

DISSERTATION

FACTORS OF NON-PERSISTENCE IN CIVILIAN HELICOPTER FLIGHT TRAINING:
A NARRATIVE INQUIRY OF PILOT ATTRITION

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ABSTRACT

FACTORS OF NON-PERSISTENCE IN CIVILIAN HELICOPTER FLIGHT TRAINING:

A NARRATIVE INQUIRY OF PILOT ATTRITION

Previous literature on retention of student helicopter pilots shows a gap in research of civilian schools and qualitative studies. To address this gap in the literature and to help helicopter flight schools better understand the incidents of attrition from flight training, this qualitative study investigated student and school-based factors leading to attrition of helicopter pilot students from civilian training programs and how schools can intervene to help raise retention.

The researcher interviewed four former helicopter pilot students of one Colorado flight school. Participants were chosen based on holding a private pilot certificate, having stated a goal of an aviation career, and having taken no training flights in the previous six months. Emergent themes from interview data include several linked to retention literature: motivation and interest, financial concerns, family care issues, need for remediation and learning style, social connections, and belonging. Also discussed are themes unique to study participants: safety, depression, responsibility, privilege, and disillusionment. Restored interview data were scripted as a focus group.

Recommendations to school leaders include continuing to research funding opportunities for students, addressing child-care needs, creating social and quasi-social student opportunities, contacting stop out students, creating an inclusive school environment, listening to students, creating individual student timelines, and helping instructors address students' learning styles. This research supports sub-baccalaureate retention research and articulates the individual nature of causes of attrition.

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Mac and ChoCho: Meow.

The pilots who shared their stories, without whom there would be no study

Alyssa Rinehart, who edited my papers, Bob and Judy Gagnon, who housed, fed, and cared for me, and Mike and Gina Fyola, who helped me in more ways than I can count. You are family and will be part of me always. Your support brings tears to my eyes and warmth to my heart. I am truly grateful.

Dralrie, Brother, Carol: In the ways you know and in the ways you will never know. As families go, we got pretty lucky to have one another. Well, I'm lucky; you three are just stuck.

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Mom and Dad: You were my first teachers. Your support of me and unwavering pride in me continue to convince me I can reach my dreams.

Joe: I have no words. Nothing I can say could ever come close to helping you understand what you are to me, what you've done for me. Dawn Donuts is still the last place I thought I'd fall in love.

DEDICATION

I dedicate this dissertation to my nieces and nephews: Adam Claybaugh, Aaron Claybaugh, Emily Wolcott, Alyson Martin, Caleb Claybaugh, Nicholas Martin, Kanda Schueller, Kyle Schueller, Austin Martin, Carter Martin, Chase Martin, Nolan Martin, and Thomas Wolcott. It is my hope this work inspires each of you to reach your personal potential in fulfilling and rewarding ways.

I love you!

Aunt Becky
a.k.a. Dr. Dub-ya

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Chapter 1: Introduction

Since the beginning of flight in the United States, civilian and military flight advances have paralleled one another (Allen, 2002). Soon after Wilber and Orville Wright began production of their biplane for commercial uses, the military contracted the purchase of one of the new aeroplanes and transition training for two military balloon pilots to use the machine for military applications. (Aeroplane is the term the Wright brothers used to refer to their flying machine. Airplane was a more general term used for all powered flight machines.) The first military flight training center opened in 1909 when Wilbur personally trained the two contracted pilots. Wilbur also provided some basic instruction to a third pilot he had previously trained. Two of these pilots would later become the cornerstone of the training center in College Park, MD. This military school preceded the first civilian flight school opened by the Wright brothers in Montgomery, Alabama, in 1910 (Newton, 2004). Military leaders immediately realized the advantages of moving forward with their own advances in research, technology, and training, while taking advantage of non-military innovations by monitoring and contracting civilian developers (Allen, 2002).

In the infancy of civilian flight in the U. S. the primary application was personal use. Wealthy individuals would purchase and fly costly aircraft to add a dimension of daring to their lives (Newton, 2004), also attempting to impress their peers with their courage and abilities. Military leaders, at the outset of flight applications, instinctively felt the potential for use of the flying machines, but were initially unaware of the combat advantages to be realized. Previously, lighter-than-air ships such as dirigibles and hot air balloons were employed for transporting troops and weaponry, and leaders were certain the higher-speed airplanes estimated to fly at rates

of up to 60 miles per hour would provide a tactical edge over slower-moving enemies (Allen, 2002).

In the civilian realm anyone with enough money and ability could buy and learn to fly one of these exciting new machines. Individuals could pay for single flights, both for the thrill of flight and for instruction, which led to a few professional pilot jobs, primarily barnstormers who flew around the country selling rides (Newton, 2004). The other non-military application was in mail transportation. In 1925 the U. S. Postal Service, which had established an east-west route for airmail, instituted a north-south route as well, thereby doubling the number of pilots needed to fill airmail duties. Most young men, however, needed to enter military service if they dreamed of flying the costly aircraft professionally (Allen, 2002).

In the military airplane pilots were chosen from the finest balloon and dirigible pilots and retrained in the powerful and dangerous new machines (Allen, 2002). The military's need for pilots quickly changed once leaders realized the tactical advantages of high-speed flight. Additionally candidates for pilot positions came under closer scrutiny as aircraft became more sophisticated and required more capable pilots (Allen, 2002). Flight accidents were costly in terms of lost aircraft, lost or disabled pilots, and military unpreparedness (Thomas, 2009); military leaders needed to eliminate those volunteers who would ultimately not fly successful missions.

It was decades later that civilian flight possibilities were explored and expanded. Because of the high cost of air travel, commercial flights were only available to the financial elite and other applications were unexplored. Use of rotorwing aircraft, successfully introduced by Igor Sikorsky in 1940, was even slower to develop. Military use of these quick, agile machines was highly limited until the Korean War when they were heavily used for transporting intelligence,

wounded soldiers, military leaders, and troops. By the advent of the Vietnam War, helicopter use was considered essential to military success; but civilian use of the machines, which were difficult to pilot and prone to breakdowns, was nearly unheard of. Mostly left to use as carnival rides and dignitary transportation, there was little call for helicopter pilots outside of the armed services (Newton, 2004).

This seeming lack of usefulness of helicopters continued until the mid-1970s. At the end of the Vietnam era, the number of pilots retiring from military service to embark on civilian careers greatly outnumbered society's perceived need (Savoie, 2010). With a glut of pilots who would work for relatively low salaries, industries such as motion picture production, news casting, and tourism created jobs that had not previously existed, increasing job opportunities without needing to increase pay for pilots. Aging aircraft were also being retired from military service, often sold or auctioned, allowing engagement of helicopter services by even small organizations such as television stations. Having become accustomed to front-line news reports during the Vietnam War, United States citizens were eager to watch news unfold, and helicopter news reporters were able to quickly bring them headline news (Savoie, 2010).

Motion picture companies began using helicopters to film low level aerial footage to add drama and perspective to their projects, and soon helicopters and pilots became the topic of major motion pictures. Glamorization of the lifestyle of helicopter pilots led more industries to consider adding helicopter services as a way of drawing additional clients. Tourism centers added helicopter tours, charter flight companies added short distance helicopter transportation, and medical facilities added emergency medical flights. Use of helicopters grew exponentially as companies found helicopters useful in unique situations, unparalleled by other types of transportation (Savoie, 2010). Power companies realized the time saved by surveying hundreds

of miles of power lines from the air, logging companies found it beneficial to use heavy lift helicopters to move timber without building access roads, and construction companies learned to hoist materials into place using helicopters. As helicopter use became more prevalent, more industries explored their use, which led to higher demand for civilian pilots.

While demand for skilled pilots grew, the military began reducing the number of trained pilots due in large part to budget restrictions and the development of technologies to replace helicopters. By raising the requirements to qualify for training, raising salaries and benefits for completing training, and increasing incentives to remain active in the military, military spending per pilot increased, but the number of pilots produced was significantly reduced (Thomas, 2009). In response to these changes civilian-training facilities opened with the goal of training pilots to fill the supply-demand gap (Bureau of Labor Statistics, 2009).

Today there are a wide variety of career options in aviation, both military and civilian. Narrowing the field to rotorwing pilots, job opportunities include everything from tour operations to fire fighting and construction. According to Savoie (2010), helicopter pilots are no longer being trained by the military at the rate demanded in civilian industries. This may be due in part to the military training fewer pilots and retaining pilots who are trained for a longer portion of their flight career. As the cost of training pilots increases, military leaders are willing to spend more in pay and benefits to retain successfully trained pilots (Parker, 1990).

The lack of military trained pilots for civilian positions has helped to balance the supply and demand for commercial rotorwing pilots. The supply of privately trained pilots added to those pilots who are trained by and retired from the military closely matches the needs within the industry. Additionally the supply is self-regulating. As pilot surplus increases, wages decrease, in turn discouraging students from entering civilian training and encouraging military pilots to

remain in active service (Austin, 2010). For example, there were 12,500 employed commercial pilots in 2008, not including airline pilots. It is estimated that by 2018, an additional 2,125 commercial helicopter pilots will be necessary, an increase of 17%, (Bureau of Labor Statistics, 2009). Meanwhile the Federal Aviation Administration (FAA, 2008) reports that between 1999 and 2004 the number of commercially certified helicopter pilots actually dropped from 4,840 to 4,720 (2.5%).

Retention/Success Research

Although initial recruits for military pilot positions were limited to a few truly daring individuals, even in its infancy some pilots were unsuccessful, and understanding why some student pilots were able to successfully complete training while other potential pilots were not successful became of interest to military leaders. To ensure maximum military preparedness with minimum financial outlay, military leaders refused to allow every volunteer for flight positions to attempt piloting. Instead student pilots were first chosen based on success at piloting balloons and dirigibles (Allen, 2002). Later educational standards such as holding a college degree were imposed to separate those candidates deemed unable to handle the rigors of flight training. Other standards were added as the number of volunteers grew to substantially outnumber the need (Parker, 1990). Later, military researchers looked at successful and unsuccessful student pilots and attempted to correlate student pilot performance with criteria present and measurable before the beginning of training (Thomas, 2009).

In contrast, research in the area of retaining student pilots in civilian training has been sparse. Most civilian training centers are private, for-profit schools, and the success of their students is of little concern to anyone but the schools themselves. Although student non-persistence is normal (Māori, 2007; Perry, Boman, Care, Edwards, & Park, 2008; Simpson,

2004), students not completing training programs ultimately impact the schools they leave by reducing school income. The current research aims to begin to fill the gap between the abundant military-sponsored research and the lack of civilian-sponsored research on pilot trainee retention.

Researcher Perspective

For more than six years I was employed in the aviation industry. As the business coordinator and dean of students of a helicopter flight training facility, I watched as students entered the training program, learned the finer details of flying rotorwing aircraft, and left to pursue a career as helicopter pilots. Too often in those six years, however, I witnessed passionate students begin training only to cease training before achieving stated educational and occupational goals. Some of these students had experienced life-situation changes, making training difficult. School owners and employees heard reports that some of these students moved to other training facilities. Some students reported a lack of money prevented them from completing their training. For many students, however, school leaders did not know the reasons for student attrition in flight training, leading to questions concerning appropriate and effective retention measures for preventing student attrition.

