was still not enough to bridge the gap, which was a sentiment shared by nearly every participant. Consequently, he deferred his dreams of becoming a pilot; had he not switched his major, it would have prolonged his expected graduation date. Thus, he made the switch because he literally could not afford to remain in the flight major or become bogged down in despair from the switch, or else it would impair other facets of his life. At its core, financial stability or fiscal availability is a large predictor of completion for Black American collegiate aviation students, specifically those wanting to become professional pilots, which is adduced through research by NRC (1997) and Murillo (2020). These interview findings highlighted the notion that those with access to funding tended to have a better overall collegiate experience than those who did not. For those who did not have the same access, the feelings of disappointment and defeat permeated through each question and notably impacted their perception of collegiate aviation.

Involvement in a community of support (e.g., an RSO or MSO), specifically OBAP, positively impacts the collegiate experience. Specifically, the ability to make friends, socialize regularly, and enjoy one's undergraduate career was significantly improved. As such, participants expressed they felt more inclined to engage in and create study groups or seek institutional resources (e.g., attend the writing center or math tutoring/lab), both of which affected their academic performance. Additionally, several participants noted many of their most treasured friendships arose from their involvement in RSOs or MSOs. These friendships and involvement in something bigger than themselves provided a renewed sense of self, higher purpose, and a sense of community they had not experienced in their first, second, or even third year of college. For some, the involvement in OBAP or an akin RSO was the sole difference maker in changing their collegiate experience from negative or adverse to positive and empowering. The participants' involvement in an RSO or MSO, such as OBAP not only impacted their social experience but also improved their academic experience. This stemmed from some forming study groups or hosting academic activities, in which many of their friends attended or helped establish. Thus, based on the testimony of the participants, their ability to integrate within the academic and social environments was positively influenced through their involvement in RSOs or MSOs with a special emphasis on OBAP, and they recommended future students get involved in something similar as soon as possible. Such a positive experience and recommendation helps to answer the CQ and both RQs directly, thereby underscoring the *Communities of Support* theme.

The *Scholastic Sink or Swim* theme also directly addresses RQ1. Albeit some participants had a positive academic experience due to their involvement in MSOs like OBAP, a couple of the participants were not fortunate to have such an organization on their campus to help establish friends or access academic support. Generally, the participants either had a great academic experience or were "muddled" through, especially during their first two years, for various reasons. Prominent reasons these participants struggled academically consisted of coursework challenges, workload

issues, difficulty navigating the academic space, and/or being confused about whom to go to for help or where to go for specific resources. These reasons were commonalities amongst the testimony of the participants and can pose significant retention issues if not resolved promptly (Jama et al., 2009). Further, these issues may help explain why participation rates of racial minorities in higher education and collegiate aviation programs have continued to be low, as posited by Bowen (1990), Ison et al. (2016), and Ison (2018).

The *Socio-Emotional Support* alongside the *Social Isolation and assimilation theme, which was discussed earlier in this section, directly addresses* RQ2. Every participant described how their initial and even contemporary social experiences were lonely and rough because they hardly knew anyone. Several of the participants were the only Black American aviation students in their respective programs, and it was not until they progressed in the program that they met other students they could relate to racially, ethnically, or culturally. Without having a community or friend group to source socio-emotional support from in immediacy, some participants relied on stoic emotional and moral support from their parents or family members. They were able to decompress and find solace by speaking to and hearing the voices of those they were most familiar with. Despite the family members not being knowledgeable about aviation, the fact the student could communicate with someone familiar with them and essentially latch onto was enough to help them overcome the adversity at the time.

This "lifeline" can be best summated by the adage, "It takes a village to raise a child", yet some of the participants indicated they did not have a village to lean on. In instances such as this, when situations became bleak, they were forced to rely on themselves and the few individuals they had available to push through. This is not uncommon as a few of the participants indirectly alluded to "struggling in silence" while putting on a façade for those external to the issues because they were too mentally, emotionally, or physically exhausted to share or felt it asinine, causing those listening to not understand anyway. Such feelings are unhealthy to harbor and add to the crushing pressure many already feel, further underscoring the salience of socio-emotional support for students, especially those who are Black American. In the Black American community, seeking help for mental or emotional health has been deemed taboo and can be a contentious topic for families. This communal and illogical societal maxim is subsiding slowly and is more tantamount than ever, given the implications of the pandemic, race relations within U.S. society, and the heightening of mental health awareness within aviation.

