THE SOCIAL CONTEXT OF THE AERONAUTICAL EDUCATION EXPERIENCE
OF AFRICAN-AMERICAN CIVILIAN, COMMERCIAL, AND MILITARY PILOTS

by

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ABSTRACT

TAUREAN MASHAWN WALKER. The social context of the aeronautical education experience of African-American civil, commercial, and military pilots. (Under the direction of DR. LISA MERRIWEATHER).

The purpose of this research is to explore the social context (the nature and cultural environment) of the aeronautical training experience of African-American civil, commercial, and military pilots. This research highlights the challenges African-American pilots are exposed to in addition to drawing parallels between the social context and the obstacles they are subjected to along the way. This study is valuable for stakeholders, African-American pilot aspirants, aviation corporations, Federal Aviation Administration, flight schools - in the aviation industry in understanding ways to initiate a paradigm shift and increase awareness about representation and participation of African-American aviation professionals.

I selected the qualitative approach because I wanted to gather a better understanding of the sociological hurdles black aviators face while going through the journey of becoming a pilot. Hardiman (2010) states "While quantitative research is valuable, qualitative research provides the researcher the ability to view real world situations as they naturally unfold" (p. 25). It sets the atmosphere for flexibility and creativity within a natural context (Hardiman, 2010). Bloomberg and Volpe (2008) indicate that "qualitative research reports include detailed descriptions of the study and clearly express the participants' voice" (p. 12). According to OBAP (2014), less than 2% of pilots in the United States are African-American. The experiences shared by the

participants can provide helpful insight of possible policy implications for the

aeronautical industry.

PREFACE

One of reasons for conducting this particular research study is that I have been a pilot for more than five years with over 3,000 hours of real and simulated flight experience. I too have experienced many challenges along the way in becoming a professional pilot. In conducting this research, I am seeking to fully understand some of the challenges that affect many other African-American pilots as they participate in aeronautical training. For future implication, it is my hope that this study aids in highlighting the social mechanisms that hinder African-American pilots from becoming professional aviators in an effort to establish a paradigm shift towards a more diversified and inclusive minority pool of aspirants and applicants.

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I would like to thank the good people of the Pine Valley community who helped raise a boy to a man who will never ever stop searching for knowledge. I would like to thank my fraternity, the greatest frat in the universe!!!! Kappa Alpha Psi. This is for you. I would also like to thank those who continue to fight and endure the struggle. The light at the end of the tunnel isn't always a train. Sometimes it's an opportunity. I'd most importantly like to take this opportunity to encourage those who look like me…those who share my physical characteristics. Although the odds are stacked against us, we must continue to see the glass half-full and walk with our heads held high.

And to the pilots…the airmen…the brotherhood, thank you, thank you, thank you. Special thanks to those who pray for me and who have prayed for me and showed support along the way. Gods people... you know who you are. "Ms. Coconut". And last but certainly not least, thank you Bahiyyah for your prayers and support from the inception. May you continue to bless others as you have immeasurably blessed me.

DEDICATED

To my mother

Ms. Tinsley H. Walker

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CHAPTER I: INTRODUCTION

On December 17th, 1903 in the small town of Kitty Hawk, North Carolina, two brothers by the name Orville and Wilbur Wright defied all odds and were able to propel and sustain the Kitty Hawk flyer in air for an entire 59 seconds. Those 59 seconds would arguably become the beginning of modern aviation in the United States and abroad.

The beginnings of aviation stemmed from generations of physics, engineering, passion, desire, personal skill, and most importantly, the dream of flying. Some say that aviation's inception occurred long before the Wright Brother's Flyer in December of 1903. Greek mythology scribes that Icarus flew far too close to the sun and his wings, made of waxed-feathers, melted (Gregg, 1968). Around 1200, scientist and philosopher Sir Francis Bacon theorized that light objects can float and sustain themselves in air just as near weightless objects can float in water. The Chinese flew kites as early as the 1st century (Gregg, 1968). The tower jumpers of Western and Central Europe, and Eastern Asia created make-shift aircrafts and gliders in an attempt to fly off skyscrapers. Some were partially successful, most were not (Gregg, 1968). In the early 1700s, Father Laurenco de Gusmao aviated the first successful launch in a hot air balloon in Portugal and fifty years prior to the Wright Brothers, Henry Giffard used hydrogen to establish lift to the first navigable airship (Gregg, 1968).

By 1905, the Wright Brothers industrialized the Kitty Hawk flyer into a realistic flying mechanism fully capable of ascending in significant weather conditions without

falling from the sky. As word spread about the Wright Brother's accomplishments, many enthusiasts in Europe began to build model aircraft prototypes that were more reliable and capable of carrying more weight. During this time, the airline industry took notice and began to use airplanes as mail carriers to deliver mail from the Mississippi Valley to the open shores of the Atlantic. As the adversarial and allied nations initiated battle in War World I, militaries from across the globe enhanced aircraft capabilities and used the newly modeled invention as a weapon to fight in combat (Smithsonian Institute, 2015). From 1900 to 1970, the pioneers of aviation established the foundation for the first kilometer of flight, the first circle of flight, the first international flight, the first air mail, the first bomb deployed, the first airline, and the first flight in outer space. Kaps and Phillips (2004) emphasized in an aeronautical study that aviation milestones and the development of aviation education are parallel events.

The one-hundred years following the accomplishments of the Wright Brothers were filled with astonishing achievements in aeronautics. However, African Americans seemed to be absent from the story of aviation's beginning. From the start, white elitist with a considerable amount of resources to build and fly an aircraft primarily participated in aviation (Hardiman, 2010). People who were considered indigent, such as poor whites and disenfranchised African-Americans, could not take part. The possibility of being part of the aeronautical aviation industry would remain a dream for most African-Americans because of sociological phenomena such as race and gender inequality, economics, social policy, and the lack of opportunity (Hardiman, 2010). In spite of this, some African-Americans participated in the exceptionally proud history of the aeronautical industry.

Over the past 100 years, the aerospace field witnessed extraordinary accomplishments of several prominent African-American aviators. During the early 1920s, a young woman from Texas named Bessie Coleman became the first African-American female to obtain a pilot's certificate (Hardiman, 2010). She was also the first individual of any race and gender to receive an international pilot's certificate after receiving flight training in France. This would enable her to fly anywhere in the world without restriction (Hardiman, 2010). One of the first African Americans to take flight was a native of Georgia named Eugene Bullard. Bullard migrated to France where he fought with the French during World War I (Hardesty, 2008).

Additionally, in 1932, African Americans James Herman Banning and Thomas Cox Allen were the first pilots to complete the first transcontinental flight (Tolman, Jones, Gregory, & Moore, 2004). That next year, Dr. Albert Forsythe and Charles Anderson became the first African-American pilots to complete a transcontinental flight in their own plane (Forsyth, 2001). During World War II, 996 airmen from the 332nd Fighter Group of the United States Army Air Force formed what we know today as the Tuskegee Airmen (Hardiman, 2010). These men were the first African-American military aviators in the United States armed forces (Hardiman, 2010). In the 1940s, Jessie Brown became the first African-American U.S. Naval pilot. Some of his greatest achievements were mission flights during the Korean War. In 1974, Captain Lloyd Newton became the first African-American pilot to fly for the elite Air Force Demonstration Team, which are more famously known as "The Thunderbirds." His greatest achievement within his aviation career was taking command of the North American Air Defense Command, better known as (NORAD) (Hardesty, 2008, pp. 130,

136-137). Today NORAD is famous for the Air Command that squawked F-16 Fighter Jets in an effort to intercept Flight American 11 and United 175 the tragic morning of September 11, 2001. Several decades later, in 1983, Guion Bluford became the first African-American to fly an orbital mission in space during the inception of the *Challenger Space Program* (Hardiman, 2010).

These are just some of the accomplishments in the history of aviation in spite of racial and gender marginalization. The record is clear black aviators contributed significantly to the aviation field. These African-American pioneers' aviation experiences have paved the way for aeronautical aspirants throughout the years and their legacies continue to be an inspiration for aviators around the world.

Historical Background of the Problem

Throughout history, African-Americans have experienced racial and gender discrimination. The social conditions post-Civil War for African-Americans has been an issue of intense debate and scrutiny (Tolman, 2011). After President Lincoln signed the proclamation, which emancipated blacks, state political legislatures created "black codes", which were modeled after the "slave codes", in an effort to continue segregation from whites and severely limit the rights of African-American citizens. The end of the Civil War established the existence of freedom for black people, however those freedoms came with a cost (Tolman, 2011). Blacks were not allowed to share bathrooms with whites, lunch tables remained separate, and patronizing certain businesses were prohibited. Most importantly, because of "black codes", African-Americans were forbidden to work jobs that paid livable wages that would enable them to live a comfortable life and pay costs associated with flight training (Wilson,

2000). A significant amount of the racial segregation originated in the Jim Crow south, which ironically, is geographically where the first flight took place.

Black codes eventually gave way to the Jim Crow system which was a system of customary laws that enforced racial discrimination and segregation throughout the United States from the late 19th century through the 1960s (Wilson, 2000). The laws did not specifically mention race, but were written and applied in a way that discriminated against African Americans (Alexander, 2010). Despite being freed from slavery, Blacks did not experience full freedom. Lasch (1984) wrote "Black men and women experienced overwhelming circumstances, were victimized, and powerless. In such circumstances, what difference did it make to see oneself as endowed with freedom or even inalienable rights?" (p. 59). Legal discrimination was common practice against blacks in the south prior to reconstruction. Discrimination remained prevalent even after emancipation.

Radical Reconstruction in 1877 began was what known as "The Real Jim Crow" (Alexander, 2010). During the early era of Jim Crow, African-Americans enjoyed the constitutional rights granted by the 13th-15th Amendments. Blacks and Whites transported simultaneously in trains, used the same public facilities, and dined at the same restaurants, but remained segregated within those same establishments. The United States Supreme Court in the controversial Plessy v. Ferguson (1896) case stated that the 14th Amendment to the Constitution did not prohibit individuals and private organizations from discriminating solely on the basis of skin color. The infamous slogan "separate but equal" was established and used to describe the unprecedented decision within the case.

Soon after adjudication, laws were enacted to restrict, undermine, and limit the liberties of African-Americans all across the nation (Alexander, 2010). African-Americans in the southern region of the United States experienced discriminatory action in housing and employment. Additionally, African-Americans were denied their 15th Amendment Constitutional right to vote because of literacy tests and poll taxes which most African-Americans could not afford to pay (Alexander, 2010). Although some societal progress was made post reconstruction, segregation continued to demoralize a culture of people who had already experienced tyranny centuries before.

The realism of segregation was extremely difficult for blacks because of the violent nature of society and the corrupt power of local municipalities and state governments. African-Americans fought diligently to end segregation through adjudication and the voting booths (Alexander, 2010). At the turn of the 20th century, groups of African-Americans and Europeans joined together in an effort to end segregation. Although a noble and valiant effort was given by the collective groups, the challenges of segregation among African-Americans and whites continued for years to come (Alexander, 2010).

Segregation prohibited many blacks throughout the south from participating in this new phenomenon called aviation because most of the aviation facilities were privately owned white organizations (Hardiman, 2010). Although free from the horrors of slavery, sociologically and psychologically, blacks were not free. For decades to come African-Americans would be marginalized by race, gender, economic and social conditions, which all equated to a lack of access for aviation endeavors. Simultaneously, during this time period many African-Americans were

intrigued with the experience and opportunities aviation could offer (Hardiman, 2010). During the immense struggle for social acceptance, a few African-Americans fought and undercut the political resistance that prohibited blacks from being involved in the aviation industry (Hardiman, 2010). In spite of this, representation of African-Americans in terms of pilots and aeronautical engineers has remained minimal.

Problem Statement

History has featured significant and prevalent African-American milestones in aviation. However, there remains inadequate discussion of socio-cultural challenges such as availability of financial resources, social acceptance, and rigors of pilot training within the aeronautical training experience and professional matriculation of African-Americans in the aviation industry.

Aeronautical Education Requirements

Before the 1960s, most African-American pilots who were able to become gainfully employed by an airline received military aviation training, which had been subsidized by the United States Government (Garamone, 2000). After the 1960s new requirements implemented by most major commercial airlines required Airline Transport Pilots (pilots who carry passengers via commercial airliner) to have earned a four-year college degree. During the Civil Rights Movement, hundreds of aspiring African-American pilots were without a four-year college degree and this disqualified them from interviewing with an airline (Bridewell, 1973). The GI Bill, which enabled military personnel to attend community colleges and 4-year institutions post World War II, was not as beneficial to African-Americans because many post-secondary schools would not accept them (Bridewell, 1973). Since the mid-1970s and still today, more

than 90% of students who enter a flight training program are white (OBAP,

2014). Research from AOPA (2014) indicates that the chances of attaining employment

by a major commercial airline company today without a four-year college degree are

less than 5% (AOPA, 2014). According to Hedge (2007), the percentage of African-

American students entering into flight training programs today remains at less than

2%.