The training facility for which I worked is considered a small school, with rarely more than 100 students at any given time. As a for-profit training center the flight school is not required to and does not advertise admission criteria or track retention rates. Students intending to pursue certification by the FAA must pass a physical exam with an FAA designated physician and be able to speak and read English. Additionally students must either be U. S. citizens or pass a security screening by the Transportation Security Administration (TSA).

My position in the company meant I had regular contact with most of the students, and I developed personal relationships with many students. Some of the students who failed to persist

were people I considered friends until they left the school with no explanation or further communication. I often wondered what led particular students to leave training, seemingly without a backward glance. Although I assume there are a variety of reasons for non-persistence, I believe the reasons are two fold: 1) student based, or those that are outside of the control of a school; and 2) school based, or those over which a school may be able to exert some influence.

I believe the reasons for non-persistence change over time. Understanding student perceptions of factors that lead to attrition may help better inform school practices aimed at retaining students. Also, as Baddeley and Singer (2007) state, a person's story changes as the person grows older. Events are recalled differently the further we move in time from those events. The truths I learn in the course of my research will only be true for a brief time. To repeat the research at a later date, even with the same participants, I would likely be told different stories, my analysis would be different, and my conclusions would be different. It is, therefore, with a constructivist lens I consider the topic of civilian helicopter pilot training retention, understanding what is true at the beginning of the research may shift before its completion and may shift again before subsequent researchers are able to access these data and my interpretations (Hollingsworth & Dybdahl, 2007; Lincoln, 1990; Popkewitz, 1990).

Research Questions

Because of my personal interest in the industry of aviation and the persistence of students through the instrument, commercial, and instructor phases of training, I was interested in learning from students themselves why they failed to persist to professional pilot status. To this end, I conducted interviews with four pilots holding a Private Pilot Certificate who had not completed all of the following: Instrument Flight Rating, Commercial Pilot Certificate, and Certified Flight Instructor Rating, the three qualifications considered necessary within the

industry to be commercially employed as a rotorwing pilot. By qualitatively analyzing the transcripts, I have been able to address the following specific questions:

1. What student based and school based factors contribute to helicopter students' failure to persist to completion of instrument, commercial, and instructor's training?
2. How can flight schools intervene to support flight students toward completion of instrument, commercial, and instructor's training?

Assumptions

The first assumptions concern the training facility under consideration. First this study operates believing low dropout rates are a desirable goal for educational institutions in general and in particular this training school. Second it is assumed this school is interested in strategies to increase student retention rates. This assumption is in contrast to the philosophy held by at least one now-defunct flight training facility that high dropout rates are a beneficial occurrence worth striving toward (Stephens, 2009).

The assumption concerning the participants is that responses are honest. One primary concern is participants may have given socially desirable responses, thereby affecting interview data.

Delimitations

The current investigation is controlled in part by factors under my control. The first delimitation for this study is the time period under consideration. Interviews were conducted between September 2011 and January 2012. Because I was interested in students whose training had been substantially interrupted (in this case I was looking at pilots who had been out of training for at least six months), there is a possibility I missed potential participants. Students who had not been out of training long enough to fit the parameters of participant selection may

have fit the definitions indicating inclusion in my sample within a matter of days, weeks, or months of the end of my data collection period. It was unrealistic to continue to collect data indefinitely, so an end point was identified and I adhered to it.

Second I completed my final interviews by the end of January 2012, indicating pilots had ceased training by July 2011. Because of the interview timeline and the guidelines I set that students suspended training at least six months before the commencement of their interview, pilots must have stopped training no later than July 2011. This time constraint is due in part to the accessibility of contact information for former students. Data are not kept indefinitely, and it was necessary to be able to contact former students for interviewing. This time constraint allowed for the possibility there were societal factors existing during the time period, which influenced the cessation of training that may not have been present before or after this specific time period. Although I have no way of knowing what those factors may have been, and investigation of the factors is outside the scope of my research, factors might include global economy, public opinion of trade training, or accessibility to training.

A third delimitation of this study is the participants all had training experiences at one helicopter flight training school in common, although 3 of the 4 participants had training at other flights schools as well. This commonality is due to researcher access to contact information. As a former employee of the school in question, I was able to contact potential participants without having to navigate the potential issues of gathering these data from outside sources. The findings and recommendations of the current study, with thoughtful consideration, may make recommendations applicable in a variety of settings.

Conclusion

For schools to be successful in educating students, they must find ways to retain students in educational programs. This study investigates factors of attrition in civilian helicopter pilots as a means of aiding school personnel in development of retention strategies to address both student based and school based factors leading to attrition.

Chapter 2: Review of Literature

Because of the high costs associated with both fixed and rotorwing flight training, there is a great deal to be lost when prospective pilots begin but do not complete the training necessary to become professional pilots. These costs come at the expense of not only those paying for training, but at the expense of banks if training loans are defaulted, the military when it is under-prepared with qualified pilots, and society when there are not enough civilian pilots to fill society's ever-increasing need. Because much of flight training has been traditionally conducted by the military (Allen, 2002), much of the research concerning completion of and attrition from flight training has been conducted and supported by military sources. The purpose of the current research is to begin to better understand the reasons for drop on request attrition (DOR; those pilots who voluntarily leave training) from flight training in the civilian sector. Doing so will help inform, for example, plans of action for commercial flight schools to reduce DOR.

To better address the focus and intent of the current research, I conducted the review of literature with two specific goals and one broader goal in mind. The first specific goal, to understand the research related to flight training attrition and retention, narrowed the scope of the search of literature to two targeted areas: prediction of success in flight training courses and understanding reasons for DOR attrition. This literature helped focus the scope of the research questions and guide the construction of the interview protocol used with research participants. The second specific goal, to better understand measures taken by sub-baccalaureate schools and training centers to reduce attrition, informed a third area of relevant literature, namely retention measures employed by sub-baccalaureate schools and training centers, which helped, in turn, to inform the structure of the recommendations made to the flight school involved in this research. Sub-baccalaureate education is defined in this manuscript as postsecondary education and

training not culminating in a bachelor's degree but focused on one of three goals for students: (a) completion of an associate's degree; (b) completion of a certificate program; or (c) completion of a training course not granting a degree or certificate. Certificate programs are not to be confused with certification which is usually controlled by government agencies or professional associations. Obtaining a certificate of training can be one step toward certification; often a minimum score on a standard examination must be obtained before certification is granted (Bosworth, 2010).

A third and broader goal for this literature review was to identify whether there was a need for this research and, if so, the nature of that need. Inquiry into the related literature indicated little research in the area of student pilot retention from civilian sources, and thus the need for a more thorough investigation into the topic. The ensuing review presents and discusses the outcomes and findings related to each of these three goals, and how the relevant literatures inform the nature, purpose, and significance of this study. The review is therefore presented in three parts: (a) historical efforts by U. S. military leaders to predict attrition from pilot training; (b) attempts by U. S. military leaders to understand and respond to DOR attrition; and (c) measures taken by sub-baccalaureate schools and training centers to reduce attrition.

U. S. Military Attrition from Pilot Training

When a member of the U. S. Armed Forces is trained to be a pilot, the onus of expenditure is entirely with the military. This cost can be up to \$750,000 depending on the aircraft and position for which the pilot is trained (Thomas, 2009). Pilot candidates are not responsible for any portion of the cost of training; instead each branch of the military provides instructors, aircraft, training materials, and every other necessity. This high cost explains military leaders' interest in identifying pilot applicants who are likely to be successful and applicants who

are likely to fail, and the willingness to fund research to determine successful methods for selecting aviator candidates. Military funding has led to a great deal of research and development of pilot-candidate selection instruments, the purpose of which is to determine pilot candidates who may fail or succeed before they are given a flight training assignment.

Since the inception of selection attempts, sorting criteria and methods have evolved, due in part to changing military needs, available technologies, and research findings. As with other aspects of military innovation, progress in the area of flight-position placement can be considered by eras defined by wars and conflicts. Distinctions in selection methods have been made in the following historical time periods: (a) pre-World War II to 1941; (b) World War II to the Vietnam War, 1941 to 1965; (c) Vietnam War through the end of the Cold War, 1965 to 1990; and (d) end of the Cold War through the present, 1990 to present (Thomas, 2009).

Pre-World War II.

Even when the use of aviation for military purposes was in its infancy, selection processes were in place for aviators. This is especially true in the U. S. military where the consequences for inadequate selection procedures are wasted resources (North & Griffin, 1978), lack of military preparedness (Morrison, 2006), and public scrutiny of spending (Thomas, 2009). One of the first methods of excluding applicants from flight training was to look at the applicant's 'fear response' to external stimulation (Wherry & Curran, 1965). Applicants who showed high levels of anxiety, fear, tension, or stress as judged by senior flight personnel and medical officers were eliminated from flight training.

This rudimentary form of selection screening was considered rather unnecessary by most military leaders partially because the number of applicants for flight training positions barely outnumbered the spots available (Davis, 1989). Additionally, pilot candidates were easily chosen

from applicants who had been successful in other military aviation positions such as lighter-than-air pilots (Newton, 2004). Early interest in aviation was primarily from a spectator vantage, with few young men willing to take the daring leap into a career in military flight (North & Griffin, 1978).

World War II through the Vietnam War.

With the advent of WWII and the prospect of United States' entry into the war, military interest in the use of aviation for combat purposes grew exponentially, as did applications for flight positions. While psychological testing was initially expanded, it was soon discovered that interviews and stress-inducing situational tests were too costly in time and effort for continued use on a large-scale basis (Wilson, 1966).

In 1940-1941, the Biographical Inventory (BI) was developed by E. Lowell Kelly (Civil Aeronautics Administration Division of Research, 1946) in an attempt to sort pilot candidates into categories of likely-to-be-successful and likely-to-fail. The first use of this pencil-and-paper instrument was not as a screening device but as concurrent evidence for dismissing pilots from training who were having difficulty. In the weeks immediately following the bombing of Pearl Harbor, however, military leaders needed to quickly and efficiently train hundreds of potential pilots to be competent to engage in the war the U. S. was entering, and the BI was an additional piece of evidence for vacating training positions, creating training space for more qualified candidates.

Soon, listening to the advice of staff psychologists who had conducted two years of validation studies, military leaders became confident in the efficiency of the BI as a lower-cost means of sorting candidates into training slots from the thousands who volunteered for flight positions (Fiske, 1947). This was the first time a written form was used to help determine fitness

for flight training, and by the end of 1942, it was administered as one piece of evidence for military flight training acceptance or rejection. Other evidence for admission to military flight training at the time included vocabulary, direction following, arithmetic reasoning (Dean, 1996), psychological interviews, mechanical and scientific reasoning (Voas, 1959), physical fitness, and perceptual-spatial abilities (Griffin & Mosko, 1977). These criteria were judged in interviews and physical and oral examinations by military doctors and psychologists.

The next step was development of the Army Air Force Qualifying Examination (AAFQE). This “crude and time-consuming” (Davis, 1989, p. 10) battery of tests effectively reduced attrition rates by 50 percent when used in conjunction with other criteria such as age, education level, anthropometric body size, marital status, and recruitment source (Fiske, 1947). Since the purpose was to eliminate massive numbers of those unqualified for pilot training, military decision-makers found the AAFQE, even though costly to administer, adequate for the task at hand.