The findings from this study not only add to the existing literature in several ways but also fill the gaps that exist, specifically by exploring what it means to be a Black American student in a collegiate aviation program via understanding their lived experience(s) and illuminating factors that impact the academic and social success of these students. Such an illumination adds a new duality to previous research that only examined the experiences of underrepresented minorities (as a collective) in collegiate aviation flight programs (Molloy, 2019). In contrast, this study specifically explored the experiences of Black American collegiate aviation students enrolled in both Aviation

Flight and Management programs, underlining the duality. Further, much of the research examining this phenomenon exists in the forms of theses and dissertations, with peer-reviewed works being scant. As such, this phenomenological study not only bolsters the quality and quantity of the existing literature examining the experiences of the designated demographic but also explores the underpinnings of the lackluster racial diversity issue plaguing aviation programs and STEM-related majors. This was accomplished through the ten emergent themes derived from the study, which render critical insight into what constitutes, impacts, and influences the academic and social experience(s) of Black American collegiate aviation students.

The eight themes that emerged from the study help provide a holistic overview of the various factors that contribute to the academic and social success of racial minorities, specifically male and female Black American collegiate aviation students. The themes of *Communities of Support and Socio-Emotional Support all encompass factors participants* noted positively impacted their academic success and/or shaped their social experience(s) as collegiate aviation students. This is paramount because it aligns with a prior study that explored a similar phenomenon but focused on gender equality and minority women (Kim & Albelo, 2020). This study adds to the existing literature because it elucidated (success) factors pertinent for Black American students identifying as male or female. The elucidation of these factors (as encompassed by these three themes) is important because they are integral for the effective academic acclimation and social integration of Black American students within the academe, which has been suggested to increase their retention (and, subsequently, matriculation) within higher education (O'Keeffe, 2013; Jama et al., 2009).

**Future Research**

The fact that all the programs the participants included in this study belonged to were exclusively located at Predominately White Institutions (PWIs) is a limitation. It can be speculated the experience(s) of students attending a PWI may be drastically different than those attending a comparable Historically Black College or University (HBCU), Minority Serving Institution (MSI), or Tribal College and University (TCU) for a variety of reasons. The most prominent of these reasons may include differences in racial representation on-campus in terms of faculty/staff and students, funding and tuition costs, student resource availability and accessibility, and institutional culture. Therefore, future studies should explore the experience(s) of collegiate aviation students identifying as Black Americans who attend institutions not classified as PWIs. This means institutions classified as HBCUs, MSIs, and/or TCUs should be examined.

**Recommendations**

***Collegiate Aviation Administrators:***

1. Diversity and Inclusion (DNI) and Cultural Competency/Sensitivity training are required to be completed by all faculty/staff employed within or associated with (e.g., Flight Training Service Providers) the academic institution. This can be facilitated through the

current institution's system that already mandates employees complete sexual awareness/assault training at the beginning of the academic year.

2. Make more concerted efforts when hiring faculty/staff internal and external to the collegiate aviation program that identifies as racial and/or gender minorities to increase representation.

3. Provide financial and administrative support for racial minority students attempting to establish RSOs or MSOs within an academic institution. This is pivotal in not only fostering a sense of belonging for many students who feel alienated but also serving as an excellent recruitment and retention tool for the aviation program and institution itself.

4. Consider restructuring the financial aid packages offered by the academic institution for students majoring in Aviation Flight who identify as a racial and/or gender minority, are first-generation, and classify as low-income. Ideally, this package should provide them with enough funding to be able to complete the training necessary to earn their private pilot certificate since this is usually the most expensive and time-consuming certificate to attain.