       Once the pilot aspirant enters into a flight training program, there are several

ratings he/she must accumulate in order to become an Airline Transport Pilot. The

Airline Transport Certificate is the pilot rating enables a commercial pilot to transport

nine passengers or more for pay in an airliner greater than 12,500 pounds and it is

considered to be the "Ph.D" of aviation. Many African-American pilots settle for lesser

aviation ratings/certifications such as (1) the private certificate (the initial pilots license

granted by the Federal Aviation Administration), which restricts the pilot from

exceeding a certain altitude (17,999 ft) and flying in adverse weather, (2), the

instrument rating which allows the pilot to fly in meteorological conditions (any form of

precipitation falling from the sky, in addition to cloud cover) and above 18,000 ft, but

prohibits them from profiting from transporting passengers, (3), the multi-engine

rating, which allows the pilot to fly a plane with more than one engine and (4), the

commercial rating, which permits the pilot to fly passengers for profit after

accumulating 250 hours of flight time. The aforementioned ratings taken in sequence

are the typical path for a pilot if they desire to earn an Airline Transport Certificate

(Federal Aviation Administration, 2007).

The cost of flight training is expensive for most individuals; however, many find a way to sponsor their aviation dreams. All flight training transpires in either a part 61 or part 141 institution. Part 141 institutions are flight training facilities that offer more structure for the pilot in training than part 61 flight schools. The main difference between the two is that part 141 schools are geared towards aspirants who desire to establish a career in aviation whereas a part 61 school are for pilots who simply desire to fly on a part time basis (Federal Aviation Administration, 2007). All "Part" differentiations are determined by standards set by the Federal Aviation Administration. African-American participation in flight schools are rare in both part 141 and part 61 because of the associated cost of accumulating flight ratings (OBAP, 2014).

There are very few African-Americans that reach the pinnacle of the Airline Transport Certificate. The cost associated with obtaining a transport rating is extreme, ranging from $50,000-$150,000 (OBAP, 2014). The amount required to obtain an Airline Transport Rating is too expensive and unrealistic for most. Many pilot aspirants take out bank loans to finance their flight training. Most banks require co-signers for pilot training loans because of the high risk of defaulting and the volatility of the flight industry. Many African-American pilot aspirants cannot afford the cost associated with aeronautical training and the concept of receiving sponsorship from African-American families are a relative dream due to the lack of economic resources within the African-American community (Hedge, 2007).

Today, the Federal Aviation Administration continues to require all Airline Transport Pilots to have earned a four-year college degree and have accumulated 1200-

1500 hours of flight time, unless they received aviation training within the military. If the pilot has partaken in aviation training in the military the hourly requirements are situationally less (depending on the aircraft type, location, and/or rank at the end of enlistment).

African-American Representation

African-Americans make up 12.8% of the total United States population and comprise 29% of the total labor force (OBAP, 2014). According to the Federal Aviation Administration, there are approximately 586,110 certified pilots as of December, 2013. This includes 35,203 women with pilot certifications, which is less than 3% of the pilot population (Federal Aviation Administration, 2014). Less than 1% of the aforementioned 35,203 women pilots are African-American. And of the 550,907 male aviators, approximately 1% are African-American men. For the men and women who hold pilot's licenses in the United States, less than 2% are African-American.

One of the underlying issues here is that many African-Americans were academically under-educated and underprepared stemming from years of marginalization and oppression. As a result, they lacked the necessary resources such as finances for flight training, family and community support, and a network of aviators already in the aviation field. Historically, African-Americans have been systematically and purposefully marginalized by a Constitution created to benefit those which created it. The creation of man-made flight which manifested into the glory years of technology enabled many people to participate in its marvel. However, because of codified oppression, many African-Americans were prohibited access. The

combination of the previously mentioned factors may all contribute to the reasons for a lack of African American representation in the aviation industry.

Purpose

The purpose of this research is to explore the social context (the nature and cultural environment) of the aeronautical training experience of African-American civil, commercial, and military pilots.

Research Questions

This study will answer the following research questions. (1) What factors hindered pilot training? (2) What were the resilience factors experienced during pilot training? (3) What were the defining features of the social context surrounding pilot training?

Importance of the Study

This study is significant because there is very little research that investigates the sociological challenges African-American pilots face during their aeronautical training. Most of the previous research focused on other areas of pilot training such as the location, training type, and relevant historical timelines of aviation. This research will highlight the challenges African-American pilots are exposed to in addition to drawing parallels between the social context and the obstacles they are subjected to along the way. This study is valuable for stakeholders -African-American pilot aspirants, aviation corporations, Federal Aviation Administration, flight schools - in the aviation industry in understanding ways to initiate a paradigm shift and increase awareness about representation and participation of African-American aviation professionals.

Theoretical Framework: Critical Race Theory

This research study is guided by Derrick Bell's Critical Race Theory. Critical Race Theory gives an in-depth understanding of how race is ingrained in both historical and contemporary American society (Solorzano, 1997). Critical Race Theory will provide a framework for understanding the social context of aeronautical education culture and its influence on the flight training experience of African-Americans. Critical Race Theory focuses on a variety of ways in which the conventional tradition in educational policy unfavorably affects people of color not only as individual people but as an entire group (Brooks, 1994). The Critical Race theoretical framework may be significant in helping society recognize the social challenges of African-Americans during flight training.

Bloomberg and Volpe (2008) stated "the purpose of Critical Race Theory research is to create political debate and discussion to empower people to take action, to bring about change in existing social structures and processes, and to reconceptualize the entire research process." (p. 9). From slavery to the Civil Rights Movement, history clearly illustrates the oppression and marginalization of African-Americans. Critical Race Theory enables conversation and political deliberation of the structures established to maintaining the status quo and the degradation of an entire community of people.

Methodology

This is a qualitative phenomenological interview research study that will explore the perceptions of the social context of the aeronautical education experience of African-American pilots. I selected the qualitative approach because I wanted to gather a better understanding of the sociological hurdles black aviators face while going

through the journey of becoming a pilot. The experiences shared by the participants can provide helpful insight of possible policy implications for the aeronautical industry.

Limitations

Embarking on this research study may present some unforeseen uncertainties. I am uncertain if the participants are going to tell the truth, fabricate, or mis-remember their training experience, which if so, may paint an inaccurate portrait of the research purpose. Consequently, because of the extended time interval between aeronautical education and present day, I am unsure if the participants will be able to recount the significant events that transpired during their training. And last, because of the relatively small sample size, the findings within the research study will not be generalizable for an entire population.

Delimitations

One of the delimitations of this particular study is that I selected only African-American participants. Although this research is unique to African-American pilots, the perspective of other minorities will not be included within this study. I decided to select this particular sample because I wanted to get a better understanding of the social context and challenges African-American pilots have to face during pilot training.

Assumptions

Based on the demographics of the sample participants, I assume there will be similarities in the challenges during aviation training of African-American pilots. It is my assumption that some of those challenges will be based upon a foundation of historical stereotypes, marginalization, and oppression of an entire culture of people.

Subjectivity Statement

My journey as a pilot began as a dream when I was a child. My mother would take me to the airport lookout when I was much younger to watch the planes come and go. It was there my vision of becoming a pilot began. She would tell me "son, dreams are free. It's perfectly okay to dream. It doesn't cost you a thing." The early exposure in aviation intrigued me all the way into adulthood where I still share that same passion as I did when I was a little boy. I have been an airman for a few years and I have experienced many challenges on my journey of becoming a pilot. I look forward to exploring the challenges of others as it relates to aeronautical education.

Summary

This research is an exciting opportunity for me to gain a better understanding of the social context surrounding the African-American flight training experience. Previous research on African-American pilot training has mainly investigated military training. This study will investigate the perception of the social context of civil, commercial, and military training of African-American pilots. The proposed finalization of this research study will be in the spring of 2016 and will consist of the totality of the overall study including introduction, literature review, methodology, data collections, findings and discussion.

CHAPTER II: LITERATURE REVIEW

Aviation's brief history has given us extraordinary examples of ingenuity. From its inception, the world of flight has continued to be a marvel for those with aspirations to fly and those who reap its conventional benefits. Although many have taken part in aviation's monumental progressions, several have experienced social inequalities along the way. Through aviation's progressive journey, people of color, specifically African-Americans have been marginalized, degradated, and identified as inferior to those who consider themselves pioneers and major stakeholders of aeronautics. Whether it pertains to resources, academic rigor, or cognitive ability, the social context of the path to obtaining a pilot certification for African Americans is structurally similar, yet experientially different.

Historical Challenges

African Americans have faced obstacles and barriers as they have strived to break into the aerospace industry. Current scholarship on the history of aviation makes it clear that minorities--particularly blacks on whom the most have been written--and women were just as fascinated as white men were with flying and airplanes from the earliest days. The scholarship also makes it clear that for many years roadblocks were placed in the way of blacks and women that curbed their interest or made it much harder for them to turn this interest into an action (Hansen & Oster Jr, 1999, p. 115).

Historically, breaking into the aviation industry seemed like an impossibility for most African-Americans. Today, African-American representation in the industry remains significantly low as compared to whites. Based on the significantly low numbers of black pilots in the field, who are young African-American pilot aspirants to emulate?

From the beginning the aviation industry has primarily been dominated by white males, which included mostly white pilots and white ownership of commercial airline organizations (Hardiman, 2010). During the second world-war, some of the barriers experienced by African-Americans diminished because of the country's military necessity for soldiers. The decision to admit African-Americans to the Air Force was known as the "experiment", which was in turn was celebrated by pioneers of civil rights during that time. The cultural and social stigmas have also constricted the possibilities of being an African-American pilot. Historically, African-American potential has often been ridiculed and perceived as if they lacked the knowledge, skill, intellect, and patriotism deemed necessary to participate in the aviation field (Hardiman, 2010).

> There were people in the War Department who actually believed that blacks could not fly. A paper written in 1925 dubbed 'The Bible' stereotyped Negro soldiers as childlike, always fighting, and that they could not be trusted--in spite of their efforts and history in World War I and all of the wars in which they had served. What the 'study' did not address was the courage, the capabilities, and the determination of those blacks who were to become Tuskegee Airmen. (Cooper, 1996, p. 43)

During the oppressive historical era of the early 20th century, blacks had to work with limited resources and the extraordinary challenge of racism and sexism from dominant American culture (Smithsonian Institution Archives, 2006). As a result, African-American men and women struggled significantly more during the Great Depression of the 1930s. It was especially difficult for black men and women who had the strong will and desire to become pilots as there were few aspiring aviation organizations within the African American community that were supported by whites. Most African American communities lacked the resources to sponsor their own aviation organization.

Roosevelt's New Deal & The Civilian Pilot Program

World War II broke down many barriers African-Americans experienced in the effort to enter into the aerospace industry (Hardiman, 2010). The Roosevelt Administration's decision to admit African-Americans in the Air Corps was known as the "experiment." Although the army celebrated the invitation of African-American men entering the aviation training field, they required segregated training (Hardesty, 2008).

Several years prior to the outbreak of World War II, the adversarial European nations, Italy and Germany began training thousands of young adults in aviation. Within the United States, the Aeronautics Act of 1938 authorized the funding for a aviation training program in preparation for war. The Aeronautics Act of 1938 would eventually lead to President Franklin D. Roosevelt to initiate the Civilian Pilot Training Program (CPTP) on December 27, 1938 as part of the New Deal and in preparation of what might become of World War II (Pisano, 1993). In addition to the

inevitable World War II, Roosevelt's Civilian Pilot Training Program was also created to train pilots because of the significant shortage of aviation professionals. The new program initiated by the Roosevelt Administration would provide flight training for nearly 20,000 post-secondary education students. Some of the aeronautical training transpired in flight programs at predominantly African-American universities (Bilstein, 1994). C. Alfred Anderson was the first appointed African-American aviation instructor under Roosevelt's CPTP program at Tuskegee, Alabama. He trained the country's first African-American military combat aviators known as the Tuskegee Airmen (Tuskegee Airmen, 2006).

The Tuskegee Airmen

Many know that the Tuskegee Airmen were black pilots during World War II, but few know of the significant struggles that endured before, during, and after the war. Their pilot training took place at the highly regarded Tuskegee University, which was founded by Booker T. Washington in Tuskegee, Alabama. At the end of basic training, they transitioned to Tuskegee Army Air Field about 10 miles west of the university. During flight training, the airmen of Tuskegee experienced many trials and instances of volatility. For example, the aeronautical training facility was more than 40 miles from the living quarters so fatigue was common during flight training which many times affected performance. Although the Tuskegee Airmen were beyond proficient aviators, fatigue was seen as an indication of weakness by white commanders (Tuskegee Airmen, 2006). Additionally, traveling to and from the military base to the airport, they were constantly harassed and persecuted by law enforcement officer and officials. Some instances resulted in unwarranted ticket writing, while others resulted in

physical altercations (Haskins, 1995). Between March of 1942 until June of 1946, over 900 Tuskegee Airmen earned their stripes after completing pilot training (Tuskegee Airmen, 2006). After the WWII, the unit received two Presidential Unit Citations, 150 Distinguished Flying Crosses, 14 Bronze Stars, 10 Silver Stars, and 744 Air Medals. Of the 992 pilots who trained in Tuskegee from 1940 to 1946, about 445 deployed overseas and 150 lost their lives in training or combat (Tuskegee Airmen, 2006).