As the war progressed, more pilots were needed to conduct a multitude of missions, and prompted in part by glamorizing video footage, many more young men were interested in becoming pilots for their country. This increased need, however, did not change the reality of a large number of recruits being unable to complete training. Again, the military needed to improve sorting measures while lessening the time and money necessary to do so. In response, the Aviation Cadet Qualifying Examination (ACQE) and the Aircrew Classification Battery (ACB) were created to determine if candidates were qualified for flight positions, as well as which aviation position, such as pilot, navigator, or gunner, would best suit them (Wilson, 1966). These screening tests, while not highly successful, prompted research into methods of selection that would be more discriminating. Flight careers were becoming more desirable to all segments

of U. S. society and soon men of color and women were applying for coveted flight training positions. While African American males were allowed to be military pilots as early as 1944, women, who tested military aircraft before the aircraft were delivered to military destinations, were not allowed to become military pilots until the 1970s (Miller, 2011; Wilson, 2011)

Meanwhile, beginning in 1942 and continuing through 1955, the armed forces, believing a physical-responsiveness component to flight-training success existed, designed and employed a variety of apparatus psychomotor tests that attempted to predict applicants' ability to perform complex tasks associated with military flight (North & Griffin, 1978). These tests measured constructs such as complex coordination, rotary pursuit with divided attention, discrimination reaction time, finger dexterity, rudder control, and two-hand pursuit, and were found to greatly enhance the prediction of success in flight training (Melton, 1947). Unfortunately, due to the number of potential pilots to be screened, the military created regional testing centers in an attempt to further reduce costs. Low standardization and reliability among the centers proved problematic, and when the testing apparatuses began to fail, military leaders ended apparatus testing and returned to an attempt at developing improved paper-and-pencil measurements. By 1955, all apparatus testing had ended (Young, 2002).

Vietnam War through the end of the Cold War.

Pilot screening efforts continued to be the subject of research throughout the 1960s and 1970s, and with the advent of the war in Vietnam, military leaders were forced to relearn lessons from preceding decades: not all pilot candidates can complete training and be successful during war missions. The first step for new leaders was to look at research to determine what had been successful. Leaders found that taken individually, none of the previous testing and sorting methods had been particularly successful, and screening boards had not done an adequate job of

predicting probable attrites. Researchers found attrition rates were still as high as 40 percent for some training cadres, and from 1962 to 1976 attrition rates averaged 25 percent (Hopson, Griffin, Lane, & Ambler, 1978).

In response, attention focused on two primary efforts. The first effort was identification of a selection battery which led to research on new and revised pencil-and-paper instruments designed to predict flight training and career success. Research teams believed using a combination of tests would prove to be the most effective method of appropriately placing flight candidates. Table 1 summarizes seven such studies and the variables they recommended be used in combination to better predict pilot applicants who were likely to attrite. With few exceptions, (i.e., biographical inventories, psychomotor tests, and personality factors) researchers in each study recommended unique variables for consideration when placing candidates into flight-training slots. Table 2 shows the efforts of research teams to discount use of specific predictor variables. Personality factors, psychomotor skills, and cognitive tests were selection methods recommended in some and not recommended in other studies, differing on which measurement instrument was used and the administration format of the instrument. For example, in some cases pencil-and-paper tests were used effectively while computerized versions of the same test were found to be ineffective at predicting attrites. While some researchers made strong arguments based on historical data, military leaders continued to see attrition rates as high as 30% in the late 1970s (North & Griffin, 1978) and 37% in 1989 (Davis, 1989). In the studies discussed here, researchers analyzed existing data to determine what measurements, if any, would have been predictive of success or failure had they been implemented in oral, written, or electronic format. None of the reviewed studies used measurement instruments on current flight-training recruits for the purpose of conducting longitudinal studies to ascertain longer-term success.

The opinion about the inability of pencil-and-paper instruments to predict attrites led to the second focus of selection research in this era, namely reintroduction of apparatus-style reaction and manipulation testing. Beginning in the 1980s researchers looked at studies from the 1950s using apparatuses to judge an enlistee's potential for flight training success. Several projects dealt with dichotic listening devices that sent different signals to each ear. The enlistee had to follow commands piped into one ear while ignoring whatever signal was sent to the other ear (Griffin & McBride, 1986; Griffin & Mosko, 1982). Other researchers looked at integrating the personal computer, new at the time, into testing psychomotor responsiveness, collectively known as computerized battery of aptitude testing (BAT). One such program was the Porta-Bat Test Unit (Blower & Dolgin, 1991; Carretta & Siem, 1988), which presented timed tests, coordination tasks, and visual acuity measures developers hoped would help eliminate enlistees who would eventually attrite from flight training. Because much of the administration bias was eliminated with the use of computers, reliability was greatly improved. Unfortunately, content validity was low, as shown by the continued high rates of attrition.

End of the Cold War through present.

Symbolized by the fall of Berlin Wall in 1991, global politics were changing dramatically. This single event is often referred to as the defining factor in the end of the Cold War. With the advent of "peace breaking out all over," (Parker, 1990, p. 1), U. S. politicians and the public alike wanted drastic cuts in military spending. Military leaders facing base closures, purchase reductions, and limited training budgets looked to further reduce pilot trainee attrition by better predicting trainees who would attrite early in the process. Again researchers looked at what had worked in the past, what had not worked, and how selection could be improved by correlating pre-training measurement results with success or failure in training programs.

Table 1

Military Reports from 1976 to 1991 and the Variables Recommended as Flight Selection Criteria

Year	Authors	Variables Recommended for Use in Selection Criteria
1976	Guinn, Vitola, & Leisey	Strong Vocational Interest Blank OBAS (for which no description was given) AFOQT
1978	Hopson, Griffin, Lane, & Ambler	Biographical Inventory (BI) ^a Naval and Marine Aviation Selection Test Battery
1986	Damos & Gibb	Psychomotor tests ^b Higher-order cognitive processing Personality factors ^b Aviator Selection Battery
1986	Griffin & McBride	Single task dichotic listening measures Psychomotor tests ^b Multiple task measures
1987	Stoker, Hunter, Kantor, Quebe, & Siem	Instructor recommendation Knowledge and flight grades through 20 hours of training Psychomotor tests ^b
1990	Carretta	Psychomotor tests ^b Information processing Personality factors measured with pencil and paper test ^b BI ^a Medical fitness Academic achievement
1991	Blower & Dolgin	College major Accession source Absolute difference and horizontal tracking tests Complex visual information processing tasks Computerized risk-taking behaviors tests

^a Only the BI was recommended by two research teams in separate manuscripts as a measurement instrument for prediction of success or failure in flight training.

^b Multiple authors recommended the use of psychomotor tests and personality factors as success/failure indicators; none named specific instruments.

Table 2

Reports spanning 1979 to 1991 and the Variables Not Recommended as Flight Selection Criteria

Year	Authors	Variables Not Recommended for Use in Selection Criteria ^a
1979	Elliot, Joyce, & McMullen	All previously used measurements and criteria
1986	Johnson & Henderson	Apparatus testing devices ^b Flight Aptitude Selection Test
1988	Carretta & Siem	Personality factors measured with a computerized battery Attitude factors
1989	Davis	Personality factors Myers-Briggs Type Indicator
1990	Delaney	Apparatus testing devices ^b
1990	Shull	Computerized battery of psychomotor tests Computerized battery of cognitive tests

^a No specific measurement instrument was named by researchers in separate manuscripts as failing to adequately predict success or failure in flight training.

^b Multiple authors refuted the use of apparatus testing devices as adequate indicators of success or failure in flight training; however, no specific apparatus was named.

Continuing with research started in the 1970s and 1980s, researchers studied a variety of selection methods trying to determine the combination of variables that would best predict attrition in a variety of categories such as academic failure, DOR, and disciplinary failure (Reinhart, 1998; Street, Helton, & Dolgin, 1992). Looking again at intelligence measurements, biographical data, personality factors, and academic achievement (Carretta, 2002), researchers were able to reduce attrition levels to 15%, the lowest since the inception of military flight (Reinhart, 1998). Military leaders continued to consider variable combinations, hoping to reduce attrition even lower (Carretta, 1997; Street et al., 1992; Young, 2002).

BAT programs, which became cheaper and easier to administer, also became better predictors over time. In 1993, Carretta and Ree found traditional paper-and-pencil testing to be more accurate predictors of attrites than similar BAT measurement instruments. In 1994, the

same authors concluded that when combined with AFOQT scores and previous flight experience, BAT programs were able to predict attrition rates better than any previous test or battery. Other researchers combined BAT results with physical, mental, and psychological measurements, setting a standard of lowering attrition to between 8% and 10%, a level military leaders considered acceptable (Carretta, 2002; Young, 2002).

With overall attrition at a sustainably acceptable level, military leaders began looking at specific categories of attrition to determine if attrition rates could be further reduced. The largest categories of attrition are drop on request (DOR), academically unqualified, medically unqualified, and flight failure (Thomas, 2009). DOR attrites, those who ask to be removed from flight-training positions, consistently are one of the largest number of attrites in any given flight cadre, and research into causes and retention measures became a secondary focus for military researchers.

Military Flight-Training Drop on Request Research

Once military leaders began to see sizable reductions in overall pilot trainee attrition, attention turned to those trainees who DOR. Consistently one of the largest categories of attrition, it was and is financially troublesome to continue to place trainees in highly competitive flight positions who will eventually request transfer out of flight training, especially considering the associated costs. Depending on the timing of a flight candidate leaving training, the cost of unfinished primary flight training is up to \$750,000 per candidate (Thomas, 2009). Reducing DOR attrition and the associated expenditures is a positive goal for leaders trying to optimize cost/benefit ratios of budgets (Pomarolli, 1966a; Thomas, 2009). Attempting to understand and reduce voluntary attrites, researchers focused on three primary areas: comparing DOR attrition

rates to all other attrition rates; finding the causes of DOR attrition; and evaluating the effectiveness of military response to DOR attrition.

Attrition categories.

Attrition rates in military pilot trainees have historically been higher than military leaders have deemed appropriate (Boyd, 2003; Pomarolli, 1966a; Waag, Shannon, Ambler, & Baisden, 1973). Even when rates began to drop, however, attrition plaguing training programs cost millions of dollars and military branches were at risk of being understaffed in aviation personnel (Thomas, 2009). To better understand and ultimately reduce overall attrition, researchers began sorting attrites into categories, identifying those candidates who had voluntarily left the programs and under what circumstances (Doll, 1971). The aim was to eventually predict those who would DOR and eliminate them from training before valuable resources were spent. Simultaneously, military leaders wanted to avoid the false positive and wrongly eliminate pilots who would ultimately have been successful, a very real concern as demonstrated by Guinn et al. (1976) who found 20% of successful candidates would have been eliminated based on use of the OBAS and AFOQT in tandem.

The most prevalent category of unpredicted attrition, with levels reported between 34% and 51% (Arnold & Phillips, 2008; Boyd, 2003; Pomarolli, 1966a; Wherry & Hutchins, 1964), is involuntary removal from training. This category includes causes of both attitude and aptitude. Once training begins a pilot candidate may begin to exhibit personality traits not evident before placement in the training program that would have precluded him or her from flight training. These traits include behaviors of gross insubordination, extreme risk-taking tendencies, lack of respect for safety, or undue arrogance. While a large degree of confidence, showmanship, and daring are desired in pilot candidates (Boyd, 2003), being overly cavalier can cause accidents,

loss of military discipline, and ultimately jeopardize mission success. One reason exclusionary personality factors may go undetected is a candidate's ability to give socially desirable or 'correct' answers on screening instruments (Arnold & Phillips, 2008). Even though researchers and administrators try to control for social desirability factors, measurement instruments are still not adequately refined to successfully eliminate candidates who do not possess the proper attitude or personality for military flight.