### *Aviation Industry Leaders:*

1. Continue concerted efforts to create pathway programs and partnerships with collegiate aviation programs, especially those located at HBCUs and PWIs.

2. Consider partnering with MSOs, such as OBAP, to expand industry outreach and exposure to areas that lack an aviation presence within the community, and visit middle or high schools located in lower socioeconomic areas to furnish exposure to students who tend to possess limited access to prominent aviation entities.

3. Create additional funding packages and scholarship opportunities aimed specifically at those who do not possess a private pilot certificate, are first-generation students, and identify as a racial and/or gender minority. There are numerous scholarships available offered by nonprofits, of which some are funded by commercial entities, but this number is limited and could be bolstered to help incentivize students to enter, advance, and remain within aviation.

### Conclusion

This study sought to build upon the existing literature and expand upon what it means to be a Black American student enrolled in a four-year aviation program. Due to the lack of understanding about these experience(s) in previous studies, this research aimed to address the gap by exploring their academic and social experiences and understanding barriers or issues aiding in the attrition of Black American students within collegiate aviation programs. A student's involvement in an RSO or MSO (e.g., OBAP) appeared to be a notable difference-maker in one's experience with respect to severity. Simply, those involved in an organization tended to experience a smoother,

more expeditious acclimation academically and socially integration into their collegiate program than those that did not. Consequently, they experienced more frequent instances of positive academic and social experiences, impacting their overall perception of college. Subsequently, their mentality also improved whether they noticed it at the time or not, implying their involvement in the organization served as a positive influence on their retention within the program. Due to the many positive academic and social experiences they possessed, the vast majority of the participants recommended incoming Black American collegiate aviation students join an organization as well, denoting its utility as a recruitment and retention tool. It should also be noted that this study highlighted how gender impacted one's experience. Specifically, being a Black American female yielded a different experience than being a Black American male. This study also underscored the importance of socio-emotional support for these students, which can help reduce instances of social isolation and assimilation many of the participants described during their first two years of college. This is important to consider because a student's freshmen year is often a good indicator of their academic progress and retention within higher education, so if they are unable to garner the academic or social support needed within that first year, then they may be more susceptible to attrition.

## Funding

## References

American Association for Access, Equity and Diversity (AAAED). (2019). More history of affirmative action policies from the 1960s. *AAAED*. Retrieved from https://www.aaaed.org/aaaed/history_of_affirmative_action.asp#:~:text=1965.,expand%20job%20opportunities%20for%20minorities.

Beitin, B. (2012). Interview and sampling: How many and whom. In J. Gubrium, J. Holstein, A. Marvasti, & K. McKinney (Eds.), *The SAGE handbook of interview research: The Complexity of the craft.* (243-254). SAGE.

Bowen, B. D. (1990). Measurement of participation levels of women and minorities as collegiate aviation educators. *The Collegiate Aviation Review International*, 8(1): 1-11. DOI: 10.22488/okstate.18.100236.

Brass, D. J. (1984). A Structural analysis of individual influence in an organization. *Administrative Science Quarterly,* 29(4): 518-539. Retrieved from http://www.jstor.org/stable/2392937.

Bureau of Labor Statistics (BLS). (2021). Labor force statistics from the current population survey. *United States Bureau of Labor Statistics.* Retrieved from https://www.bls.gov/cps/cpsaat11.html.

Burt, R. S. (1992). *Structural Holes: The Social Structure of Competition*. Harvard University Press Name.

Cline, P. E. (2019). The Intersection of race, gender, and socio-economic status in the life of Bessie Coleman. *The Collegiate Aviation Review International*, 37(2): 133-156. Retrieved from http://ojs.library.okstate.edu/osu/index.php/CARI/article/view/7915/7308.

Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies*. Thousand Oaks, CA: Sage.

Creswell, J., & Poth, C. (2013). Qualitative inquiry and research design : Choosing among five approaches (Fourth ed.). Los Angeles: SAGE Publications.

Depperschmidt, C. L., & Bliss, T. J. (2018). Female flight students: Perceptions of barriers and gender biases within collegiate flight programs. *The Collegiate Aviation Review International*, 27(2): 18-27. DOI: 10.22488/okstate.18.100391.