The Tuskegee Airmen were the very first men of color that received flight training in single and multi-engine aircraft while in the military. None of the aviation requirements were lowered for the aviators or any individuals who trained in meteorology, intelligence, engineering, medicine, operations, or any of the other officer fields (TuskegeeAirman.com, 2009). One of the most distinct of the Tuskegee Airmen was Captain Benjamin O. Davis who successfully completed his bachelor's degree at West Point Military Academy (Haskins, 1995, pp. 114-116). Those who enlisted were trained to be engine and aircraft mechanics, armament, radio repairmen, parachute riggers, control tower operators, policemen, specialists, administrative clerks, and other necessary functions of the Army Air Corps flying squadron or ground support unit.

The Tuskegee Airmen military aviation program established a platform for domestic African American aeronautical training. Unfortunately, of the 992 combat qualified graduates of the Tuskegee aviation program, none of them were considered qualified to pilot an aircraft for a commercial airline (OBAP, 2007). Instead of being granted the opportunity of being allowed an interview for a position of a professional commercial pilot for an airline, African-Americans were forced to seek blue-collar jobs

in the aviation field such as baggage groundsmen which consisted of placing and removing baggage to and from the aircraft before and after flight (Haskins, 1995).

Commercial Pilots

It was not until the Civil Rights Act of the 1960s where national discrimination laws were rejected by the federal government that African-Americans were granted opportunities of equality (Haskins, 1995). But even with the existence of a mandated civil rights bill which was enacted into law, airline companies of the United States continued to find loopholes to continue racial discrimination practices. Despite public scrutiny and the status quo, American Airlines hired its first black pilot in 1964 before the mandated legislation of fair hiring practices took place. First Officer Dave Harris became the first black man to fly in a cockpit for a major commercial passenger airline. After being avoided by other airlines during the 1960s, First Officer Dave Harris was hired by American Airlines to fly the DC-6. Harris states that "he felt compelled to tell the interviewer that he was black" (blackhistoryinaviation.com, 2010). The first outcome of the judicial decision was illustrated when Continental Airlines hired Captain Marlon Green in 1965. The culmination of Captain Green's fight against discrimination resulted from the rigors and struggle of becoming a qualified African American pilot in search of a career within a white-owned airline corporation. (Blackhistoryinaviation.com, 2010).

Today, the perception of being an African-American pilot is still considered taboo. In the year 1976, only 80 African American pilots were employed by a commercial airline company within the United States. Within ten years, that number had risen to nearly 400. Today, commercial airline companies have a pilot pool of only

670 African American pilots out of 111,984 total aviators. These numbers include only 27 African American female pilots who fly for a commercial airline company within the United States (OBAP, 2007).

African-American pioneers of aviation made opportunities possible for black aviation aspirants. Through determination, perseverance, and passion, African-Americans have experienced more exposure within the aviation field (Hardiman, 2010). The process of African-Americans breaking the barriers to aviation have been long and extremely arduous. Many of those same societal barriers such as the stigma of African American laziness, being unintelligent, uneducated, unreliable, and incapable to excel in a technological field remain today (Alexander, 2010). Over the last 100 years, litigation has facilitated the transition of blacks not being able to fly to becoming leaders and pioneers in the field.

The aviation field, specifically professional airline transport pilot programs (programs designed to train pilots for commercial airline employment), remains an area in which African Americans are minimally represented. America's commercial airline cockpits and commercial airline management continues to be dominated by white males in the industry (National Academy of Sciences, 1997). Obtaining a commercial rating in itself is difficult for any race, but coupled with social barriers, all flight training for African-Americans may be even more challenging.

Aeronautical Education

According to Brown (1997), the opportunity for an aviation career is readily available if African-Americans desire the pursuit. Historically, however, society has maintained that becoming an aviator or even attaining a position in the field of aviation

was not accessible for inner city youth (OBAP, 2007). Increasing participation of African Americans in higher education and validating African American children's dreams of becoming pilots as not only possible but plausible are imperative to the expansion of African American involvement in the aviation industry. Brown (1997) states, "The idea of instilling at an early age an awareness of the possibilities of attending college, affirms the need for providing students with information on possibilities, requirements, and outcomes earlier than in high school" (p. 543). Los Angeles Polytechnical High School was the first aeronautical education facility in the United States in 1908 (Bridewell, 2007). In the early 1920s, students in Detroit began constructing model aircraft. (Bridewell, 2007). In 1925, Galt High School in California, was the first school to establish a post-secondary aviation program (Bridewell, 2007).

Later in the 1920s, Earl Hill of the University of Southern California was hired by Western Air Express to research the impact of aviation and education being used together (Strickler, 1968). Hill provided evidence that suggested there was a significant correlation between aviation and academic education. Additionally, he understood that academic aviation training was paramount for aeronautical career readiness. This development was essential because it provided airlines with evidence to support hiring qualified aeronautical engineers (Strickler, 1968). August Martin High School located in Jamaica, New York, was named after the first African American pilot to fly for a regional airline company. August Martin High School is the only minority magnet high school in America that emphasizes the study of aeronautics and aviation. The institution was created by a joint multi-faceted effort of community leaders and

educational stakeholders to establish an academic facility within the inner city to educate students with a desire to enter into the aviation field.

Post-Secondary Education

After the Great Depression of the 1930s, Daniel Guggenheim established the Guggenheim Fund for the promotion of aeronautics. Many academic institutions of higher learning supported this fund in an effort to reaffirm the correlation between aviation and post-secondary education (Strickler, 1968). The General Issue Bill, better known as the G.I. Bill, was formally named the Servicemen's Readjustment Act of 1944, which provided a wide range of benefits for armed force veterans (Altschuler & Blumin, 2009). The G.I. Bill offered low interest mortgage loans and unemployment compensation. But more importantly, as it related to education, it provided cash payments towards post-secondary education (Altschuler & Blumin, 2009).

After World War II, a cascade of military men enrolled in universities to initiate or further their educational pursuits. Simultaneously, a plethora of flight programs enrolled students around the country. Kitely (1996) wrote,

Some programs provided only pilot certificates; others led to college

degrees. Unfortunately, there was not a single strategy for educational development and there was a large scale of disparity between the various programs. This lead to confusion and questions on issues related to curricula and standards on the part of both students and industry. (p. 4)

In 1948, a survey which was administered by the American Council on Education for the Civil Aeronautics Administration indicated that out of the 1,068 schools that responded, over 331 university/post-secondary education programs had academic

aeronautical programs (American Council on Education, 1948). Many of the most notable institutions such as Embry-Riddle Aeronautical University and Delta Connection designed aviation programs for World War II, but afterwards they modified their training for the commercial industry (Kitely, 1996).

The G.I. Bill proved to be a tremendous success for both colleges and universities with newly formed aviation curricula. However, hundreds of black pilots who received adequate aeronautical training in the military were not allowed to enroll in many of the universities to further their education because most predominately white institutions remained segregated up until federal legislation was passed in the 1950s (Cooper, 1996). Additionally, many of those African-American men and women that sustained aviation aspirations were not presented with opportunity because the costs associated with aeronautical training was too expensive (Cooper, 1996).

More recently five historically black colleges - Delaware State University, Texas Southern University, Hampton University, Florida Memorial College, and Tennessee State University -joined Western Michigan University's College of Aviation in the Diversity in Aviation Consortium to diversify and attempt to make the nation's aviation employment sector more racially inclusive by preparing more African American recruits for careers in aviation (HBCU's Work to Diversity, 2004). The impact of historically black institutions of higher learning having established aeronautical aviation program is revolutionary because of the oppression and marginalization many African-Americans faced as they journeyed to attain their pilot certifications. These institutions represent the epicenter of African-American perseverance through struggle. Today, many black students from around the country

enroll in these flight training programs and are trained much like several black pilots who came before them (HBCU's Work to Diversity, 2004).

The high school completion percentage among African Americans stands at 68% (National Center for Education Statistics, 2012). By 1960, there were approximately 280,000 African-American college graduates. By 1992, the total exceeded two million African American college graduates. In spite of statistical increase in high school completion and collegiate enrollment among African Americans, and educational programs in secondary and post-secondary education designed to expose African Americans to aeronautics, there remains an inadequate representation of blacks in the aviation field.

Junior Reserve Officers' Training Corps (JROTC)

The origination of JROTC came from the passage of Defense Act of 1916 during World War I. The act did not truly take effect until President Kennedy signed the ROTC Vitalization Act of 1963. This act increased the amount of military units across the country which included the Air Force and Navy. After the L.A. Riots of 1992, Colin Powell, who served as the President's Joint Chief of Staff Chairman, stated that the armed forces was the remedy for inner-city youth discipline. By 1995, JROTC programs had doubled (Ayers, 2006). After September 11, 2001 that number of JROTC programs in high schools across the nation had grown tremendously. According to OBAP (2007), JROTC programs are one of the main recruiting military pipelines for inner-city youth. Yet somehow, only a fraction of the African-American military enlistees enroll in aeronautical training programs.

Aeronautical Aviation Associations

The National Association of University Administrators of Aviation Education (NAUAAE) was established in Denver, Colorado, in an effort to foster and inspire the growth and status of educational aviation programs domestically (University Aviation Association, 2006). In 1949, the NAUAAE changed their name to the University Aviation Association (UAA) and their office was moved to Chicago, Illinois. The UAA is considered the only professional established organization that represents all tiers of non-engineering & technical sector within collegiate aeronautical education (University Aviation Association, 2006). Over the years, the UAA has played an instrumental part in the growth of aviation at the collegiate level. In recent years, UAA has created an Aeronautical Science curriculum for those aviation aspirants. Under the supervision of the Federal Aviation Administration (FAA), UAA assesses academic aviation programs throughout the United States (University Aviation Association, 2006). Although the University Aviation Association subscribes to supporting academic aviation programs throughout the country, there is little emphasis on increasing the representation of African-Americans.

The Organization of Black Airline Pilots is encouraging Congress to provide resources for a research study that will evaluate the country's supply, demand, and production capacity for commercial airline pilots beyond 2030, and the foreseeable benefits of instituting an aviation training facility at one of the historically black colleges (OBAP, 2007). The Black Pilots Association is targeting young African American youth who are highly interested in aeronautical studies, particularly in the professional aviation programs (OBAP, 2007).

Based on its charter, the purpose of the Organization for Black Airline

Pilots (OBAP) is to

> Inspire youth to become educationally prepared for life, to increase minority participation in aviation through exposure, training, mentoring, and scholarship; to encourage networking among African American airline pilots; to increase the number of African American pilots hired by airlines; and to assist the African American airline pilots with special needs and concerns. And to build the African American airline ranks and hiring pool which is both inclusive and expansive. (pg. 4)

Although the historical time period of OBAP is rather short, the organization has achieved tangible success. The institution has created the opportunity for aviators and their families to collaborate and fellowship with members of many commercial airlines. This engagement has created networking opportunities in the aviation field, specifically for minority pilot aspirants (OBAP, 2007). The Organization of Black Airline Pilots maintains a shared relationship with commercial airline Chief Executive Officers, Vice-Presidents of Flight Operations, and First Line Personnel Officers of many large airline companies (OBAP, 2007). OBAP has recently established scholarship funds for educational and aeronautical training. Additionally, OBAP has implemented summer educational opportunities for pilot aspirants that last for two weeks. The educational opportunities are two weeks of intense aeronautical education, self-discipline, and aviating. At the end of the educational session, the aviation students have received ten hours of total flight time, in which many of them engage in solo flight (OBAP, 2007).

Social Challenges Among African-American Pilot Aspirants

African Americans who aspire to be pilots experience tremendous impediments along their aviation journey within the United States. Those sociological deterrents

have discouraged many black pilot aspirants from enrolling into aeronautical education programs.

In response to the hostile conditions faced by black pilots within the continental U.S., many African-American aviation aspirants have sought pilot training opportunities in other areas of the world (Hedge, 2007). To combat this a handful of both private, state, and federal organizations have created initiatives to entice young African-American men and women into the aeronautical field of study. Recently, there has been a stronger push for federal and state funding for aviation programs in colleges and universities across the country (Hedge, 2007). Many institutions of higher learning across the country have reformed and established aeronautical training programs. Some of those institutions are predominantly African-American post-secondary schools (Hedge, 2007). One of the many challenges is the lack of awareness of flight training facilities which maintain a foundation of African-American history (OBAP, 2007). One barrier in the effort to create aviation awareness and aspiration for African-American students is that there are very few aviators currently in the field that resemble the student population (Hedge, 2007). In the United States, there are only a few organizations geared towards education and creating awareness for aeronautical training for African-Americans. The possible rationale for this may simply be due to the fact that commercial airline companies lack a diversified aviation pool, especially among African-Americans (Minorities Issues Report, 2010). Collaboration and innovative perspectives from those in the field of aviation may open doors for African American interest within the aeronautical industry (Hardiman, 2010).