Another cause of involuntary removal from a flight position is when a pilot proves to be physically or intellectually unable to complete training. Either the knowledge portion of training is too difficult, or the act of flying is too complicated for a candidate. Although a variety of tests are in place to sort these applicants before being assigned a flight position, some candidates are unable to complete flight training because they lack the ability (Doll, 1971). Measurement instruments used to identify these potential pilots over the years have included psychomotor tests, intelligence tests, college grades, and previous flight experience (e.g., Blower & Dolgin, 1991; Carretta, 1990; Damos & Gibb, 1986). Researchers continue to develop screening devices intended to better identify candidates who will involuntarily be removed from training, including the development and use of sophisticated training simulation equipment. Ultimately, however, only the actual flight-training environment is able to sort successful pilots from failures.

Another primary reason for leaving flight training is a student being medically unfit. Attrition levels in this category have been reported from 8% to 23% (Elliot et al., 1979; Green, 1963; Murray, 1998). Reasons for medical attrition may be a change in medical status that could not have been predicted when the candidate was placed for flight training or it may be a condition brought on by flight and flight training itself. Examples of unpredicted medical conditions that may restrict a candidate's ability to continue flight training include cancer,

insulin-dependent diabetes, seizure disorders, and any disease that physically debilitates, such as amyotrophic lateral sclerosis or multiple sclerosis (Aviation Supplies & Academics, 2011). Additionally flight training itself can be the cause of unexpected medical conditions or may expose preexisting conditions that were previously undetected. The most common examples of this type of medical condition are heart related conditions including high blood pressure, heart attack, and heart palpitations or arrhythmia. Others include stress-induced panic disorders, vertigo, and continuing nausea. While these medical conditions are costly causes of attrition, there is little if anything that can be done to prevent them (Murray, 1998; Pomarolli & Ambler, 1965). Researchers have tried to induce stressful situations before flight placement, but it is difficult to simulate the real stress of flight training (Murray, 1998). Debilitating accidents usually cannot be predicted either. These include head wounds, severed or debilitated limbs, spinal injuries, and sight/hearing loss. Finally students removed due to substance abuse and dependency are classified as medical attritions (Aviation Supplies & Academics, 2011).

The most troublesome category of military pilot training attrition is DOR. These are pilot candidates who ask to be removed from training slots. Because of the inherently hazardous nature of military flight, DOR attrition from flight training is permitted (Pomarolli & Ambler, 1965). The same is not true for all military careers. This category of attrition has become the focus of a great deal of research as military leaders try to determine what causes pilots to drop a position they worked hard to obtain. Detailed information follows regarding research into the causes of DOR attrition, but it merits mention here this category consistently reports some of the highest percentages of all attrites. For a clearer comparison of attrition rates, see Table 3, which shows attrition rates in several categories from several years. The table shows DOR rates represent 17%-38% in the Navy and 25%-30% in the Air Force of total attrites over the last 40

years. When considering reduction of “fruitless expenditure of training funds” (Pomarolli, 1966b, p. 1), military leaders are eager to understand and reduce DOR attrition.

Causes of drop on request attrition.

The costs of recruiting, testing, and sorting pilot candidates who will successfully complete training from pilot candidates who will not successfully complete training are minimal compared to the costs of training, which includes materials, personnel, and use of expensive aircraft. The cost of each attrite can be as high as \$750,000 (Thomas, 2009) depending on branch of military, type of aircraft, aptitude, etc. This number considers only direct costs. Indirect costs, such as instructor time, meals, housing, and uniforms for trainees, are not included in the stated cost. With military budgets being continually scrutinized and frequently reduced, training leaders would likely eliminate as much unnecessary spending as possible without jeopardizing the quality of training given to pilots who will eventually complete service in defense missions (Thomas, 2009). With reducing costly attrition as a goal, researchers began trying to better understand DOR attrition to more accurately identify pilot candidates who would eventually voluntarily leave training.

As early as the 1950s, researchers looked at what causes pilot candidates to DOR from coveted training positions and categorized causes into two primary classifications: intrinsic and extrinsic. The intent was to determine what factors could be assessed prior to placement in training slots and those beyond the ability to be measured or predetermined. By better understanding the factors that caused pilots to DOR in the past, researchers felt they could create measurement instruments to more accurately screen pilot hopefuls (Parker, 1990; Waag et al., 1973; Wherry & Hutchins, 1964).

Table 3

Categories of Military Attrites: Given as Percentages of all Attrites

Year(s)	Military Branch	DOR Attrites %	Medical Attrites %	Involuntary Attrites %	All other Attrites %	Source
1966-1970	Navy	24	- ^a	-	76	Doll, 1971
1971	Air Force	25	12	51	12	Guinn et al. 1976
1972	Air Force	24	12	51	13	Guinn et al. 1976
1973	Air Force	28	9	51	12	Guinn et al. 1976
1998	Navy	17	-	-	83	Murray, 1998
2003	Navy	34	23	34	9	Arnold & Phillips, 2008
2007	Navy	38	8	38	16	Arnold & Phillips, 2008
2009	Air Force	30	8	48	14	Thomas, 2009

^a Indicates data not disaggregated

Intrinsic.

Some of the most common causes of DOR attrition come from within the individual and cause a good deal of negative perceptions on the part of successful pilot trainees, instructors, and military leaders (Pomarolli, 1966b). While military personnel understand the necessity of allowing DOR from flight positions for safety concerns, citing reasons such as ‘no longer interested in flying’, ‘changed my mind about a flight career’, ‘program is not what was expected’, ‘it’s too difficult’, and ‘I know I’m going to fail’ (Arnold & Phillips, 2008; Boyd, 2003; Thomas, 2009) earn scornful opinions by former peers (Pomarolli, 1966b).

Additionally, following the lead of other pilots (i.e., ‘everyone else is getting out’) is viewed negatively by pilots who persist in training. Group DOR attrition was particularly problematic in the 1980s when a high number of pilots left the military for higher-paying civilian careers. Peers of pilots departing the military to join the civilian workforce often followed departing pilots, taking advantage of the relative anonymity of not being the sole attriter, even if those following had no intention of entering a civilian flight career (Parker, 1990). The number of student pilots citing other pilots’ departure as a reason for their own DOR has significantly decreased since the number of civilian positions available has declined (Arnold & Phillips, 2008).

Other intrinsic reasons to DOR include unexpected responses to flight such as motion sickness, fear during flight, and lack of confidence (Ambler & Burnette, 1963; Bair & Ambler, 1953; Boyd, 2003; Waag et al., 1973). While the number of attrites in this category has been reduced by the introduction of full motion simulators and initial flight training (IFT) programs (Arnold & Phillips, 2008), a number of pilots persist in flight career plans, hoping to overcome these discomforts. Unfortunately, the realities of flight training, including hard work, long hours, and conformity to the military life style, often override a trainee’s desire to realize the plan of becoming a military pilot (Pomarolli, 1966a).

Extrinsic.

A high percentage of students who drop military pilot training cite external reasons to DOR. Many reasons are specific to being in the military and include general military lifestyle, undesirable living conditions and locations, and the prospect of deployment (Parker, 1990; Thomas, 2009). While some student pilots claim they leave training due to personality discord with their instructors, research indicates there are no differences in DOR rates between

instructors considered supportive and those considered authoritative and demeaning (Pomarolli & Ambler, 1965). Other DOR attrites claim there is not enough flight time, wide differences in instructor expectations, too much pressure by military leaders, and the pace of training, both knowledge and practical, is too fast (Arnold & Phillips, 2008). One method to prevent such attrition is to recruit pilots from within military ranks. The drawback to this prevention strategy is many enlistees who join military forces with the intent of becoming pilots refuse to join until ensured they will be given a pilot training position (M. Fyola, personal communication, May, 2009).

Personal extrinsic factors are also cited as DOR factors. Pressure from family and friends to drop flight training and leave the military plays a role (Ambler & Burnette, 1963; Bair, Ambler, & Snyder, 1957; Waag et al., 1973). Military policy used to forbid marriage during pilot training (Ambler & Burnette, 1963). Although a policy change in the 1980s has eliminated this prohibition, some prospective pilots still state they are leaving pilot training, and military life all together, to marry or otherwise comply with the wishes of a significant other (Thomas, 2009). Other extrinsic factors include financial trouble, separation from loved ones, and college courses requiring too much focus (Green, 1963; Thomas, 2009; Waag et al., 1973).

Military response to drop on request attrition.

While military leaders have found it difficult to counter intrinsic reasons for DOR attrition, a modicum of success has been realized through the introduction of full-motion flight simulators, selection of candidates from within military channels, and improving morale (Parker, 1990; Thomas, 2009). Another tactic was taken by military marketing departments, which began public perception campaigns aimed at convincing pilot trainees of the prestige inherent in the work pilots do. By increasing the perceived desirability of pilot slots, it was believed those

trainees who were in flight-training positions would be more motivated to keep the positions (Parker, 1990).

More work, however, was done to address extrinsic factors of DOR attrition, especially those candidates naming military-focused causes. The primary focus of measures to decrease DOR attrition of pilot trainees was in financial compensation. This measure was necessary to counter commercial airline pay, which grew very quickly in the 1980s due to the reduction of the cost of commercial flights and an increase in business travel. Military pilots were drawn to the allure of high paying civilian jobs, which also came with improved living conditions, fringe benefits, prestige, and more desirable work schedules (Parker, 1990). Additionally, increase in pay for pilots was used to retain pilots who lacked a sense of patriotic duty (Parker, 1990).

Increased financial compensation came in many forms for pilots. One of the easiest for military leaders to implement was a practice of aggressively promoting successful pilots. A promotion in rank equated with higher pay, increased moving and housing allowances, and increased deployment pay. Other financial rewards came in the form of bonuses, including career incentive pay based on longevity, sign-on bonuses, aviation continuation pay (which rewards pilots who do not request transfer out of flight positions), and active duty commitment bonuses. While not favored by military leaders, increases in pay and bonuses were seen as the most effective method of encouraging persistence through training and long-term military flight careers (Parker, 1990).

On a personal level, military measures tried to reduce DOR attrition due to malcontent with and maladjustment to the military lifestyle. Active measures to raise morale through quality of life incentives, including increased leave days and increased incidents of approval of preferential leave, were implemented. Campaigns to show greater interest in pilot and family

health, family satisfaction with military life, and support systems for families during pilot deployment have also been instigated. While the long-term success of such programs is still unknown (Thomas, 2009), leaders are committed to continuation of initiatives to reduce the lack of return on investment.

While financial and personal measures countered causes of student pilots who left military flight to pursue civilian flight careers, another tactic was used to address those potential students who change vocational choices. To reduce the number of DOR attrites who lacked long-term commitment to any career in flight, military or civilian, military leaders began to give priority to pilot candidates entering military life with previous flight experience (Parker, 1990). This practice, which still influences a few pilot candidates' success in securing placement in military training positions (M. Fyola, personal communication, May 7, 2009), is predicated on the premise that pilots coming into military training having been successful in civilian flight are less likely to DOR due to unrealized expectations. This program, however, did nothing to address those who DOR for causes related to military life, conditions which cannot be simulated.