Evans, L., & Feagin, J. R. (2012). Middle-class African American pilots: The Continuing significance of racism. *American Behavioral Scientist,* 56(5): 650-665. DOI: 10.1177/0002764211433804.

Gagliardo, B. (2020). Against the wind: A Study on aviation as a female career choice. *Brandman University.* Retrieved from https://www.proquest.com/docview/2393042820?pq-origsite=gscholar&fromopenview=true.

Granovetter, M. S. (1973). The Strength of weak ties. *American Journal of Sociology*, 78(6): 1360-1380. Retrieved from https://www.jstor.org/stable/2776392.

Groenewald, T. (2004). A Phenomenological research design illustrated. *International Institute For Qualitative Methodology (IIQM)*, 3(1): 42-55. DOI: 10.1177/160940690400300104.

Halleran, M. S. (2019). Gender balance in aviation. *Collegiate Aviation Review International*, 37(1). Retrieved from http://ojs.library.okstate.edu/osu/index.php/CARI/article/view/7821/7216.

Harl, T. L., & Roberts, P. (2011). The Black experience in Business aviation: An Exploratory case study. *Journal of Aviation Technology and Engineering (JATE),* 1(1): 11-18. DOI: 10.5703/1288284314631.

Ison, D. C., Herron, R., & Weiland, L. (2016). Two decades of progress for minorities in aviation. *Journal of Aviation Technology and Engineering,* 6(1): 25-33. Retrieved from https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1141&context=jate.

Ison, D. C. (2018). Have we made progress? Trends in minority participation in postsecondary in aviation education. *The Collegiate Aviation Review International,* 27(1): 53-64. DOI: 10.22488/okstate.18.100386.

Ison, D. C. (2010). The Future of women in aviation: Trends in participation in postsecondary aviation education. *Journal of Aviation/Aerospace Education & Research,* 19(3): 27-40. DOI: 10.15394/jaaer.2010.1368.

Jama, P. M., Beylefeld. A. A., & Monnapula-Mapesela, M. (2009). Theoretical perspectives on factors affecting the academic performance of students. *South African Journal of Higher Education,* 22(5). Retrieved from https://www.researchgate.net/publication/272579348_Theoretical_perspectives_on_factors_affecting_the_academic_performance_of_students/link/55646ab508ae9963a1201eb5/download.

Kim, E., & Albelo, J. L. D. (2020). Women in aviation: A Phenomenological study exploring the needs and wants necessary for graduation. *Embry-Riddle Aeronautical University.* Retrieved from https://commons.erau.edu/cgi/viewcontent.cgi?article=1164&context=student-works.

Lutte, R. K. (2021a). Bridging the Gap: Improving diversity and inclusion in the U.S. aviation workforce. *United States House of Representatives Committee on Transportation and Infrastructure.* Retrieved from https://transportation.house.gov/committee-activity/hearings/bridging-the-gap-improving-diversity-and-inclusion-in-the-us-aviation-workforce.

Lutte, R. K. (2021b). Women in aviation: A Workforce report 2021 edition. *University of Nebraska at Omaha Aviation Institute.* Retrieved from file:///Users/theprofessor/Downloads/Lutte2021WomeninAviationWorkforceReport%20(2).pdf.

Marintseva, K., Mahanecs, A., Pandey, M., & Wilson, N. (2021). Factors influencing low female representation in pilot training recruitment. *Transport Policy,* 15: pp. 141-151. DOI: https://doi.org/10.1016/j.tranpol.2021.11.010.

Mattson, P., Johnson, J., Olson, A., & Ferguson, M. (2018). Gender and multi-cultural curriculum issues for undergraduate aviation students. *The Collegiate Aviation Review International,* 25(1): 46-56. DOI: 10.22488/okstate.18.100357.

Maxwell, J.A. (2013). Qualitative research design: An Interactive approach. Thousand Oaks, CA: SAGE Publications, Inc.

Merriam, S. B., & Tisdell, E. J. (2016). Qualitative research and case study applications in education. John Wiley and Sons.