A second barrier stems from ideals posited by Booker T. Washington. Based on the original principles of Booker T. Washington, high school counselors have traditionally persuaded African American students to pursue more "trade-based" jobs because of the belief that blacks could not excel in academia (Gibson, 2015). And perhaps it was believed the "trade-based", "skilled-labor" industry offered blacks with the best chances of employment.

Minorities, specifically African-Americans, encounter extremely difficult challenges even prior to sitting down at the interview table but some employers do practice inclusive strategies of recruiting African-Americans to work in the commercial aviation industry (Minority Issues Report, 2010). Significant progress has been made over the course of the last fifty years as there is an increase in the numbers of those who are in the majority within the field of aviation who continue to focus their attention on disparities resulting from prejudging the pilot's abilities, motivation, integrity, and dedication based on gender, skin color, and culture (Minority Issues Report, 2010).The prevalence of more African Americans in the aviation industry will establish opportunity to continue a monumental legacy from the past (Hardiman, 2010). According to hooks (2003), "diversity is a necessary existence of modern life---especially in America" (p.53). The same is true for the aeronautical industry. The presence of pilots from different racial, ethnic, gender, and socioeconomic backgrounds serves to create an atmosphere of inclusion and respect for difference within the ranks of pilots.

Diversity is an essential component to a well-rounded organization (Fisher-Davis, 2014). The aviation industry can benefit from an inclusive group of qualified

aviation professionals (OBAP, 2007). Historically, aviation has been dominated by white elites (Hankins, 1995). However, although white men continue to maintain control over the industry, minorities remain essential to the growth of the aeronautical field (Minorities Report, 2005).

African Americans are not the only minoritized population group to have experienced challenges in the United States. For instance, Asian Americans have played an essential part in aeronautical studies. The concept of "Asian American" was made popular in the post-civil rights movement of the 1960s. "Asian American" is the accepted term to identify Asians born in United States. However, prior to civil rights, the term "Oriental" was used to classify Asians in America. The term "Oriental" is an extremely derogatory term that is still used today by the ignorant and those who seek to marginalize an entire culture of people. Many Asian Americans have experienced some of the same hostilities African Americans have faced domestically. Identifiable characteristics such as humility and modesty, which are valued by Asian culture, often times are misrepresented as low self-esteem and weakness in America (Minority Issues Report, 2005).

Hispanics have faced tremendous struggles in America over the last few decades. Many of those struggles are related to language barriers in the educational setting. The Immigration Law of 1917 indicated that all adult immigrants are mandated to read and write at least one language. In schools today, many Hispanic children are not learning to read and write. And fifty percent of Hispanics are either learning below their grade level or fail to graduate high school. This eventually leads to a lack of

education and a lifetime of poverty (National Assessment of Educational Progress, 2011).

In spite of the sociological factors against them, Hispanics have made significant contributions in the aeronautical industry. Captain Linda Oauwels is regarded by many as the youngest woman ever to hold the rank of Captain for a commercial airline company at age 25 (Hedge, 2007). Oauwels continues to fly, educate, and advocate to help poor Hispanics become pilots. Oauwels (Oauwels, 2007) states that "I want to identify children who would never have the opportunity because they do not have the means. I want them to be children of character, competent, who you can see are going to make it...There is a need for pilots to maintain a high level of professionalism (pg. 4).

Empirical Research Related to Aeronautical Education

There has been little empirical research on the African American experience in aeronautical education. Studies found explored the low representation of African Americans, the African American experience in aeronautics, and African American female pilots' experience. The findings of those studies will be described in this section.

Stewart-Smith (1981) conducted a study which focused on minority women's representation in aviation training from a historical perspective. Qualitative data of African-American female representation was reviewed and the study concluded that the aviation industry in its entirety did not focus on civilian training of minorities. Stewart-Smith found that every African-American female pilot from 1905-1965 was prohibited from acceptance into flight training schools. Additionally, when African-American female pilots submitted applications for aeronautical training, none of them were ever evaluated (Stewart-Smith, 1981).

Congress conducted a study in 1987 and 1988 on African-American representation with the airline industry and recruiting techniques for black pilot aspirants (NAS, 1997). Some of the findings were that aviation studies related to airline and minority training are minimal and that the airline industry often neglects to incorporate affirmative action policies. Additionally, the Federal Contract Compliance Programs had done relatively insufficient work tracking affirmative action compliance practices (NAS, 1997).

The National Academy of Sciences Committee on Education and Training for Civilian Aviation Careers (NAS, 1997) conducted a study on the executive and legislative branches downsizing the military and its effect on the civilian aviation pool. The study did not determine whether racial representation was affected, however the study did note that retention of minorities in aviation would require encouragement. One of the most significant findings was that given the existence of the small representation of blacks in aviation, the conscience and perception of an interest in aviation would be unrealistic because of the lack of knowledge of black aviation history (NAS, 1997).

According to NAS (1997) as of 1997, only one study has been done that emphasizes the low representation of African-American pilots entering flight training programs. This study was spearheaded by OBAP (Organization of Black Airline Pilots) President Mr. M. Perry Jones in an effort to encourage Congress to evaluate the country's pool of African-American pilots (OBAP, 2013). The two-year study conducted by the National Academy of Sciences (1997) found that most commercial passenger and cargo related airlines have not employed practices of diversifying their

aviation pool of qualified African-American pilots. In 2004 Tuney researched the relatively low numbers for diversity and inclusion as it related to aviation training facilities. The findings suggested that most airline training facilities in America did not focus on attracting or retaining African-American pilots.

A study conducted by Harl and Roberts (2011) focused on the aeronautical experience of African-American aircraft maintenance personnel, flight attendants, pilots, dispatchers, and management personnel with two to five years of training experience who were currently employed within the aviation industry. Although researchers worked diligently to find names for the sample, only thirty-five participants were located over the course the study was conducted (Harl & Roberts, 2011). Of the thirty-five participants, which included aircraft maintenance personnel, flight attendants, aviators, dispatchers and management, less than ten of the participants were pilots. Because of the limited number of Black pilots, the sample size of aviators was relatively small (n < 10). Even though the sample size was small, according to Frankel and Wallen (2003), the population sample should be sufficient enough for believability, yet relatively small enough for comprehension of what is being researched. Harl and Roberts felt their sample met this criteria. The findings (Harl & Roberts, 2011) study reflect the common themes most emphasized by all thirty-five of the research participants (aircraft maintenance personnel, flight attendants, aviators, dispatchers and management).

Because this study most closely approximates the study I have proposed, its findings will be described in detail. The aforementioned study took one year for completion (Harl & Roberts, 2011). With this particular study, it was indicated by the

researchers that hypotheses were difficult to establish because of the unavailability of literature. The findings revealed nine different areas or themes which were emphasized by the participants within the study: Experience, opinions, feelings, knowledge, personal reflection, significance of training, implied statements, demographics, and attitudes.

Theme 1:

The initial theme, experience and behavior, highlighted the significance of race, exposure, and workplace regulations. Harl and Roberts (2011) found that race was an important issue for African-American aviation professionals. They found that there was a lack of African-American aviation role models in the field that could serve as mentors to aspiring aviation professionals. It was also concluded that African-American aviation professionals felt it is imperative that African-Americans in the field of aviation already have the necessary skills required to work in the field of aeronautics without feeling the need of using their skin color as a means to attain equity. Last, the researchers found that human resource departments have a difficult time upholding standards to support minority staff (Harl, & Roberts, 2011).

Theme 2:

The second theme, opinions and beliefs, emphasized the perception of a commercial aviation career and the challenge of being an African-American aeronautical professional. The researchers suggest that African-American aviation professionals believe that commercial aviation was an essential component to their personal well-being and their careers. It was also concluded that, African-Americans

feel as if they have to work more diligently to prove themselves than their white counterparts (Harl & Roberts, 2011).

Theme 3:

The third theme highlighted the participant's feelings of their experience in the aviation industry. The researchers found that most African-Americans in the commercial industry feel an obligation to represent their entire race based upon their accomplishments more so than their white counterparts because of the limited representation of African-American aviation professionals in the field of aeronautics (Harl & Roberts, 2011).

Theme 4:

The fourth theme, knowledge, noted the idea of using "coded language." The researchers found that African-American aviation professionals changed the language as it related to dealing with problems of race. African-Americans in the field of aeronautics believe that using coded language such as "professional standards" as opposed to "survival techniques" creates an atmosphere of equality among African-American aviation professionals and their white counterparts (Harl & Roberts, 2011).

Theme 5:

The fifth theme, reflection, emphasized the notion of inferiority. The participants indicated that safety is the number one priority. However, special accommodations are often made when white aviation professionals feel uncomfortable working with an African-American aeronautical professional (Harl & Roberts, 2011).

Theme 6:

The sixth theme related to items which were seen as being significant. The researchers found that whites in the industry respect African-American aviators that can matriculate through the system based on merit and not race. The findings also suggest that whites fail to understand the value of having a diversified pool of aviators in commercial aviation as well as notable commercial aviation companies advocating diversity within their mission statement (Harl & Roberts, 2011).

Theme 7:

The seventh theme looked at items omitted/not said yet implied. The researchers found that being part of a marginalized population in the workplace often produces stress. And most African-American aviation professionals did not want to admit that racism exists in the aviation business.

Theme 8:

The eighth theme, background demographics, although not requested by the researcher, noted that the participants felt the need to emphasize they were all Black aviation professionals. The researchers found that the participants were compelled to identify their race prior to the discussion of their perceptions of the aeronautical field (Harl & Roberts, 2011).

Theme 9:

The nine theme, participants' attitudes concerning the study, noted that the African-American aviation professionals in this research felt a sense of relief because their voice was finally being heard as related to the significance of increasing African-American representation in the aeronautical industry (Harl & Roberts, 2011).

The study conducted by Harl and Roberts (2011) illustrates many of the social challenges African Americans in the aviation field experience on a day-to-day basis. Research in the field of aviation in reference to African-American participation and experience is extraordinarily limited. The understanding of the social context of black pilot training is paramount in increasing awareness and for African-American pilot aspirants and the aviation industry altogether. Although the study by Harl and Roberts (2011) was significant in including various professionals in the aeronautical industry, my study of will fill the gap by focusing solely on the pilots.

Summary

"For all of the well documented success stories and for all of the heartwarming statistics, African Americans remain a race apart in America, a race admired, even emulated, yet held at arm's length" (Hale, 2001, p. 31). African Americans have experienced significant triumphs in aviation throughout history. However, those years of jubilation were coupled with very painful sociological challenges that would have discouraged most people from trying to achieve many triumphant cultural endeavors. Many of the previously mentioned sociological setbacks such as history, marginalization, oppression, cultural struggle, and financial cost may explain the notion for the lack of representation with African Americans in the aviation industry.

Across the country there are a handful of institutions and organizations that are working on educating and training young minds, while establishing a conscientious awareness about the concept of aviation. But, in other areas of the country where the desire exists, the resources do not. Based on the period of time, their experiences, and

endurance, African-American aviators of the past have set a monumental standard for present and future aviators to follow.

CHAPTER III: METHODOLOGY

Qualitative Paradigm

This research will evaluate the social context of the aeronautical education experience of African-American civil, commercial, and military pilots. A qualitative case study design was selected to gather a better understanding of the sociological challenges black aviators experience on their journey of becoming a pilot and thereafter. The purpose of qualitative research is to assess the conditions of a phenomenon using descriptions, words, and imagery (Berg, 2007). Hardiman (2010) states "While quantitative research is valuable, qualitative research provides the researcher the ability to view real world situations as they naturally unfold" (p. 25). It sets the atmosphere for flexibility and creativity within a natural context (Hardiman, 2010). Bloomberg and Volpe (2008) indicate that "qualitative research reports include detailed descriptions of the study and clearly express the participants' voice" (p. 12). Conducting a case study will allow the researcher to explore the perceptions of the social context of the aeronautical education experience of African-American civil, commercial, and military pilots.

Case Study Inquiry

The methodology for this research is based on the Case Study method.   The qualitative case study method of research is a technique that enables exploration of a phenomenon within it context using a pool of data sources (Baxter & Jack, 2008). The case study method ensures that the social phenomenon is not solely viewed through one

perspective, but through a variety of perspectives which enables multiple aspects of the social phenomenon to be disclosed (Baxter & Jack, 2008). The case study approach maintains two key aspects that help guide the research. Stake (1995) and Yin (2003), jointly seek to influence that the area of research interest is well explored, and the essential components of the research is reveal. Both Stake (1995) and Yin (2003) base their technique to the case study method on constructivism. Constructivists argue that truth is dependent upon one's reality (Yin, 2003). According to Yin (2003), the case study methodology should be implemented when the researcher wants to answers the questions of how and why. The participants for this research study will answer a series of questions in a semi-structured interview related to the social context of pilot training. Using the case study method, the social context will be revealed based on first-hand accounts of their experience.

Case studies are significant in that they answer the who, what, and where questions through investigating documents, archival analysis, surveys and interviews (Yin, 1994). Additionally, case studies are one form of research design that supports a comprehensive investigation for answering questions of why and how without the modification of behavior (Rowley, 2002).