Another response to DOR attrition from the military came in the form of civilianization of initial flight training (IFT) programs (Thomas, 2009). In 1998 the military initiated a policy of paying for 50 hours of flight training outside of military bases in private flight schools. The training was less costly in terms of actual flight costs, as well as freeing military flight trainers to work with students who were more likely to be successful. Later, the IFT program was reduced to 25 hours of flight at civilian centers and was ended completely due to lack of control over the training received by the perspective pilots. Even with as few as 25 hours of civilian IFT, military flight instructors needed to deconstruct non-military flight habits learned in civilian training, adding to the cost of standardizing flight practices in military pilots. While not willing to pay for

such external training (Thomas, 2009), leaders still consider flight experience a valid measure of a potential military pilot's ability to persist in flight training.

Retention Strategies—Post Secondary/Sub-Baccalaureate Education and Training

Measures to increase retention of students are not limited to military flight training programs. Most educational institutions, public and private at all levels, have programs aimed at keeping students in programs, although little has been published on retention strategies at private flight schools. While some educational leaders state a certain number of attrites is inevitable in all learning environments and is not necessarily a negative outcome (Māori, 2007; Perry et al., 2008; Simpson, 2004), others (Taylor, 2009) believe all students should be successful and given whatever tools are necessary for realizing success. Researchers have investigated programs and interventions in an effort to identify successful programs, hoping to emulate or replicate them in new settings.

Community colleges and other postsecondary education and training programs not culminating in bachelor's or advanced degrees have been designed to serve the students they instruct by providing education and training for a variety of specific purposes often directly related to work readiness. To that end it is critical sub-baccalaureate programs address the needs of each enrolled learner and provide well-qualified candidates for an increasingly complex and technical work force (Castellano, Stringfield, & Stone, 2001).

Aviation training centers are specifically designed to prepare students with the knowledge and skills needed to act as pilot in command of an aircraft at a variety of certification levels. Failing to prepare students with the skills necessary can lead to unsuccessful and unsatisfying training experiences and may jeopardize an individual's ability to realize their educational and occupational goals.

Many students in all educational settings including aviation, however, face a myriad of internal and external pressures while enrolled in school and find it difficult to persist to educational goals. In a global economy relying more heavily than ever on a work force educated beyond high school, sub-baccalaureate educators including flight training centers must solve the issue of how to retain more students. One place to investigate what can be done to increase retention in a sub-baccalaureate educational setting is within the existing literature. While literature is sparse concerning civilian flight training centers specifically, thoughtful consideration of programs implemented by other training schools may lead to strategies that can be adapted and applied.

Types of attrition.

Attrition is defined in this manuscript as leaving an education or training program before a sequence of courses is complete. There are three categories of attrition to be addressed in relation to sub-baccalaureate education and training: opt out, stop out, and drop out (Castellano et al., 2001; Harbour, Middleton, Lewis, & Anderson, 2003). It is important to understand each type of attrition to better understand and address the needs of students in each category.

Opt out.

Students who opt out of an educational program may have determined their educational needs have been met, indicating some attrition is inevitable in all learning environments and is not necessarily a negative outcome (Māori, 2007; Perry et al., 2008; Simpson, 2004). Students having very narrowly defined educational goals may decide to take only one or two courses in a sequence to learn what they have identified as important knowledge or skills; once their personal goal is met they may not see the need to take additional classes. The students may not see themselves as having attrited from the programs, but schools will often count these students in

their attrition rates. In aviation, this might manifest as a student who does not intend to become a professional pilot and who sees aviation as a hobby. Such a student would have no need of the more advanced certificates and ratings associated with professional pilot goals.

Another component of opting out is a student's changing needs or perceptions. Students who have redefined their education or career goals may find their current schooling path is no longer addressing their newly defined goals (Perry et al., 2008). When this happens it is difficult to convince a student to continue spending time, energy, and money on what they consider unnecessary training. Similarly a student who has poorly chosen a school, possibly based on misinformation or unrealistic expectations about the training to be received, will be difficult to retain in a program if the student does not see the value of the training in relationship to his or her goals. Persons entering pilot training may quickly determine they are afraid of heights or cannot overcome persistent motion sickness, leading them to change their educational goals.

In response to students who opt out of education and training, educators need to realize the variety of needs students bring to programs and respond appropriately when students have met their needs. Institutions with an understanding of the variety of student needs may re-label opt out students from attriters to completers of short-term educational goals. Reorienting beliefs about opt out students allows school officials to focus on attriters whose educational goals were not met before leaving the school and help more students in meeting actual goals. Another option is to help students realize broader goals to include completion of training, certificate, or degree programs (Comings, Cuban, Box, & Porter, 2003).

Stop out.

A second category of attriters is stop outs, those students who stop taking courses to address specific issues and concerns in another part of their life (Castellano et al., 2001). These

students consider the interrupting factors temporary and intend to return to training when they are better able to focus attention on their studies. While not all stop out catalysts are negative (i.e., marriage, childbirth, travel), any significant break in education patterns has the potential of long-term impacts on educational goals and not every student who stops out is able to return to school. If a student's life situation does not realign itself with educational goals and the school is unresponsive to changing needs, there is a risk of losing the student permanently.

Students in the stop out category, as with all others who do not finish a program of study, are at no financial advantage over those who do not engage in any postsecondary education (Bosworth, 2010). The lack of financial advantage indicates workers with some postsecondary education but without a completion credential are no better prepared for working and advancing in the job market (Matthews, 2009) than students with no post-secondary education. Not preparing students to compete for employment and advancement in the job market is a failure in the most basic goals of sub-baccalaureate schools (Complete College America, 2010).

Drop out.

The final category of attrition to be addressed in this paper is dropouts. A current term being used to distinguish dropouts from other attritiers is 'push outs'. The use of this term and the socio-political discussions that inform its use are outside the scope of this paper; however, I would like to state my support of this term as it encourages a discussion concerning the social foundations of attrition specifically in regards to normalized racism in the United States (Taylor, 2009).

Although the minority experience in flight training is outside the scope of this dissertation, it is important to note the incidence of dropouts from sub-baccalaureate education programs is alarmingly divided along ethnic lines. While most students from all ethnic groups

who graduate from high school enter some form of postsecondary school, a disproportionately high number of minorities drop out before completing their program (Bosworth, 2010; Maldonado & Farmer, 2006; Sciarra & Whitson, 2007). Minority students are also less likely to return to their education or even state they have plans to return, leading to high percentages of minority students unable to realize the economic benefits of postsecondary education (Harbour et al., 2003).

Students who drop out of education programs rarely identify a single primary factor in their attrition. Instead a variety of complicated factors working in conjunction usually leads to student non-persistence (Māori, 2007). The interplay of factors is often difficult to identify and address, but failing to address the rising rates of attrition will continue to contribute to a growing portion of the work force unable to perform in the positions available in a technologically evolving economy (Rosenbaum, Redline, & Stephan, 2007). In aviation, this may translate to higher salaries for qualified pilots and an increase in consumer costs for the goods and services provided directly and indirectly through aviation.

Because little research is available concerning attrition from civilian flight training, investigation into literature of other non-degree granting training programs provides a basis for considering attrition factors contributing to non-persistence in flight training programs. Also, while military pilot trainees share many abilities and skills with civilian trainees, a military setting suggests a fundamental difference in the very nature of the student and setting.

Personal factors.

Intrinsic.

Looking into the causes of attrition in postsecondary education and training programs reveals factors from a variety of sources interfering with persistence. Researchers have found

both intrinsic and extrinsic factors contributing to non-persistence (Huett, Kalinowski, Moller, & Huett, 2008). Many students lack confidence in their educational abilities stemming from not being acculturated into educational practices. This may occur even more frequently for first-generation postsecondary students because they do not have family members able to help them navigate educational systems (Sciarra & Whitson, 2007).

Additionally Sciarra and Whitson (2007) found educational leaders believe Latino students drop out of school because they are unmotivated to continue with their education, whereas White students are believed to drop out due to external factors. This dichotomy of beliefs leads academic counselors to spend more time attempting to re-enroll White students than their Latino counterparts. Students who stop out often become dropouts if previous educational experiences were unsuccessful or unsatisfying (Evans, 1994). This may be further complicated by a system that does not seem to value student contributions as indicated by a lack of communication and re-enrollment efforts (Sciarra & Whitson, 2007).

One solution to the presumed issues of motivation and confidence is for educational leaders to not assume negative attributes about any students. Many private colleges and postsecondary training facilities boast higher completion rates than public institutions because they assume students are unable to navigate the systems on their own (Rosenbaum et al., 2007). Rather than expecting students to navigate enrollment, registration, and re-enrollment systems without help, private schools actively engage in these processes with students. Assistance programs accomplish two goals for schools. First, students are helped with unfamiliar processes thereby ensuring successful completion of the tasks and raising retention rates. Second, students are sent a clear message of welcome and school officials are willing to work to ensure student success, again raising retention rates.

Extrinsic.

Although many students leave educational pursuits for intrinsic reasons, extrinsic factors seem more prevalent and are more easily identified. To combat some external forces schools have implemented a variety of strategies and interventions with mixed results (Perry et al., 2008). Partnering students with a peer who understands the challenges faced can add valuable support for students, especially when encountering educational situations with which students have no experience (Hill & Dalley-Trim, 2008). Diverse students show increased academic performance, report greater feelings of belonging, and show higher rates of persistence when paired with more experienced students with a similar background. Having someone to empathize can assure students they are not alone in their struggles, which can in turn encourage students to continue with schooling. Ryan and Glenn (2004) caution when formal peer groups are established, discussion topics should focus on school-related stressors and success strategies rather than on personal issues such as substance use and relationship problems. Commiserating with similar students about school-related difficulties further creates a sense of belonging as the students realize others are experiencing the same concerns and frustrations. Divergent discussions concerning individual problems may reinforce a student's beliefs they are the only one experiencing a specific stressor. Additionally, successful peer support programs must be implemented by staff trained specifically to deal with student concerns as noted by Levin, Cox, Cerven, & Haberler (2010).

Family support or the lack thereof can be a critical component to a student's success. While some students reported a lack of family support was a pivotal factor in the decision to drop out (Nichols, 2010), others report support from family has been critical to academic success. Latinas reported they often ignore discouragement from school personnel and peers

provided they receive encouragement from family (Sciarra & Whitson, 2007). Once family support is perceived as lagging, however, attriting may become the most logical solution to an overwhelming system of problems faced without support. Interventions for these issues are difficult to implement and must be individually tailored and involve strong connections between school and family, but family support measures can increase retention success if properly implemented. Intervention programs are rarely successful if initial contact with family is not attempted until after a student has chosen to drop out; instead contact must begin upon initial enrollment and continue throughout a student's academic tenure. Sciarra and Whitson (2007) found communication between schools and family support figures to be a positive factor in retention specifically within minority groups.

Financial.