Molloy, J. P. (2019). Launching dreams: A Transcendental phenomenological study describing what it means to be an underrepresented student in a collegiate aviation program. *Liberty University.* Retrieved from https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=3099&context=doctoral.

Moustakas, C. E. (1994). Phenomenological research methods. Sage Publications, Inc.

Murillo, E. S. (2020). Experiences contributing to the success of minorities in collegiate aviation flight programs. *Concordia University – Texas*. Retrieved from https://search.proquest.com/docview/2487417495?pq-origsite=gscholar&fromopenview=true.

National Research Council (NRC). (1997). Taking flight: Education and training for aviation careers. The National Academies Press: Washington, DC. Retrieved from http://nap.edu/5433.

O'Keeffe, P. (2013). A Sense of belonging: Improving student retention. *College Student Journal*, 47(4): 605-613. Retrieved from https://www.ingentaconnect.com/content/prin/csj/2013/00000047/00000004/art00005.

Parente, C., & Martinho, A. L. (2018). The "Places and non-places" held by women in Social Economy Organizations. Voluntas, 29: 1274–1282. DOI: 10.1007/s11266-017-9942-1.

Silk, R. (2020). Change is in the air on diversity. *Travel Weekly.* Retrieved from https://www.travelweekly.com/Robert-Silk/Change-is-in-the-air-on-diversity.

Simeone, S., Savini, S., Cohen, M. Z., Alvaro, R., & Vellone, E. (2015). The Experience of stroke survivors three months after being discharged home: A Phenomenological investigation. *European Journal of Cardiovascular Nursing*, 14(2): 162-169. DOI: 10.1177/1474515114522886.

Sisters of the Skies. (2021). Home. *Sisters of the Skies.* Retrieved from https://www.sistersoftheskies.org/.

Smith, J. A., & Osborn, M. (2003). Interpretive phenomenological analysis. In J. A. Smith (ed.), *Qualitative psychology: A practical guide to research methods* (pp. 51–80). Sage Publications, Inc.

Thomas, Jr., R. R. (1990). From affirmative action to affirming diversity. *Harvard Business Review.* Retrieved from https://letr.org.uk/references/storage/S49MGQI3/Thomas%20-%201990%20-%20From%20affirmative%20action%20to%20affirming%20diversity.pdf.

Tracy, S. J. (2019). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact* (2nd edition). Wiley-Blackwell.

**APPENDIX - Interview Protocol**

**Question Overview/Structure:**
- 1-3: Rapport establishment
- 4-8: Academic and social experiences
- 9-10: Sense of belonging/community
- 11-12: Barriers
- 13-15: Catch-All

1. **Tell me about yourself:**
   a. Where were you born and raised?
   b. What four-year institution did you attend?
   c. What is/was your major (Aviation Flight, Management, or other)?
2. How did you get involved in aviation?
3. **Why did you decide to pursue aviation as a major in higher education?**
4. **How would you describe your initial social experience (i.e., the first year) within your collegiate aviation program?**
5. **How does this experience compare or contrast with your contemporary experiences within the program?**
6. **How would you describe your initial academic experience (i.e., the first year) within your collegiate aviation program?**
7. **How does this experience compare or contrast with your contemporary experiences within the program?**
8. **How did you go about integrating socially and/or acclimating academically into the collegiate environment, specifically within your aviation program?**
9. How has being a student of this program impacted you personally, professionally, and/or academically?
10. How would you describe the collegiate aviation community (on-campus) in terms of students, leadership, and events/activities?
11. **What barriers, if any, have you experienced as a Black collegiate aviation student? Can you provide an example of one of these barriers?**
12. **What has assisted you in overcoming said barriers?**
13. **How do you think your program could improve based on your experience(s)?**
14. What recommendations do you have for newer/younger aviation students to be successful in your collegiate aviation program and the aviation industry, in general?
15. **Is there anything else you would like to share that you feel pertinent to this interview regarding your collegiate aviation experience(s)?**

**\*Note: Bolded questions are top priority**