<div align="center">Data Sources</div>

The participants for the study come from my professional aviation network. I have identified six African-American pilots which I plan to ask to participate for this research. Each was selected because of their unique experience. Characteristics such as age and longevity within the aviation field will add breadth to the data as well as depth. Participant (1) is an eighty-seven year old Tuskegee Airmen Red Tail Fighter

Pilot who was an aviator during World War II. Participant (2) is a seventy-two year old retired military pilot who was an aviator during the Vietnam War. He was also the second pilot to be hired by Piedmont Airlines better known today as U.S. Airways. Participant (3) is a 20 year old Commercial Pilot who is engaging in continuous training at Delaware State University. Participant (4) is a 37 year old Captain for Delta Airlines based out of Atlanta, GA. Participant (5) is a 44 year old Regional 2nd Officer for Envoy Airlines, which is a regional airline of American Airlines. And participant (6) is a commercial aviator who trained at a local Fixed Base Operator (FBO- A relatively small local flight training facility acknowledged and accredited by the Federal Aviation Administration).

Data Collection

Merriam (1998) states that a lack of peer-reviewed literature may lead the knowledge-seeker to assume that the focus is too narrow, flawed, or there may not be an avenue to conduct the research. Exploratory studies of the participants will be completed to gather an understanding of their aeronautical experience thus leading to a career in aviation.

Semi-structured interviews will be used in this study to gather data that will capture the aeronautical education experience of the participants, who are current and retired aviators. A well organized and structured interview can be thought of as a directed conversation between a researcher and an individual in which the researcher's aim is to learn something. Creswell (1998) states that "the important point of an interview is to describe the meaning of a small number of individuals who have experienced the same phenomenon" (Creswell, p. 122). An "interview is one of the

most flexible and widely used methods for gaining qualitative information about people's experiences, views and feelings" (Creswell, p. 123). Some interviews are candid and maintain a semi-structured format. This allows the researcher to guide and direct the interview with the participant.

> The interviewer is free to follow different paths of conversation that emerge over the course of the interview, or to prompt the informant to clarify and expand on certain points. Therefore, interviews are particularly good tools for gaining detailed information where the research question is open-ended in terms of the range of possible answers. Interviews are not particularly well suited for gaining information from large numbers of people. Interviews are time-consuming, and so careful attention needs to be given to selecting informants who will have the knowledge or experiences necessary to answer the research question. (Creswell, p. 123)

The interview holds significance because it represents the participants' portrayal of their experience and knowledge. All six participants have a unique understanding of the aeronautical industry both past and present. Most of the participants trained at different time periods, which will be valuable in understanding the social context of their individual training experiences. The focus of the qualitative approach within the interview is to make sure the participants' accounts are comprehensively understood so their experiences can be preserved for future use (Hardiman, 2010).

There is great significance in the researcher finding commonalities when interpreting the experiences of the participants. Identifying prominent themes after the researcher collects the data puts the puzzle pieces together and helps generate meaning

of what was experienced by those in which the research was ultimately about (Caferella, 1999). The themes established from this study were based on the authentic experiences of six African-American pilots. Collectively, the commonalities represented from the research interview were 1) Access, 2) Perception of Inferiority, and 3) Support.

Participants

Originally, six participants were selected for the study (5 African-American Male Pilots & 1 African-American Female Pilot). Six participants completed the interview, however, the only female participant selected was unable to participate in the interview because she acquired a position in another country. Because of the gross representation of black females in aviation (OBAP, 2014), another African-American male pilot agreed to take her place. Additionally, as a result of the rigorous pilot schedules, time constraints, and other obligations, no second interview transpired for any of the participants. All of the participants were active in a pilot training program at some point. For research purposes and to establish confidentiality, pseudonyms were given to each participant.

Data Analysis

For this study, I will use a qualitative data analysis software called "ATLAS.ti", Version VII, that will aid in the organization and retrieval of essential information. The data will be mined for themes using a coding analysis process, which will collectively place together common patterns from the interviews which reflect the main points generated from the research questions. The general purpose of ATLAS is to help scientific researchers strategically break apart, and systematically examine information hidden within unstructured data. The statistical software offers analytical tools that

allows the researcher to locate, code, and annotate conclusions, to weigh analysis of their significance, and draw parallels between them (Lewins & Silver, 2007).

Ethical Considerations

From the inception this research was carefully constructed in such a way to capture the experience of a select number of African-American pilots while simultaneously reducing the possibility of pain, suffering, or other unethical factors. Interview research questions are open-ended which allows the research interview participant to offer either concrete or general answers regarding their personal aviation experience. Throughout my research, I plan to uphold trust and remain within ethical parameters of the institutional review board. Trustworthiness is essential to the purpose of this study. Guba and Lincoln (1985) suggests that trustworthiness requires four directives: credibility, transferability, dependability, and confirmability confirmability. Credibility finds "truth" within the research findings. Transferability reflects the researching findings applicability to its findings. Dependability indicates the research findings are reliable. And confirmability holds that the participant's responses represent the study without subjectivity from the researcher (Guba & Lincoln, 1985).

> Bloomberg and Volpe (2008) states that qualitative researchers are concerned about the validity of their communication. To reduce the likelihood of misinterpretation, we employ various procedures, including redundancy of data gathering and procedural challenges to explanation. These procedures, called triangulation, are considered a process of using multiple perceptions to clarify meaning. (p. 72)

There may be unforeseeable risks involved in conducting the research of the social context of aeronautical training among African-American pilots. One risk is the possibility of acute stress related to the recalling of the pilots' experiences. This research is valuable to aviation corporations around the United States, the Federal Aviation Administration, and domestic flight schools. Collectively, the study of the social context of the aeronautical education experience of African-American pilots can aid the aforementioned in an effort to increase awareness of inclusivity strategies and the overall growth of the industry while promoting the need for diversifying a pool of qualified airmen of color.

CHAPTER IV: FINDINGS

The purpose of this research study was to explore the social context, nature and cultural environment of the aeronautical training experience of African-American civil, commercial, and military pilots. Qualitative case study research methodology was used for this study.

The chapter describes the themes constructed from the data gathered during the one-on-one interviews of the six research participants regarding the following research questions.

(1) Which factors hindered pilot training?

(2) What were the resilience factors they experienced during pilot training?

3) What were the defining features of the social context surrounding pilot training?

The interview questions were posed to participants to gather a better understanding of the social context as it related to flight training for black pilots. Those questions were:

1. Demographic Information (Age, Race, Gender, Place of Origin)

2. What made you decide to become an aviator?

3. Did you have any African-American aviator role models prior to the journey of becoming a pilot?

4. What factors influenced you when you decided to embark on a career in aviation?

5. Were challenges persistent throughout the flight training experience? If so, how?

6. Are all of the aforementioned challenges today relatively the same or have they changed over time?

7. What factors impact African-Americans becoming pilots?

8. Are there unique factors that exist for pilot aspirants who are African-American women? If so, what are some of those factors?

9. What kind of mentorship experiences did you have during and after flight training?

10. What do you think the future looks like for African-Americans in aviation?

Participant # 1 (Alpha)

"Alpha" is an 87 year old retired Tuskegee Airmen fighter pilot who was one of the first black pilots to fight in U.S. Combat during World War II. He has over 60+ years of flying experience and an accumulation of many flight rating certifications. Those flight ratings include private pilot, instrument rating, commercial rating, multi-engine rating, and flight instructor ratings. "Alpha" believes that African-Americans have been socially marginalized over the course of history and although society has made substantial progress, oppression and negative personal biases toward black people continues to exist.

Participant # 2 (Bravo)

"Bravo" is a retired military pilot with over 50 + years of flight experience. He received many pilot certifications while in the United States Air Force and as a fighter pilot during the Vietnam War. He also commanded and instructed many flight students during his military tenure. "Bravo" suggests that there are few African-Americans in the aviation field because of the low expectations black people have experienced in the technical science fields.

Participant # 3 (Charlie)

"Charlie" is a commercial pilot with a flight instructor's rating. He is currently continuing his flight training at Delaware State University. To date, he has accumulated over 300 hours of total flight time and currently works as a flight instructor at the university. "Charlie" believes that most flight schools do not view African-American flight instructors as competent enough to instruct students in such a technical field of study.

Participant # 4 (Delta)

"Delta" is an airline transport pilot who received some of his flight training in the Caribbean. He has over 20 + years of experience in the cockpit flying all types of aircraft. "Delta" believes that black people have struggled in aviation due to the stigma of being black. Those preconceived notions of color from the perspective of others have hindered people of color for centuries.

Participant # 5 (Echo)

"Echo" is an airline pilot for a major commercial carrier here in the United States. He has over 25 + years of aeronautical experience. He attests his love for aviation from his early childhood. "Echo" suggests that the underlying causes of the personal subjectivities many have against black pilots are based upon the generalization society has made against black people over the history of time.

Participant # 6 (Fox Trot)

"Fox Trot" is a cargo pilot who began his training at a local flight school. He has over 18 years of aeronautical training experience. He attributes his passion for flying to the African-American pilots before him that paved the way for him to have the

same opportunity that they did not initially possess. "Fox Trot" believes one of the reasons for the low representation of African-Americans in the aviation field is because the expensive cost of flight training.

Generational Gap Among Participants

In this study there was a considerable age difference amid all of the research participants which helped captivate a wide range of experiences. Throughout the generations there were significant challenges endured. The earlier pilots experienced legalized racial oppression which hindered their flight training experience and thereafter. And the more contemporary pilots experienced racial marginalization based on the generational stigma of being African-American, coupled with the personal biases of others.

Themes

During the research interviews all of the participants were forthcoming in answering questions related to the study. The research participants offered their own stories of the social context of pilot training for black pilots. The data revealed significant insights into the social context of their individual flight training experiences. Although their experiences were all quite unique, three themes were generated from the interviews. Those themes were 1) Access, 2) Perception of Inferiority, and 3) Support/Mentorship. The aforementioned themes were used to explain the social context of pilot training for African-American civilian, commercial, and military pilots.

Theme # 1
Access

The initial theme of access originated from the participants' responses to the challenges endured during flight training. Dictionary (2005) defines access as "the right or privilege to approach, reach, enter, under the conditions of being allowed entry." For African-American pilot aspirants, their ability to enter the field of aviation was hindered by the gatekeepers to flight, such as financial institutions, societal forces, and poverty. The gatekeepers which challenge, and at times, prohibit accessibility to aviation training programs are all deeply rooted in the social conditions stemming from being African-American. One could argue that African-American people have faced more social challenges than any other culture of people in U.S. history (Patterson, 1982). And those challenges continue to perpetuate not only culturally but within occupations where the expectations are low for African-Americans. There were two components that aided in the conceptualization of the "access" theme. Those components were 1) cost of flight training and 2) access to training facilities and aviation career programs. Both of the aforementioned components under the "access" theme help to further explain the participants' challenges during and after flight training.

Cost of Flight Training

The first component within the access theme was cost of flight training. The astronomical cost associated with a flight training program was frequently named as a prohibitor of African-Americans becoming airmen. With the cost of commercial flight training exceeding $100,000 in some cases (OBAP, 2014), these pilots had to create

financial pathways to attaining their dreams. Three primary pathways surfaced in the data: bank loans, sponsorship and the military.

Many go in debt to fulfill the dream of becoming an aviator. And many are willing to finance their lives away to reach their life-long aspirations of aviation. During the interviews most of the participants indicated that they faced the challenge of paying the cost of flight education and that often flight students borrowed money from banks to cover the cost. Because of the volatile economy and the instability of aviation employment, many of the loans are high interest, even if the borrower has a perfect credit history (OBAP, 2014).

> I started in a flight training program much later than younger pilots. And saving up for flight school was a monumental task. I started out working in ground logistics and that simply was not my passion. So, after years of saving as much as I could, the efforts were just not enough. I had to take a high interest loan from a bank with a rate of 19%. Since aviation had been my dream since childhood I felt as if I did not have much of a choice ("Fox Trot").

Given that in the United States, hundreds of banks have faced scrutiny for poor regulatory practices where bank officials frequently told loan underwriters to deny minority applicants more quickly than whites, and to avoid giving marginal applicants credit assistance (McKoy, 2016), African American pilot aspirants had a harder time with obtaining loans. Often banks required a significant amount of collateral or co-signer to finance large sums of money (McKoy, 2016). This trend was also indicated by the participants.

Financial institutions were a significant source for providing access for pilot aspirants. In many cases, African-Americans with marginal resources and cultural capital around financial aid were forced to take out high interest private loans because they could not qualify for a more traditional bank loans.

Research participant "Echo" said

> I've admired aviation since I was a child. Since my mother and father, although separated, were both in the military, I was exposed to aviation at a very early age. Given that my mother and father were divorced and my mother lived on a modest-fixed government salary, I would have to apply for financial assistance to any school I selected to attend. No one educated me on the limitations on financial aid monies, so I ran out of money my second year of flight school. Out of money, no employment, and a single-parent household, I had no choice but to either accept a high interest private loan or end the dream of becoming a commercial pilot.