Another factor of non-persistence in postsecondary educational involves managing finances. Many students cannot simply stop working to pursue an education because of financial responsibilities and find it easier to withdraw from school than to live with the stress involved in continuing to balance work and school (Bean, 1990; Lee, Puig, & Clark, 2007). Many researchers believe the primary hurdle to postsecondary education is money (Levin et al., 2010; Zeidner, 2006). Giving financial assistance in a variety of forms is seen as an equalizer for members of all socio-economic situations, ensuring anyone interested in higher education can access it. While financial assistance does not necessarily translate to improved graduation rates (Gladieux & Swail, 1999; Lee, Daniels, Puig, Newgent, & Nam, 2008; Richman, Rosenfield, & Bowen, 1998), funding education is a major obstacle for many families and individuals. Scholarships and grants, often tied to performance measures, are the most coveted funding sources as they do not have to be repaid. Billions of dollars in loans are taken by students each

year for most traditional and many alternative training avenues, but for many career-training students, only high interest private loans are available (Wentworth, 2009). Employment and paid internships can help students pay for their education, but the time necessary to engage in these can detract from educational pursuits.

While scholarships and grants for students have been shown to increase retention (Mendoza, Mendez, & Malcolm, 2009), the results are mixed when measuring the impact student loans have on persistence (Alon, 2005; Dowd & Coury, 2006). For students who understand the implications of borrowing educational funds, persistence can be increased. Conversely, those with poor understanding of long-term implications are often hesitant to borrow the substantial amounts necessary to complete education (Alon, 2005).

Addressing financial issues for students involves making changes at many levels. First, agencies such as governments and philanthropic organizations offering financial assistance need to make navigating the application process simpler. Also school personnel tasked with assisting students with financial aid needs must be proactive in addressing the specifics of each student's situation. Finally, secondary school counselors need to better disseminate information to all students about the availability of financial assistance rather than assuming the students who do not ask are not interested in financial aid or postsecondary education.

Academic.

While some factors of non-persistence are difficult to quantify, poor academic performance is easily measured. Addressing issues underlying a student's poor performance, however, is a complicated issue. Some students enter postsecondary educational programs lacking the skills necessary to be academically successful (Castellano et al., 2001). Many students are given the message that postsecondary education is important; lacking the proper

foundational knowledge and skills, however, students may become frustrated, fall behind in their classes, and too often leave school without earning a single postsecondary credit (Bosworth, 2010).

The most obvious solution to poor academic performance is remediation. Simply offering remediation, even requiring remediation given low performance on placement tests, often fails to address the issue of poor academic performance. Castellano et al. (2001) found more than 60% of students required to enroll in remediation courses due to low test scores either did not enroll in those courses or did not complete courses in which they had enrolled. It follows that few academic gains were made by the students who did not complete remediation courses and fewer still by those who did not enroll.

Conversely, Levin et al. (2010) found that when core content instructors worked closely with remediation program personnel students not only attended and completed remediation programs but realized significant gains in academic abilities. It is further suggested remediation programs offered at no cost to students are even more successful as students are not financially responsible for classes they will not receive course credits that count toward graduation requirements. This is in contrast to programs that are voluntary or not well publicized. By actively involving instructors in the referral and tracking of students through remediation, these programs can be beneficial to addressing academic needs of students, further addressing issues of persistence. Students also indicate the importance of consistency and availability of their advisors, mentors, and tutors. The importance of these services is lost if mentors and tutors are largely inaccessible to students or if students do not feel these individuals have a vested interest in their success (Rogers, 2009).

There is also danger of students being inappropriately placed in course work or support groups that are not at the level of their needs or abilities. By doing so, programs risk not addressing the student's needs or moving too quickly or slowly to benefit the students (Levin et al., 2010). Well-designed and administered screening measurements should be used to ensure students are properly placed in programs. Students inappropriately placed in courses may attribute placement to personal factors rather than to mistakes made by the school. Feeling fatalistic about their academic career, students may drop out of classes without addressing the issues of academic misplacement (Sciarra & Whitson, 2007).

It is also important for sequenced courses to build upon one another in a logical, structured fashion. Failure to align the curriculum within a series of classes can frustrate students and encourage attrition. "Four conceptual conditions, cohesion, cooperation, connection, and consistency" (Levin et al., 2010, p. 52) can help students progress logically through their course work and through program completion.

Additionally, offering access to instructors is vital to student success, especially those enrolled in online courses or as nontraditional students. Students should have the phone number and office location of instructors and should be contacted by the instructor at least once each term (Tighe, 2006). Students who are encouraged to seek advice and guidance from their instructors are more likely to be successful in courses, which can lead to persistence in their program. Even the practice of having instructors email students on a regular basis can effectively increase retention (Huett et al., 2008).

Offering student services is not enough, however. Services are of no value if they are unknown or unused. Institutions must ensure all students are aware of services and are able to navigate the systems to access them (Keith, 2007). One very effective method of informing

students is to inform instructors. Meeting with instructors to explain service availability and access methods can mean they are better informed and can lead potential students to appropriate interventions (Keith, 2007).

Social.

A sense of belonging has been shown to impact students' chances of persistence. Personal contact by faculty and peers can promote social adjustment and the belief in their own place in the academic environment as well as increased self-confidence (Nichols, 2010). Other programs, such as events, seminars, orientations, and on-campus activities are positive ways to increase student involvement and their sense of belonging (Tighe, 2006).

Orientation programs, offered at most postsecondary institutions, have been shown to increase success and retention. The multi-dimensional purpose of transitioning students into a new culture, teaching new policies and procedures, and introducing their peers are accomplished both through formal and informal channels (Tighe, 2006). Orientations also develop awareness and understanding by parents of the pressures and responsibilities for students. To build on the success of orientation programs, some postsecondary schools offer first term courses for credit echoing the purpose and atmosphere of pre-enrollment orientation programs (Cohen & Brawer, 2003).

Involvement in school activities can increase persistence levels for all students and has been found to be particularly effective in students with low socioeconomic status (Lee et al., 2008; Richman et al., 1998). These students in particular need direct intervention and recruitment into social and academic programs to help build the networks and support systems necessary for success (Gladieux & Swail, 1999).

Similarly, nontraditional students experience stressors from being socially incompatible with many of their classmates and a lack of connection in the educational community; schools should implement social networks specifically aimed at connecting nontraditional students with one another (Keith, 2007). With social support in place, students have confidants who understand their particular issues, thereby reducing stress behaviors and increasing success.

Institutional factors.

The most troubling and problematic area to address concerning retention of students in sub-baccalaureate programs is the institutional factors that prevent students of all backgrounds from persisting to completion but are of particular concern for minority students (Levin et al., 2010). Institutional factors include program designs and educational practices not conducive to student success and not responsive to student needs. Specifically programs disconnected from work force needs, that do not take into account students' responsibilities outside of school, require prolonged commitment by students, are expensive, and do not employ diverse faculty members are at risk of having high levels of dropouts.

Addressing institutional factors first requires a fundamental shift in beliefs about the purpose and value of education for students of all backgrounds. Schools that adopt a belief in the "moral imperative" (Levin et al., 2010, p. 48) of their duty to the education of all students will find their concerns about individual and faculty issues are less important than issues directly concerned with helping students persist. These beliefs may manifest in the form of ready access to instructors and mentors (Pittenger & Doering, 2010), free remediation and tutoring (Levin et al., 2010), and coherent curriculum and instruction taught by well-qualified content experts (Harbour et al., 2003).

Students also face issues regarding scheduling of classes, indicating schools should standardize class schedules. A student who knows they will be in classes at the same time every day throughout their training will find it easier to accommodate work and family care issues as well as transportation and study time (Comings et al., 2003; Levin et al., 2010). Educational programs patterned after “Built for Success” models (Bosworth, 2010) address many issues for all students and minority students in particular. These programs offer students consistent class schedules throughout, support in arranging transportation and family care services, and programs compacted into as few classes as possible to shorten the time commitment necessary. Johnson, Rochkind, Ott, and DuPont (2009) found a majority of women in a focus group were surprised when care options were offered as an alternative to dropping out. They expressed dismay, asking, “Would a college ever do that?” (p. 19), which should lead educators to ask ‘Why not?’

Learning styles.

Finally a dimension of the educational experience leaders often overlook when considering ways to address retention is consideration of a variety of learning styles. European-American educational foundations tend to value competition in the classroom, rewarding students for individual performance, discouraging collaboration, and assigning grades based on a normal curve. These educative processes are not valued by all students and discord between a student’s cultural values and those of the educational setting can lead to poor academic performance, dissatisfaction with the educational experience, and attrition (Harbour et al., 2003). Although many students have been acculturated to teacher-led instructional practices valuing little contribution from students, similar practices are not valued in all cultures (Comings et al., 2003), and students who fail to assimilate to dominant academic cultural practices risk failure in academic pursuits.

To address multiple learning styles, instructors need to include a variety of types of assessment opportunities throughout the course (Chickering & Gamson, 1987). Rather than attempting to ‘solve’ perceived shortcomings in alternate learning methods, instructors need to value multiple ways of creating meaning and encourage students to learn in ways that are natural and comfortable for them (Brilliant, 2000). Collaboration can be seen as cheating in European-American educational traditions but is valued by other educational traditions (Brilliant, 2000; Harbour et al., 2003; Sciarra & Whitson, 2007). Comings and colleagues (2003) found diverse adult learners were more likely to persist in small group instruction and one-to-one tutoring environments than similar students in large group instruction, even if the large group instructors were more qualified to teach. Allowing students opportunities to learn and demonstrate knowledge and growth in a multitude of ways, while not necessarily conforming to U. S. educational traditions, can help students experience educational success and increase retention across all dimensions of diversity.

Summary

While the military continues to research areas of attrition, including DOR which has been called the most troubling area of trainee loss, civilian flight schools remain far behind in addressing attrition and retention strategies. As it is understood all students do not enter educational settings with the same needs or expectations (Barefoot & Gardner, 1993), educational leaders must be more responsive to students’ individual needs or continue to under-serve their student body, and risk ever increasing levels of non-persistence. While not all causes of attrition can be addressed by institutions, failing to consider addressing *any* causes ensures the failure of a too-large portion of students.

No sub-baccalaureate program can hope to solve the issue of attrition overnight, but there are steps each school can take to increase retention and better serve the needs of their students. Research has shown a student's sense of belonging to be a critical component of student success and retention. To create an inclusive climate where students of all backgrounds are welcomed and feel valued, schools can invest time, energy, and resources into a variety of efforts to further engage students in the learning culture and community they offer. Superficial programs fail to go far enough toward these ends. Instead, deep systemic changes must be made to close the gap between educational aspirations of students and their subsequent educational attainment (Shaw & Coleman, 2000). Schools must listen to student voices, modify programs to address changing needs, make connections with students, and in myriad other ways create a culture of support for students of all backgrounds (Levin et al., 2010).

Chapter 3: Methodology

Because I was interested in understanding the experiences of student pilots who did not complete professional flight training from their perspectives and at an in-depth level, I chose to conduct a qualitative study. Qualitative research allows researchers “to make sense of, or interpret, phenomena in terms of the meaning people bring to them,” (Pinnegar & Daynes, 2007, p. 4). I did not want to completely dismiss the ideas of predicting and controlling phenomena, but I felt an understanding of the factors leading to non-persistence in pilot trainees would need to precede any prediction and/or control that might be identified using post-positivist epistemologies and methodologies (Pinnegar & Daynes, 2007).