Based on the experience shared during interviews, most pilot aspirants struggle with the cost of flight training regardless of their ethnic background. The cost of flight training is even more complicated by the inability of many African American families to help the pilot aspirant to pay for the training. "Charlie" discussed the issue of the astronomical cost of flight training. He indicated that it is even more difficult for black pilots to pay for flight school than most other races of pilot aspirants.

> Every semester it's a struggle for my parents. I don't think my situation is considered the "norm" for most African-American families. I come from a two-parent, middle income household where both parents have well-paying jobs. My mother is a nurse and my father is an air traffic controller. But the cost of tuition is so high at my flight school that my parents both took on part time jobs to help maintain bills in the home and cover the cost of my tuition. It's almost impossible for me to get a job while in school because of the time commitment required to fly.

The experience shared above is an example of the struggle related to flight education from an airline transport pilot in training with support from both parents with well-paying jobs. According to the The State of Working America (2016), the average African-American family median income is just over $39,000 annually and the average white family income is $58,000 per year. The U.S. Census Bureau (2014) indicates that America has a poverty rate of 15% which is masked with racial undertones. More than 25% of African-Americans live in poverty while fewer than 10% of whites live below

the poverty line. These statistics point to systemic issues that account in part for why African-American families struggle to sponsor young African-American pilot aspirants.

The substantial cost of flight training was viewed by all of the research participants as an essential reason why many African-Americans fail to participate in aviation programs. Due to the high cost associated with training, many black pilot aspirants are subjected to remain dreamers. One of the ways mentioned to aid with the high cost of flight training is for established aviation organizations such as airline corporations to sponsor minority scholarship opportunities for African-Americans who have a strong desire to fulfill aviation dreams. Minority support in scholarship is especially important since the number of African-Americans represented in the aviation industry remains insignificant. Unfortunately, without funds or sponsorship, flight training is not accessible. There are very few options of financial support for aeronautical education programs for most African-American pilot aspirants. Most who dream of becoming a pilot fall at the mercy of financial institutions with high interest loans if they are fortunate enough to even be considered for a loan. With limited options for sponsorship, the military, in some cases serves as a financial alternative.

Access through the Military

Throughout history, the majority of African-American commercial aviators received flight training in the military. Many African-Americans who aspire to become aviators join the military in an effort to fulfill the dream of becoming a pilot even though there is no guarantee they will be granted access to train in the aviation program. In early aviation, the military was the only place where African-American

pilot aspirants could see other black pilots because the commercial aviation industry rejected all pilots of color. It was not until World War II when society saw its largest number of African-American airmen.

Given that cost of flight training was expensive, the armed forces were a godsend for African-American pilot aspirants who could not afford the extreme cost of flight training. Two of the research participants were military pilots. Both of them indicated that they would not have been able to fly if the United States military had not sponsored their flight training. Research participant "Bravo" discussed the benefits of military training to becoming an aviator.

> "The Tuskegee Airmen of WWII influenced me to become an airman. I was so enamored by them as major pioneers of black aviation that I felt it was my duty to honor them by following in their footsteps. On the other hand, I could never afford the cost of aviation on my own, so, to my advantage, military enlistment aided in paying for flight training" ("Bravo").

> "The military was the only way I was going to fulfill my dream of becoming a pilot. My family could not afford the cost of flight training and neither could I. So the army was my way to the sky" ("Alpha").

Without the representation of African-American pilots in the military in the early 1940s until now, the number of African-American pilots in the industry would be even more insignificant. Although the military offered flight training to pilot aspirants, which helped cover the cost, African-Americans in the armed forces pursuing pilot certifications had to overcome the social conditions of racism, oppression, and the marginalization stemming from being a person of color.

> "The army served as a benefit for me in becoming a pilot. Being poor, black, and living in the south, there was limited opportunity for me and those who looked like me. Although the military provided access for me to fly, I was segregated, spat on, and singled-out, simply because I was black" ("Alpha").

The military has helped to provide access for black pilot aspirants, but there needs to be an overall collective shift in how African-American pilot aspirants transition into the professional aeronautical industry other than the armed forces.

Theme # 2
Perception of Inferiority

Merriam-Webster (2005) defines inferiority as "the condition of being lower in status or quality than another or others, or having little or less importance or value." American history has cultivated the contemporary conditions of African-American oppression and presumed inferiority that many continue to witness and experience today. Dating back to the American Revolution of the 16th century to the Civil War of the 1860s to World War I of the early 1900s, from World War II of the 1940s, African-American men and women have fought in every single battle, but once the uniform was removed, the social challenges of inferiority and oppression continued to exist.

The second theme that surfaced during the participant interviews was the perception of inferiority. There were two components that help illustrate the significance of the perception of inferiority African-American pilots faced during pilot training. Those components were 1) qualified but not accepted and 2) low expectations.

Qualified but Not Accepted

The Civil Rights Act of 1964 implemented policy which advocated for the acceptance of African-Americans however, the private sector continued oppressive practices that would prevent blacks from being fully accepted in society. Research participant "Alpha" expressed how his skin color perpetuated the bias his superiors

maintained while in the military and even more so after he acquired all of his professional pilot ratings.

> "Of course my skin color was an issue. Although I knew I had the intelligence, the will, and the determination of flying airplanes in combat, the country saw me as being incapable because I was black. Unwarrantedly so, I was seen by my superiors as lazy, unskilled, and unintelligent. As a black man, I always had to do more than white soldiers to prove myself as worthy and sadly, to prove myself as being an equal" ("Alpha").

Black pilots had to work much harder than white pilots to be considered equal among other pilots. Although African-American pilots were just as knowledgeable and capable of flying aircraft during the early days of aviation, society's perception was not supportive of blacks navigating airplanes. Research participant "Bravo" agreed with "Alpha's" accounts of what it was like being an African-American pilot in the military.

Many African-American pilots were qualified to fly planes in combat and train other pilot aspirants, but most people, including other African-Americans, saw them as being incapable of flying an aircraft. The conditions of hostility, racial inequality, and basic unfairness continued to plague the United States well into the late 1960s. Blacks were never granted the same privileges as whites. Pre-Civil Rights movement, African-Americans were considered second class citizens. Many would argue that blacks are still considered second class citizens today. Prior to and after the signing of the Civil Rights Bill, thousands of blacks were forced into working the worst paid and unskilled jobs (Tolman, 2011). Most of those jobs were in farming and in factories where the conditions were deplorable. Schools in African-American communities were poor and under resourced where the teachers were severely underpaid, under qualified, and the average classroom size maintained 40-50 students (Disadvantagesofblackamerica,

2016). On the other hand, white schools flourished with smaller class sizes and well

qualified teachers who made a very good working salary

(Disadvantagesofblackamerica, 2016). The aforementioned social challenges that black

people endured during the Civil Rights Movement existed in the military as well.

> "I was not allowed to teach white pilots how to fly. I was not even allowed to
> train them in the classroom for ground instruction. I flew in aircraft that was
> subpar and poorly maintained. I was more than qualified but not fully accepted as
> a black pilot" ("Alpha").

 Although several black pilots succeeded in the aviation field during military

training, they were always seen as lazy, uneducated, and ill-equipped to be combat

pilots (Hankins, 1995). The marginalization of African-American pilots was so

prevalent that when African-American pilots acquired their instructor ratings, they were

only allowed to teach "other black pilot aspirants" and not allowed to instruct white

pilot aspirants ("Alpha", "Bravo", & "Charlie").

> "After I completed all my flight training requirements, I was not allowed to
> instruct white pilots. I was told that I could only instruct black pilots and not to
> ask questions or "put up a fuss" about it. Although I was even more so qualified
> to teach all students because I had more flight ratings than anyone, I was seen as
> incapable to teach white students" ("Bravo").

 The aforementioned participant statements explain how qualified African-

American pilots were marginalized and seen as inferior as it related to instructing white

pilot aspirants. His story was told based upon his experience prior, during, and after the

Civil Rights Movement. This was an extremely volatile period in U.S. history when

blacks and other minorities experienced first-hand systemic racism and oppression. The

military was no different. Because of its highly structured chain-of-command,

questions of oppression and racism were tolerated and accepted by many.   After the

World War II, African-American pilots who trained in the military applied for the

civilian job market. They were all qualified to fly but not a single one of them were qualified to fly a passenger jet. Most of the African-American aviators who fought in combat during World War II were told they were only qualified to become baggage handlers and ramp agents (Hardesty, 2008).

> "I accumulated thousands of hours of flight time during military training and fighting the adversaries over Europe and Asia. But once flight training ended and I was ready to enter into the job market, not a single commercial airline company would hire me. All of them told me that I was either unqualified to fly their planes or that I could not fly their planes because I was black" ("Alpha").

Research participant "Alpha" and "Bravo" both explained the social challenge of racial inferiority from their experiences early on in their career.

> "As a black man, every day of my flight training was difficult. Because I was black, I was not allowed to stay close to the airfield. My base was ten miles from the airport. I didn't have transportation to get there so I had to walk from the base to the airport everyday whether it was zero degrees or one hundred degrees" ("Alpha").

> "I was told flat out that my brain was not large enough to learn how to fly a B-52 Bomber. Eventually, I became a B-52 Captain of my squadron and the second black pilot ever to be hired by Piedmont Airlines" ("Bravo").

Research participant "Charlie" illustrated his experiences from a more contemporary perspective, which indicates that the burdens of racial bias and the perception of being inferior still exists. "Charlie", who attends a flight academy in Delaware today, mentioned that after he completed his commercial pilot's license and his flight instructor rating, he began instructing first year students at the flight school. And that most of the time when he meets his students for the first time, they are somewhat skeptical of his capabilities when they get in the aircraft with him.

Low Expectations

Throughout all of American history, African-Americans have been viewed as the "inferior" race (Alexander, 2010). Although black flight instructors have all the necessary qualifications to instruct student pilots, people still neglected to trust them as knowledgeable instructors. This is based on the perception people have of African-American's ability to work in such a highly technical field. Additionally, this may be in part due to the lack of representation of African-Americans in aviation.

> "When I initially entered flight school at a historically black institution, I was under the impression that most pilots, both instructor and students, would look like me. I was completely wrong. I quickly noticed that white instructors were treated differently than black instructors. The language was not blatant however, it was coded. Racial undertones were used throughout my studies, such as administrators inquiring about your "dedication within a rigorous course of study" and consistently being pushed towards inquiring about high interest private loans or financial aid. To my knowledge, white students were not asked that same information. In fact, I had a conversation with a good friend of mine in flight school who is white. We conversed about administrative leader's (who are all white) availability for support as it relates to student support programs. He told me that the administrators and instructors (who are mostly white) always support him with motivation and advice. Whereas, in my case the administrators and instructors are more critical about my progress, questioning my commitment, integrity, and qualifications" ("Charlie").

Research participant "Echo" agreed with the previous research participants on the perception of racial inferiority in that his instructors early on in his aviation journey were more strict on him in an effort to "break him" or "to make him quit." Although he performed well and excelled in his flight training, to his trainer's standards, it was never good enough. He felt as if he had to work twice as hard as white students in the flight program to prove himself to others as being capable.

The previous statements from the participants illustrates the heavy burden stemming from the social stigma of being African-American. Participant "Echo" was

very intelligent and very capable of flying aircraft, however, the preconceived beliefs

about people of color exhibited by the instructors clouded their observations.

Participant "Fox Trot" explained that on his first day of flight training one of the

instructors, who were white, asked him "where did he get the money for flight

training?"

> "I remember day one of flight school, I got out of my car, walked into the airport
> FBO (Fixed Based Operator) with a check for $7000. I did not know anyone
> there, but I'd done some research about flight schools and this one was the most
> affordable for me. As I walked in the building I was greeted by an elderly man
> who happened to be a flight instructor. I told him my name and that I was
> interested in flight training and that I have a check to pay for my initial
> rating. His first response was "where'd you get that much money from?" That
> should have been a red flag for me but I was determined to fly. I asked around
> and everyone said that the same instructor who I met the first day of flight school
> was the most seasoned pilot there. He was a Vietnam and commercial pilot with
> over 30,000 hours of flight time. I felt like my experience with him would be
> most beneficial. The first day we actually got into the aircraft I arrived 15 prior to
> our scheduled time to fly. When I arrived he yelled at me and said that "you are
> late and that if you continue this pattern, you need to find another
> instructor." While in the aircraft he was a tyrant yelling and screaming about how
> I'll never learn how to fly and that this may not be the career for me. Where on
> several occasions he would refer to me as "you people." After about two weeks
> of flying and about $1500 spent, I changed instructors. I asked other members of
> the flight school if they had shared similar experiences with my previous
> instructor and everyone that I conversed with spoke highly of him and how much
> of a patriot he was. Everyone I spoke with was white" ("Fox Trot").

Although "Fox Trot" was extremely motivated to learn, he was seen by his

original instructor as being unmotivated and unteachable simply because of his skin

color. Often generalizations are made of African-Americans based on an individual's

subjective beliefs. Those personal biases cloud their judgment and makes it difficult to

accept the reality that African-Americans are fully capable to excel in aeronautical

training.