Additionally as I read methodology and paradigm texts I found it intriguing the very essence of truth could be different for different researchers (Clandinin & Rosiek, 2007; Guba, 1990) leading me to consider what truth is for me, and what vision of truth would be appropriate for getting to an understanding of student-pilot persistence. Reading research philosophy uncovered my constructivist view toward truth: truth is unstable and exists within a context that will change given the participants, researchers, and social environments (Hollingsworth & Dybdahl, 2007; Popkewitz, 1990). Pinnegar and Daynes (2007) echo the assertion of “temporal, dynamic and contextual” (p. 9) components to qualitative data and its relationship to both researcher and participants. In a constructivist research paradigm the researcher, participants, and data are impacted by and have impact on one another (Nash, 2004), which leads to co-constructed meanings and power sharing between researcher and narrators (Hollingsworth & Dybdahl, 2007).

The constructivist view of truth and the researcher’s relationship to knowledge are also echoed by Clandinin and Rosiek (2007) who posit narrative inquirers operate under three

primary premises. In their view truth is temporal (existing in a specific moment), experiences are continuous (occurring in succession), and meaning is relational (constructed socially). These premises indicate the knowledge learned from pilot interviews will exist in specific context and changing interview setting, time, or length may also impact interview responses, discussion depth, and meaning created. Implications are also possible for conducting follow-up interviews. Even if time of day, setting, and weekday components are kept constant, time will have progressed between interviews, potentially altering participant views, beliefs, and responses.

I was also interested in Clandinin and Rosiek's (2007) presentation of what narrative inquiry is not, in particular post-positivist and critical theory. Morgan-Fleming, Riegler, and Fryer (2007) state that while post-positivist research focuses on systems (i.e., the system of oppression, the system of economic growth), in constructivist paradigms the researcher's interest is individuals who create, comprise, and perpetuate social, economic, and educational systems.

Narrative Inquiry

Once I had decided a constructivist paradigm was appropriate to the topic, the problem became choosing the specific methods to best fit the study, leading to the most authentic answers to the questions of the study at hand. This inner dialogue was best clarified when I read Rogers' (2003) explanation of students' struggles with learning qualitative methods. She asserts students, due in part to exposure to the empirical traditions of quantitative research, are looking for a "magical solution to making sense of research data" (p. 57). I was, indeed, looking for a one-size-fits-all model with clear step-by-step instructions to guide me through qualitative research. I knew the topic in which I was interested, pilot training non-persistence. What I did not yet know was what strategy to use to elicit the most meaningful data from participants, data that would ultimately inform better practices at pilot-training centers.

Unfortunately, no matter how much I read, such a model was not forthcoming. Even after extensive work within attrition and retention literature, I was unable to find answers to the questions I had about non-persistence. Much of the literature in pilot trainee retention is post-positivist engaging quantitative data collection and analysis. As a constructivist, I decided listening to participants' stories would help create more substantive meaning; I turned to narrative inquiry as a method of eliciting stories from former flight students. Still, I was unable to find a set of directions for conducting data collection, analysis, and interpretations. Instead, I had to proceed through the method more intuitively, allowing for the very nature of this emergent method to guide me and in the same time be molded by me into what I needed it to be (Popkewitz, 1990), thereby allowing the participants' stories to be told in their own words.

This is not to say researchers in the narrative methods are without guidance. An emergent method is not to say an undisciplined method. Indeed, much has been written on narrative methods (i.e., Clandinin & Connelly, 2000; Nash, 2004; Phillion, He, & Connelly, 2005) to guide researchers in how to conduct meaningful interviews (Chase, 2003; Schultz, 2003), structured analyses (Ely, 2003; Ochberg, 2003), and finally to reach well-supported interpretations (Rosenwald, 2003; Schultz, 2003).

Research Questions and Fit of Methodology

The necessary steps for becoming a professional pilot in the United States are clearly defined by the FAA (Aviation Supplies & Academics, 2011). According to the Federal Aviation Regulations (FAR), a commercial certificate is required for being employed as a helicopter pilot. In reality, few companies will hire a pilot with only a commercial certificate and the minimum 150 flight hours needed to earn the designation (Austin, 2010). Practicality dictates most civilian student pilots first earn a private certificate (minimum 40 flight hours necessary) and an

instrument rating (minimum 40 flight hours necessary). The flight hours earned in attaining each milestone can be counted toward a commercial certificate and add credentials to a pilot's resume. After earning a commercial certificate, most pilots will earn both an instructor rating (CFI) and an instrument instructor rating (CFII). These ratings, which do not include a minimum flight hour requirement, allow pilots to log flight hours while teaching someone else. Since it is the student who pays for the aircraft costs, these experiences increase an instructor's flight hours without needing to pay for additional flight hours. Once a pilot reaches between 1,000 and 1,500 flight hours, he/she is considered employable in the helicopter industry (Austin, 2010).

Because of my personal interest in the helicopter training industry in general and the persistence of students through the instrument, commercial, and instructor phases of their training specifically, I was interested in learning from students why they did not persist to professional pilot status. To this end I conducted interviews with four pilots who hold at least a Private Pilot Certificate but who have not completed all three of the advanced training programs. By qualitatively analyzing the transcripts, I have been able to address the following specific questions:

1. What student based and school based factors contribute to helicopter students' failure to persist to completion of instrument, commercial, and instructor's training?
2. How can flight schools intervene to support flight students toward completion of instrument, commercial, and instructor's training?

Each participant was asked to talk about experiences informing their interest in flight training and with learning the material, instructors, and flight schools. Because these questions represented a focus on potentially temporal, continuous, and relational aspects of drop on request

(DOR) and assert the data collected should be contextualized (Pinnegar & Daynes, 2007), narrative inquiry was deemed most appropriate.

Participant Selection

For the purposes of this study, flight-training completion is defined as earning an Instrument Flight Rating, Commercial Pilot Certificate, and Certified Flight Instructor Rating from the FAA (Hulley, 1999). Ratings are not automatically earned at the end of the course of study. Oral and practical tests administered by an FAA examiner or designee must be passed. To qualify for these FAA tests, a student must pass a standardized written test and be recommended by an instructor. It is the purpose of this study to look specifically at students who began a course of study with a stated intention of becoming a professional helicopter pilot but who did not follow training to completion. The population of this study is limited to former students of one flight school where I contacted students who began training but did not complete courses to become certificated and includes three men and one woman.

Selection criteria for participants.

Once institutional review board approval (see appendix A) was granted, 17 potential participants for this study were identified on the following criteria:

1. Began helicopter pilot training with the intent of completing instrument, commercial, and instructor training, eliminating pilot hopefuls who considered flying a hobby and did not intend a career in flight.
2. Completed at least the private-pilot rating, eliminating pilot hopefuls lacking the basic skills, aptitudes, motivation, etc. to successfully attain professional pilot status.

3. Had not taken a training flight since ceasing training during or before July 2011. Students would have started training no earlier than June 2001, when the school opened.

Exclusion criteria.

Fourteen pilots fitting the above listed criteria were excluded based on the following:

1. Contact could not be made. Although phone, address, and other contact information were available for the pilots in the selection pool, not all pilots could be contacted. Efforts were made through a variety of databases, including FAA sources and online and telephone directories to locate pilots or updated contact information (9 students).
2. Students had completed training in the military or at another training center (2 students).
3. Student resided outside the country (3 students).

Contacting and recruiting participants.

Once the three remaining potential participants were identified, I contacted each by phone and followed up with an email (see appendix B for content of first email contact) and a date, time, and location for the initial interview were set. After initial interviews with the three participants were conducted, I asked each participant for a second interview. I met with one participant at the flight school and conducted the second interview. Meanwhile, one participant had moved out of state, so the second interview was conducted by telephone. The third participant was unavailable for contact, and I determined a need for an additional participant. A friend of mine had recently told me his girlfriend did not intend to return to flight training after a seven-month break. I contacted her, and she agreed to participate in my research. Two phone interviews with this participant were conducted because she lives out of state.

Interview Structure

Basing my interview protocol on the advice of Rosenwald (2003) and Chase (2003), I created a set of general questions intended to elicit stories from my participants. Rosenwald (2003) suggests the researcher choose a “comprehensive approach” (p. 142) looking at the life as a whole or a “focal approach” (p. 139) concentrating on a single aspect of the narrator’s life. Because the focus of this study is on non-persistence in flight training, my approach was focused on that aspect of their lives. My initial question, “Tell me a little bit about how you decided you wanted to be a helicopter pilot,” (see Interview Protocol question 1, appendix C), was an attempt to elicit a rich description of their experiences by providing open-ended prompts allowing organic development of storytelling (Riessman, 2008). Although I was prepared with follow-up prompts to the initial question, I also used cues by participants to encourage further discussion on salient points. Because much meaning can be created for the narrator in the act of telling their story (Weiland, 2003), I felt it was appropriate to allow participants to tell the stories as they deemed suitable. I also asked probative and topical questions to aid my understanding of their failure to persist.

Setting.

Each participant was asked to choose the setting of the interview. The three initial participants chose an office at the flight school as the setting for the first interview. The office being private facilitated the use of a digital voice recorder. My perceptions of how participants may have censored responses due to the setting are discussed in chapter six. Because one participant lived out of state and one participant was out of state at the time of the second interview, phone interviews were employed and implications are discussed in chapter six.

Methods.

Before each interview, I provided participants with an informed consent document (see appendix D), either in hard copy or by email, and explained we would be talking about flight training. At the time of the interview, I carefully explained the informed consent document to be sure each participant understood his/her rights. I specifically stressed the privacy protocols. I verified the participant was comfortable with the story being recorded and verbally reviewed how their identity would be kept confidential.

Given a standard opening prompt for each interview (see appendix C), the participant and I discussed his/her story as a student pilot. When appropriate, I used probes to encourage further detail and frequently deviated from the prepared script to elicit details I felt were pertinent. These probes were often created during an interview and informed by what participants said during the interview (Popkewitz, 1990) and included “Do you want to talk about that a little more?” and “Did your family support your choice of flight training?” Participants were encouraged to allow stories to take tangential directions as desired within the context of flight training and how outside factors influenced training persistence. Whenever possible I used probing questions such as, “Would you like to unpack that,” to get beyond initial answers and to the deeper causes of attrition. As my interest is in the true causes of attrition, I was interested in reaching beyond initial and potentially superficial responses.

First interviews of each participant lasted between 27 minutes and 48 minutes. After initial analysis of collected data, I asked all four participants for a follow-up interview. As discussed above, one participant was unavailable for a second interview. Several email, text, and voice messages were sent. Second interviews lasted between 58 and 72 minutes for the three participants. No third interviews were conducted.

Defining a Usable Interview

Within 48 hours of each interview, I transcribed the recording. Timely transcription was valuable as I was able to remember details of expression that helped to interpret meaning. No participants or data needed to be excluded from the data set. It may have been necessary to exclude participants or data because the participant seemed to give socially acceptable responses that did not tend to focus on the true causes of cessation of flight training.

Ethical Considerations

The following ethical considerations are relevant to this study:

1. Participant confidentiality. The handling of participant identities and data is discussed below.
2. Biased reporting of data. The temptation to manipulate data to conform to my expectations was overcome by member checking of transcripts and final analysis as described later in this document. Participants were provided and encouraged to critique an abbreviated report of findings.
3. Biased interview questions. My influence on participants' responses potentially due to my on-going association with flight school personnel is discussed in chapters four, five, and six.