Theme # 3
Support

Most African-American pilot aspirants enter into flight training without connections to help mentally guide them through the rigors of training. Additionally, many of those same aspirants who are fortunate to complete the necessary requirements to become a commercial pilot or an airline transport pilot lack support to help find employment once training is complete. There are many components of support as it relates to a successful pathway of flight training for African-American pilots and thereafter. Some of those components are family support and providing support.

Challenges of Family Support

African-Americans continue to be viewed as under achievers in the science and math field. In the early onset of academics, many students of color can envision themselves in a field which requires significant practice in science and math. Early on, parents encourage their children to pursue their dreams but many of the parents fail to realize the academic rigor their children's pursuit requires. On rare occasions young black males and females desire to pursue becoming an aviator. This can be explained in part due to the fact that young African-American pilot aspirants do not have anyone that can relate to in the field. From the custodial perspective, neither do the parents. And in this, many families neglect to support the dream of their child becoming a pilot because they view the field as being inaccessible because African-Americans are so heavily underrepresented.

"Charlie" explains that,

"Support is so important, especially in a field as challenging as aviation. I attend an Historically Black Institution and the numbers are already against me as a young African-American male. Statistically, I'm not supposed to be where I am

and I could not have accomplished so much without a strong foundation and support system at home" ("Charlie").

Like many other communities, many families within the African-American community have sustained the legacy of upholding traditional values and cultural norms (Loury, 2005). Historically, the African-American community supported one another in many walks of life such as family, business, education, and religion (Hardiman, 2010). But somewhere along the way those social bonds have been broken by a plethora of social and systemic challenges. Some of those challenges are broken homes, mass incarceration, unemployment, and the demoralizing conditions of anomie (Alexander, 2010). Because of the social challenges associated within the African-American community, conventional ties are broken. And due to the nature of uncertainty within the black community, it is extremely difficult for a young person to attain support from the community for future endeavors when despair is so prevalent.

> "When I was coming up, we were very poor. I didn't know much about my father and my mother was a substance abuser. I didn't have conventional support from my immediate family in my home as it related to school or my future goals. Once I stepped foot outside my door, many young people in my community experienced the same deplorable conditions I did. My imagination was all I had and it was even more difficult to pursue my dreams later on as I got older because the support wasn't there for me as a young person. So the majority of my life I felt as if I had to play catch up because the moral resources weren't there early on" ("Fox Trot").

Challenges of Providing Support

Self-preservation is significant in any field of human endeavor, however, having moral support along the way can aid the best in times of discouragement. The challenge of providing support for black pilot aspirants is the numbers are limited amongst the African-American pool of pilots. According to the Federal Aviation Administration, less than 1% of pilots in the United States are African-American. In any challenging

field, it is important to have someone who has endured the challenges of that

field. Especially if that person has the same background and shared experiences as

you. Research participant "Charlie" explains that

> I attend an historically black institution. The school has a small aviation alumni support group and it's extremely beneficial. But there could be so much more. Not only those who have already graduated from the flight program should serve as role-models or mentors but also those who are in the flight program as well. Older students or upper class students can mentor and support younger students. The first couple of years of flight school are the most volatile because of the rigorous requirements in the beginning. So it's important that older students, such as myself, support the underclassmen and help them with the motivation to continue and complete the flight training program. This is most essential because the administrators, who are predominately white, lack in the supporting efforts of minority students" ("Charlie").

Flight training poses many challenges. However, the challenge of being an

African-American pilot makes flight training seem almost impossible for some. Peer

support at the collegiate level can be beneficial for those who may lack motivation and

the desire to continue in such a rigorous curriculum when the expectations and

perception is failure to many.

> "Aside from the desire, strong will, and finances, support is the single most important aspect of becoming a pilot. I was so intrigued about what the Tuskegee Airmen accomplished during that difficult period in history that I felt an obligation to couple my love for aviation and share my passion with others who look like me. Contemporarily, mentorship among black pilots is scarce. There are some programs that cater toward black pilot aspirants, however, I can count them on one hand. The sad part is that it does not require much. Exposure is so important. If young black kids are exposed to aviation early on, that will at least make them aware of the possibilities aviation has to offer. I'm not a scientist but I would bet money that more than 99% of young black kids do not personally know a black pilot, in any capacity, whether it's a private pilot flying small Cessnas or a commercial pilot flying Airbus 320s. Support can change all of this tremendously" ("Echo").

"Echo" indicates the importance of support and the lack thereof among black pilots. It is important to have support programs in aviation that will expose young black children to aviation.

Summary

The main purpose of this chapter was to provide insight from the six research participants about their experiences during pilot training. The research interviews revealed three themes: (1) Access, (2) Perception of Inferiority, and (3) Support. The subsequent chapter will provide the findings as they relate to the research questions. Additionally, the following chapter will illustrate recommendations for future research.

CHAPTER V: CONCLUSION & DISCUSSION

The concept of aviation has enamored generations of aeronautical enthusiasts over the last century. Many have benefited from the unprecedented triumphs and experience of flight. However, most African-Americans that have aspired to fly have endured many hardships and challenges along their aeronautical journey. This study highlights many of the key underlying causes related to the insignificant number of African-American pilots. Through this research I learned that although money is an essential component to paying for flight training, it is not the only gatekeeper for access. There are sociological factors and challenges at play even prior to entering into the cockpit that speaks upon the nature and course of aeronautical training.

The purpose of this research was to explore the social context (the nature and cultural environment) of the aeronautical training experience of African-American civil, commercial, and military pilots. Case study was the best methodology for this particular research because of its in-depth approach from a small number of cases to gauge a comprehensive understanding of the real-world context of African-American aviators (Bromley, 1986). The data analysis from the participant interviews from this research study revealed three commonalities. Those themes were (1) Access (2) Perception of Inferiority, and (3) Support. The focus of this study was to answer the following research questions.

Research Question # 1: What factors hindered pilot training?

Research Question # 2: What were the resilience factors experienced during pilot training?

Research Question # 3: What were the defining features of the social context surrounding pilot training?

The purpose of this chapter is to draw parallels between the research findings and current literature related to the study of the social context of pilot training.

Access

Access to the aeronautical field has been a challenging endeavor for black people since the beginning of flight (Smithsonian, 1999). To encourage access in the aviation field, black aviation aspirants, enthusiasts, and pilots have established flight clubs to advocate flight within the black community. The flight clubs promote flying through lecture seminars, publications, and introductory flights (Foster, 2003). Hardesty (2008) indicated that during the mid-century growth of aviation in the United States, African-Americans sustained no other support for acceptance in the aeronautical field other than themselves. Cooper (1996) states that for decades, civil rights leaders marched for integration within the armed forces but the Defense Department resisted (Cooper, 1996). Progressively, the establishment of local flight clubs coupled with the aid of aviation pioneers helped African-Americans attain their first major collective aeronautical achievement in 1941, convincing Congress to allow access for blacks to train as military pilots (Cooper, 1996). Ultimately the Defense Department has opened the doors for African-Americans to enlist in military flight education training (Forsyth, 2001). Although the military provides access for African-

American pilots, opportunity for access in aviation outside the military remain scarce (Hardesty, 2008). Military downsizing will ultimately minimize the significance of ex-military pilots as a source for commercial airlines. From World War II through the mid-90s, approximately 80 percent of major airline new hires were military trained. Today, civilian pilots consist of approximately 60 percent of all pilots who are gainfully employed by the commercial airline companies (FAA.gov, 2014). Ex-military pilots used to fill between 70 percent and 80 percent of the vacancies in airline cockpits. But there are fewer in service -- the Air Force had 39,052 pilots in 1970; it has 11,705 today -- and the services require a significant commitment from the aviators they train. Today, military pilots make up less than 50% of the new pilots entering into commercial aviation (FAA.gov, 2014). Although the overall number of military trained pilots in commercial aviation are remain under 50%, the number of African-American aviators who trained in the military remain quite substantial at over 90% (OBAP, 2014).

According to Title 10 of the United States Code, "the purpose of the Junior Reserve Officers' Training Corps is to instill in students in the United States secondary educational institutions the value of citizenship, service to the United States, personal responsibility, and a sense of accomplishment" (Department of Defense Knowledge Base, 2012). According to the DoD (2012) students learn about the military functionality, proper military attire, and discipline. Early military preparation programs such as JROTC can be an essential tool for providing access to help pipeline African-American pilot aspirants towards military training thus which may transition into the aviation industry.

Two of the research participants agreed that the military provided the only form of access to the aeronautical industry. And even though access was progressively obtained, overall acceptance of becoming a black pilot continues to be an uphill climb.

Most research which focuses on the challenges of pilot training access emphasize the expense associated with pilot training (OBAP, 2014). Coupled with the high cost of flight training, other research on limitations of access among black pilots suggest many flight programs fail to recruit minority pilot aspirants into flight training programs (Hardimann, 2010). In a study, Foster (2003) surveyed 17 aviation programs across the country. He limited his study to schools that were serious about diversity and have at least a minority or a woman among the academic staff. Foster (2003) said that one of the most significant findings of the study was how little minorities and women avail themselves of aeronautical programs. He emphasized the burden is a function of two conditions: one, the way information is presented in school advertisements; and two, the minimal efforts by aeronautical programs to attract women and minorities (Foster, 2003).

The empirical research were consistent with the findings. Three of the research participants felt that there are limited recruiting efforts to attract African-American pilot aspirants. Additionally, the research participants felt that financial institutions fail to offer fair lending options for minority pilot aspirants. The extant literature in terms of access focuses primarily on recruitment. While recruitment was raised as a concern, findings from this study indicate that costs was a significant barrier to access. Often financial institutions fail to offer fair lending options for minority pilot aspirants. Without borrowing options from a bank or other financial entity, a large

majority of black pilot aspirants cannot afford the cost associated with flight training, and are ultimately left without alternatives for financial support.

Perception of Inferiority

Although the Civil Rights Movement ended legal segregation, perceptions of inferiority based on subjective evaluations of ability derived from one's racial identification still exist today (Loury, 2005). As race continues to become more sensationalized with powerful social meanings, the odds lessen that an observer with negative subjective views of a racial group will recognize their implicit bias and the odds increase that such persons will make negative generalizations about an entire race of people (Loury, 2005).

Many people who fly still question the abilities of black pilots as they approach the cockpit doors (OBAP, 2014) which is consistent with both the participants' experience and empirical research. The empirical research suggested that race becomes a more significant aspect of a person's social identity when he or she is directly unknown to the observer (Loury, 2005). Several research participants for this study revealed how others perceived their pilot qualifications. Alpha stated that once he acquired all of his pilot certifications, most people, not only whites, questioned his ability. Even when he was in uniform, people did not believe that he was a qualified military pilot. Bravo mentioned that as a flight instructor in the military, many pilot aspirants would question his abilities in the cockpit because of his race.

These are examples of what Greene (1988) termed "negative freedoms". The concept of 'negative freedoms' alludes to the contradiction that the liberty among a group of people who have been systematically marginalized and oppressed is

accompanied by cost and limitations. Many African-Americans in society experience negative freedom as a result of their race being associated with inferiority.

Since American colonization, black people have been classified as the inferior race and socially unequal (Gibson, 2015). Many White Americans believed in racial separation of white and non-white members in society in part based on the assumption of inferiority. Negative freedom was experienced by African-American soldiers, like those who participated in this "Alpha", once they returned home from WWII. They consistently experienced racially motivated hostilities because they were considered unequal to whites even though they served alongside White soldiers in preserving the freedoms of all Americans. This hostility translated into loss of opportunities to work as pilots in the civil setting for Black pilots who served in the war (Cooper, 1996).

Over the course of history, African-Americans were perceived as having limited ability and thus the work they were best suited for was generalized by the masses as requiring only a minimal amount of skill. As the country witnessed technological advancements, African-Americans continued to face scrutiny by those who have for generations marginalized the skill, abilities and intellect of black citizens (Solorazo, 1997). Considering the highly technical skills required to fly an aircraft, African-American pilot aspirants' aeronautical knowledge, skill, and abilities are sometimes questioned based solely upon their race (Stewart-Smith, 1981).

Scholars such as Sanchez (2011) noted "Racial identity is a reflection of how a person has internalized their socialization experiences surrounding race" (Sanchez, 2011). In such a technical field as aeronautics, there were not many expectations that Black people were capable of becoming pilots. Most African-American pilots,

including those who participated in this study, felt inferior because of the assumptions and preconceived beliefs held by society of them. In spite of this, however, all were proud of their accomplishments.

Savage and Mattson (2011) offer further insight into how the perception of inferiority impacts access by suggesting that although obstacles to diversity and inclusion in a highly technical field might be overcome with visionary and determined efforts, historically such obstacles have resulted in the tendency for individuals to avoid highly technical fields because they believe the obstacles to be insurmountable. Banks (2006) discussed the issues concerning African Americans in technical fields, beginning with the problem of access to contemporary technologies coupled with the issues of language and culture. Banks acknowledged how intricate the issues associated with African-Americans in technical field are from ideological, political economic standpoints. Real change will only come for blacks in highly technical fields such as aeronautics when society foregoes the rhetoric of African-American inferiority.

The findings were consistent with the literature. Regardless of the time period, participants agreed that their negative social experiences were a result of preconceived assumptions of flight trainers, or administrators due to their race. According to the research participants, the presumption of racial inferiority was a salient component of their flight training. The older participants experienced the racial tension during an extremely volatile period in history. "A significant consequence of racial stigma is vicious circles of cumulative causation: self-sustaining processes in which the failure of blacks to make progress justifies for whites the very prejudicial attitudes that, when reflected in social and political action, ensure that African-Americans will not advance"

(Patterson, 1982 p. 64). All of the research participants explained that at some point they felt that race was a factor during their flight training. Two of the participants experienced the stigma of being African-American during the era of legalized segregation. In this, they were already labeled and their capabilities were in question prior to the start of flight training. Three of the research participants emphasized that race was used to judge their character and the expectations of their skill.

Support

Support is highly essential for African-American males who wish to pursue a career in aviation. When implemented correctly, support can be transformative. According to Ison (2013) aviation has suffered from poor inclusion practices with virtually little participation among the professional pilots. The power of support can encourage and inspire African-American pilot aspirants to pursue successful and productive futures, reaching their potential through encouraging relationships and utilization of community network of resources (Jarjoura, 2013). Research participant Charlie suggested that support is paramount, especially for young black pilot aspirants. He also suggested that African-American led support programs help establish a network for future black pilots and a continuum for future generations of African-American aviators. Contemporary research suggests that support programs have greater impact on positive youth outcomes when mentors provide teaching and advocacy as part of their role (DuBois et al, 2011). If young people who aspire to become aviators have a strong network of support who are willing to expose them to aviation, then those same pilot aspirants may be willing to reciprocate as they become adults in the field.

Two research participants emphasized that it was the support of pilots who had years of experience who counseled them and helped them endure many of the social challenges associated with flight training and the stigma of being an African-American pursuing professional pilot certification. "Support is a professional activity, a trusted relationship, a meaningful commitment" (Yang, 2006, pg 34). Bellows and Perry (2005) suggest that support is essential, not only because of the knowledge and skills students can learn from having support, but also because support fosters professional socialization facilitate success. Inclusion among different cultures of people within the science, technology, engineering, and mathematics (STEM) fields has historically lagged that found in other academic paths (Ison, 2013). The Organization of Black Aerospace Pilots (2014) suggests that support is about coaching and counseling.

Minorities in general face a tremendous challenge receiving support when the family structure lacks conventional resources. In the United States, African-American communities dominate the low-income financial market. Low-income status has created a cyclical path of poverty that has plagued the African-American community for decades (Yeltchev, 2015). Impoverished communities, coupled with a poor education system, discourage growth and support that many at-risk youth so desperately need (Yeltchev, 2015). There are only a few minority support programs that help introduce aviation programs in the inner cities of America (OBAP, 2014).

According to Wakefield and Hudley (2007) when minorities have established a healthy ethnic identity, they are more likely to achieve more positive educational, psychological, and social outcomes. Young African American males are frequently targeted for support programs because they are at such high risk for academic failure,

infrequent educational attainment, gang initiations, substance abuse, and becoming statistical components of the criminal justice system. Most African-American young men grow up in environments where there is finite access to positive adult male role models. Additionally, within these settings lies the existence of poverty and exposure to violence (Jarjoura, 2013).

Black male pilots specifically can serve as an absolute positive male role model, especially since many view the notion of being a black aviator as an aberration. The presence and existence of a black pilot within inner cities can not only help expose youth to aviation but also to the possibilities within the STEM field in general.

The findings were consistent with the notion of how there are limited minority support programs that help expose or advocate for aeronautical training. All of the pilots in this study emphasized the significance of minority support groups that aid in helping expose black pilot aspirants to aviation and help African-American aviators deal with the challenges experienced along the way.

There are less pilots now then there were yesterday and the day before (Henley, 2003). It is the responsibility of the airline industry, government, businesses, communities, and stakeholders alike to advocate for the growth of the airline industry. Without a network of collective supporters who advocate for African-American pilots, aviation will continue to exist as a field known for its limitations of minority opportunities. Most literature on aeronautical minority aeronautical training emphasizes the benefits of diversity and inclusion in the aviation workplace and approaching pilot shortage in the near future (Ison, 2013). Because of this, it behooves

aviation stakeholders to have access to the most comprehensively diverse and inclusive employee pool possible (Ison, 2013).

<div align="center">Connections to Critical Race Theory</div>

Derrick Bell's Critical Race Theory offers a comprehensive understanding of how race is entrenched within the genetic makeup of historical and contemporary American society (Solorzano, 1997). Critical Race Theory provides a structural foundation for understanding the social nature of flight training for black pilots. The underlying assumptions of Critical Race Theory suggests that political debate and conversation is necessary to empower people to take action which will establish change in existing social structures (Bloomberg & Volpe, 2008). Based on the findings, the research participants capture the social nature of pilot training through a recollection of their own personal experiences. Those experiences help foster a much needed conversation centered towards change in policies within the aviation industry. The social challenges experienced by the research participants are a direct reflection of oppression, marginalization, and disfranchisement of a culture of people that continue to encounter significant obstacles within society.

Critical Race Theory and Access

One of the initial factors that hindered pilot training was access. The research participants indicated that there were many components of access that affected the nature of pilot training. Critical Race Theory encourages action towards breaking down the barriers that prohibit access for African-American pilots. Those actions include holding financial institutions accountable when they use discriminatory lending practices towards people of color. Financial institution oversight should involve

criminal sanctions when inculpatory evidence exists which would prove the lending institution blatantly discriminated because of race. Furthermore, there should be action to encourage minority recruiting practices among commercial aviation companies.

Critical Race Theory and Perceptions of Inferiority

The second factor that posed a challenge to flight training for African-American pilots was the perception of inferiority. All of the pilots in the study shared a feeling of inferiority as it related to their treatment during the course of flight training. Critical Race Theory promotes the idea of social change where there is an existence of racial oppression. The research participants emphasized that those in the positions of power, such as flight instructors, administrators, commanders, and managers, marginalized their skills and looked down upon them as if they were not equal. Critical Race Theory stresses change in existing hurdles in which one group is seen as unequal because of racial inequality.

Critical Race Theory and Support

The final factor that posed a challenge to flight training for African-Americans was support. Support was found to be a critical component for African-American aeronautical training success. More significantly, it was found that when other African-Americans fail to foster support to African-American pilot aspirants, there is a greater chance of failing to enroll or completion of a flight training program. Additionally, it was found that when African-Americans who are in the aviation industry fail to support other African-American pilot aspirants it is more difficult to attain employment within the aviation industry. Through Critical Race Theory it is paramount that African-

Americans within the aviation industry help assist pilot aspirants because there are significant challenges receiving meaningful support from other entities.

Limitations

In conducting this study, there were certainly challenges that clouded the overall focus of the research. The purpose of the research was to gather a better understanding of the social challenges endured by pilots. In conducting the study, I found that research dealing with the social context of aeronautical training from a contemporary perspective is limited. Most of the empirical research on the social challenges of flight training are centered around the conditions of racism and oppression during pilot training prior to the Civil Rights Movement. Additionally, the study solely captures the experiences of black pilots. From a research perspective, the study may be more widely accepted if it looked at other ethnicities to illustrate an overall picture of the nature of pilot training. And last, the qualitative data was limited to the research questions that were presented to the participants. Additional themes or commonalities could have been revealed if other research questions were disseminated during the participant interviews.

Recommendations for Further Study

Based on the limitations to the study it is recommended that further research is conducted to look into the social nature of African-American pilot training post-Civil Rights Era. This will give researchers a better understanding and an overall illustration of the challenges black pilots face from a modern day perspective. It is also recommended that further research is conducted to look into the social nature of pilot

training for minority women. Most of the empirical research in the field is gender specific and bias towards men.

The study of the social context of African-American aeronautical training is essential because it encapsulates the core and nature of experiences for a demographic which stories often go untold. This research captures the challenges many black pilots face during their journey of becoming an aviator. Most contemporary research in the aeronautical field highlights the social challenges of pilot training in a general sense. But those same studies fail to express the difficulties pilots of color face along the way. This study unravels some of the underlying assumptions as to why the aeronautical field is grossly underrepresented by pilots of color.

Academic flight programs and aviation corporations around the United States are cognizant of the low representation of African-American pilots within the industry. This study highlights many of the key underlying causes related to the insignificant number of African-American pilots. Through this research I learned that although money is an essential component to paying for flight training, it is not the only gatekeeper for access. There are sociological factors and challenges at play even prior to entering into the cockpit that speaks upon the nature and course of aeronautical training. The aviation industry in its entirety should implement structural policies that promote social inclusion and diversification among its stakeholders. Flight schools in the United States should offer need and promise-based scholarships for minority applicants that have a proven track record of overcoming obstacles coupled with the overall unique aspiration of becoming a professional pilot.

In addition to providing access to flight training, commercial airline organizations should seek to diversify their hiring pool of pilots by recruiting qualified African-American pilots from flight programs around the country.

The overall findings to the research study suggest that there are certainly external factors that challenge and often times prohibit African-American pilot aspirants from accomplishing their dreams. The experiences shared by the aviators in this study reflects upon an industrial imperfection that traces its stem from the origins of oppression. Although this research only listens to the voice of six African-American pilots, their stories alike are told by many others that have and continue to endure the struggles of access and acceptance.

<div align="center">Final Conclusions</div>

The overall findings to the research study suggest that there are certainly external factors that challenge and often times prohibit African-American pilot aspirants from accomplishing their dreams. The experiences shared by the aviators in this study reflects upon an industrial imperfection that traces its stem from the origins of oppression. Although this research only listens to the voice of six African-American pilots, their stories alike are told by many others that have and continue to endure the struggles of access and acceptance.

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APPENDIX A: INTERVIEW QUESTIONS

"Participant Interview Questions"

1. State your age, race, gender, and where you are from.
2. What made you decide to become an aviator?
3. Did you have any African-American aviator role models prior to your journey of becoming a pilot?
4. Describe your flight training experience.
5. Tell me about the factors that influenced you when you decided to embark on a career in aviation.
6. Were some of those challenges persistent throughout your flight training experience? If so, how?
7. Are all of the aforementioned challenges today relatively the same or have they changed over time?
8. What factors impact African Americans becoming pilots?
9. What unique factors are at play for women, if any?
10. What kind of mentorship experience did you have during and after flight training?
11. What do you think the future looks like for African-Americans in aviation?

APPENDIX B: CONSENT FORM

Dear Aviator,

"Research Consent Form"

The Social Context of the Aeronautical Education Experience of African-American
Civilian, Commercial, and Military Pilots

This research study involves capturing the social context and resilience factors
experienced by African-American pilots during flight training.

Taurean Walker, a UNC-Charlotte Doctoral Candidate in the Department of
Educational Leadership, will be conducting this research project, under the direction of
the Research Committee Chair, Dr. Lisa Merriweather at the University of North
Carolina at Charlotte in the Department of Educational Leadership.

You are being asked to participate in a research study. You have been contacted about
this study because you are an African-American male/female who has completed a pilot
training program. There will be 6 total participants for this research study.

Participation of this study requires a 60-90 one-on-one semi structured interview, which
will be strictly confidential. Participants will answer a series of questions regarding
their experience pre, during, and post flight-training. The interview will be audio
recorded and transcribed once completed.

All responses from the research participants are confidential and the responses will not
be linked to your identity. Research participant personal information will not be used
for this study. Confidentiality will be maintained throughout the study. There is always
the risk of compromising privacy, confidentiality and/or anonymity when using email
and the internet. However, the risk to your physical, emotional, social, professional or
financial well-being is considered to be less than minimal.
The information disseminated from the semi-structured interviews from the research
participants may be valuable for African-American pilot aspirants because this research
will provide a narrative historical timeline of pilot training experience and indicate
some of the social challenges and resilience factors African-American pilot aspirants
may experience during flight training. This study may also be valuable for Aviation
Corporations because the research may help in more inclusive hiring practices for
commercial airline corporations.

Participation is voluntary, and refusal to participate in the study involves no penalty or
loss. Additionally, the research participant may withdraw from the study at any time

without penalty or loss. If the participant agrees to take part in the research study, he/she will be given a $20 Shell Fuel Card to compensate for their time.

After the dissertation defense, all hardcopies of datum will be destroyed and digital files will be deleted after 3 years. *The audio recordings will not be used at a conference or a non-research presentation*

If you have further questions or concerns about your rights as a participant in this research study, contact the Compliance Office @ (704) 687-1871. If you have questions concerning the study, contact the Research Committee Chair, Dr. Lisa R. Merriweather, Ph.D, Associate Professor of Adult Education at the University of North Carolina at Charlotte by phone, 704-687-8740 or by email @ lmerriwe@uncc.edu.

I have read the information in this consent form. I have had the chance to ask questions about this study, and those questions have been answered to my satisfaction.   I am at least 18 years of age, and I agree to participate in this research project. I understand that I will receive a copy of this form after it has been signed by me and the principal investigator of this research study.

_____   _____

Participant Name (PRINT)   DATE

_____   _____

Participant Signature   DATE

_____   _____

Investigator Signature   DATE