Data Handling

Transcription process.

All transcription of interviews was completed solely by me. This was completed in the privacy of my home when no other persons were present. Initial transcription was completed on a basic word-processing program and took approximately five hours for each one hour of interview recording. After initial transcription occurred, 24 hours passed before I read and again

listened to the recordings and checked for accuracy. Once agreement was established between recording and transcription, printed copies of the document were produced and placed into a locked safe to which I possess the only key.

Member checking.

After transcription was completed, I contacted participants with their transcripts. I requested second interviews of all four participants to elicit additional information. After all interviews were conducted and transcribed, I asked each of the remaining participants to read the transcript and provide reflective notations. One participant was unavailable for contact. No changes were made to the transcripts.

Confidentiality.

In all cases, pseudonyms are used in this document. One participant chose to create a pseudonym. Other pseudonyms in this transcript were chosen by me.

The confidentiality of participants is of the utmost importance. I took the following steps to ensure confidentiality of participants.

1. Once potential participants were chosen, I personally conducted any searches and contacts, eliminating the possibility of school personnel learning the identity of students chosen to participate.
2. All contact information was kept in my personal iPhone, which had a password protection feature. After 10 incorrect attempts at the password, the phone's data are destroyed. (This left the potential for losing valuable data, but the trade-off is a higher level of security for participants.)
3. Interview recordings were kept on my personal iPhone until transcriptions were verified accurate, at which time they were deleted.

4. Interview transcripts were kept in electronic form on the hard drive of my personal computer, which was password protected. Duplicate electronic copies of interview transcriptions were kept in a locked safe in my home. The key for the safe was kept with my person.
5. Pseudonyms were used for all participants and those to whom they referred in all electronic and hard copy forms.

Data Analysis

I began the process of thematically analyzing data (Riessman, 2008) while transcribing. I transcribed into a two-column table with interview data in the left column and analysis in the right column. Dialogue was separated by speaker into cells. As I transcribed first interviews, I noted in the right column passages I wanted to review on the recording, questions for second interviews, and themes that began to emerge. Initial analysis of the first participant's interview yielded color-coded themes of motivation, financial concerns, and unprofessional behaviors by flight school personnel.

While transcribing the second participant's first interview, I added themes of family support, family care, and teaching-learning style. The third participant's interview yielded no new themes, and I contacted each participant to request a second interview. Before second interviews were conducted, I analyzed interview data for gaps in my understanding of the pilots' stories, influences I may have had on participants' responses, my assumptions needing clarification by participants, and themes to discuss with participants that had been raised in interviews. These analyses informed unique second interview protocols for each participant.

Two participants agreed to second interviews, one in person and one by phone. The in-person interview was conducted in a private office at the flight school, and both interviews were

recorded. The third participant did not respond to phone, text, or email messages, and a fourth participant was added to the study as described above.

Second interviews were transcribed into a word-processing document and analyzed first for the six themes previously discussed. I then looked for new themes or data that did not fit into previous thematic strands. To integrate new data with previous data, transcription tables were expanded to four columns and data from second interviews were aligned in clusters with data from first interviews with column three containing transcription data and column four containing analysis. Data that did not align with previous themes was placed at the end of the third column with associated analysis in adjacent cells in column four (see appendix E for example).

To build a narrative from the interview data, I used the restorying technique described by Ollerenshaw and Creswell (2002). In the analytic process they call “the problem-solution approach” (p. 333) the authors present narrative thought as any action in which a person considers one or more people engaged in an activity. Building on the work of Yussen and Ozcan (1997), Ollerenshaw and Creswell (2002) collected three types of data: narrative told by a teacher, observation of student activity, and narratives constructed by student groups. The authors were interested in illustrating how each data source conformed to narrative style and included characters, setting, problem, actions, and resolution. To illustrate this point they coded each data set for the above listed narrative elements, grouped data into clusters of narrative elements, and analyzed the clusters for commonalities and outliers.

Once the narrative element clusters were analyzed, Ollerenshaw and Creswell (2002) restoried the narrative, building a single narrative from the three original sources. While the authors eliminate the individual narrative from their presentation of the story, they preserve the voices of the narrators by using quotes from speakers as well as creating a new composite story,

which includes elements drawn from each original source. The composite narrative takes the form of a script with action prompts and dialogue. Doing so allows the perspective of each participant as well as the researcher to impact the final narrative without the necessity of redundantly presenting data from each source. Additionally, Ollerenshaw and Creswell (2002) graphically organize data to show sequence of events in each of the original narratives. These graphic representations are then used to build a sample narrative in prose form, illustrating the flexibility of narrative forms given the same data set.

The basic Ollerenshaw and Creswell (2002) process involves recording and transcribing interviews, familiarization with data, color-coding data, graphic organization of transcripts, and sequencing events. In their process, Ollerenshaw and Creswell (2002) color coded data for story elements such as character and setting and sequenced events chronologically. I deviated from their example, color coding thematically and organizing data by theme. To structure the data into conversations between participants and discuss each theme as organized according to a portion of the outline established in chapter two, I sequenced data into an restoried focus group (Stoeckel, 2004). Additional themes not reflected in the literature are discussed in chapters four and five.

At this point in the process, I was concerned there might be gaps in readers' contextual understanding of flight training and the current research data, analysis, and interpretation. To address this concern, I wrote "Researcher Perspective: Becky's Story" to be included at the beginning of chapter four. I also included a glossary of terms to facilitate reader comprehension.

Trustworthiness

In qualitative research there is an on-going debate about the trustworthiness of findings (Riessman, 2008). Nash (2004) declares interpretation of trustworthiness is tied to views of truth

and both concepts are complicated and founded in the way people are educated in research paradigms. Creswell (2003) recommends several measures to ensure a trustworthy study. Table 4 illustrates how the current study employs each recommendation.

Transferability

While the findings from this study are not to be considered generalizable because of the small sample size and the non-random method of selecting participants, it is hoped the results of this study are able to inform recommendations to flight schools for sound and reasonable methods for decreasing the number of students who DOR from flight training. Any interventions used by one school found to be successful might then be employed by other training facilities attempting to improve student retention rates.

Table 4

Creswell's (2003) Recommendations and How They Were Implemented in this Study

Recommendation	Context in this Study
Use a variety of data sources.	Four participants were interviewed rather than one participant.
Use member-checking methods.	Participants were given copies of transcripts to verify meaning and offered the opportunity to request changes to transcripts for clarification or privacy and interpretations.
Write rich descriptions of participants, settings, etc.	Final report includes restoried focus group script with descriptions of participants.
Discuss researcher bias openly.	Researcher bias is discussed in chapter one, presented in chapter four as researcher perspective, and again in chapter six regarding working with participants and data.
Do not ignore dissenting voices.	Non-persistence factors reported by one participant were noted.
Conduct thorough data collection.	Initially 3 participants were interviewed. An additional participant was included in the sample to elicit a more complete data set.
Have a peer review final report.	This document was reviewed by fellow students while in process and in final form.
Have an unaffiliated researcher review the study.	This document was reviewed by Dr. Tim Davies, the methodology advisor, and Dr. Carole Makela, the advisor for this research.

Chapter 4: The Narratives

In this chapter I will be presenting the voices of the participants in this study. Before I do that, however, I want to share the context in which I experienced not only hearing their stories, but the flight industry as well. As the wife of a pilot and a former employee of a flight school, I learned a great deal about aviation, and not just the rules and regulations, but how aviation works. How flight training really works: what it takes to train, what industry controls are in place, and how people become pilots. I present my story to share some of what I learned, which at times saddened me and at times frightened me, as well as to allow my readers a view through my lens.

After my story I present the stories of the pilots in an virtual focus group. Conducting a focus group to collect my data may not have allowed my participants the privacy to be candid in their responses. I wanted authentic answers to questions that may have been uncomfortable to answer in a group, leading me to opt for individual interviews conducted in private settings.

When preparing to write the narrative to include in this manuscript, I considered presenting each participant's story as a solitary whole as a way to keep voices authentic and true to the interview context. As I listened to the pilots in the interviews, and later as I read and reread the transcripts and my accompanying notes I began to recognize themes that echoed literature on sub-baccalaureate retention. I organized the themes that emerged from the interviews into categories presented in chapter 2; themes that did not align with the literature are presented after themes that do align with the literature. With the data organized, I decided to create a focus-group style transcript written as though all participants were together while these questions were being asked and answered. This allowed me to eliminate redundancies while allowing each participant's response to give verbal support to the others. By taking advantage of a second

interview with three of the four participants, I was able to get multiple perspectives on topics raised by participants themselves as well as topics I raised. The focus group presentation allows discussion of each theme in turn, creating concentrated attention on a topic before moving to the next topic.

Researcher Perspective: Becky's Story

My husband is a helicopter pilot. And I made him that way. When Joe and I met in a dumpy coffee shop in 1989, his dream was to fly helicopters. For Christmas 1997, I gave him \$1000, wrapped in a box under the tree. It was seed money. Over the next year, we added to the fund until we had enough money to move from our Michigan home to Oregon where he wanted to train. He had looked at many training schools, including some with intensive programs and daily lessons and flights. Because we needed two incomes to sustain our lifestyle, he decided on a school that offered an individualized program tailored to his schedule. His first flight was on October 27, 1999, and he earned his private pilot certificate on April 6, 2000. I had never been happier for him.

Then, part of the way through his commercial training and without forewarning, my husband announced there was not enough money for him to finish training. We had taken a second mortgage on our home, maxed out our credit cards, and there were no other cash sources to tap. We stood crying in our sheep pasture, ignoring the light mist falling around us wondering if he would make it through.

But I was not about to let it end that way. We had come so far. Long weekends apart from one another; listening to videos of two of the most boring people in the world explain some of the driest principles of flight; and did I mention a second mortgage on our home? I wasn't willing to let it end because of the potential payoff. He had taken me flying a few times. I don't

like to fly. We went to the Oregon coast and had the most breathtaking experience flying along the shore. One evening we flew into downtown Portland, landed on a rooftop heliport, then launched a diving takeoff over the Willamette River. We even took a flight over the hobby farm we owned. I don't like to fly. But I love remembering the look on my husband's face as we chugged along in a Hughes 269A model. It brings tears to my eyes even now, nearly 12 years later.

"I drive a brand new car. We have a little bit of stock. We've never asked any help from our parents. We'll cut back. No more shopping; no more eating out. Mac and cheese if that's what it takes. Sell my car. We have A+ credit. Find more credit cards. We can do this. I won't let this not happen for you."

And we found the money. I don't know where, and it doesn't matter. He finished his commercial certificate and his certified flight instructor (CFI) rating, instructed for a while at the school where he trained, then took a trip to Denver, Colorado, to get his instrument rating. While there he talked to the business owner who offered him a position, and in 2003 we decided we were headed to the next phase of our life.

But as many well laid plans, we hit a snag. We still owned a home in Portland, my husband was uncertain of his ability to make enough money on his hourly wages to support us should I not be able to find a teaching job, and neither of us thought of Denver as an ideal long-term home. This time the tears came over French fries at a local diner. We decided that I would stay in Portland and continue to make enough money to support both of us, we would sell the home and keep small apartments in both states, and Joe would move to Colorado and roll the dice at his new career. We felt this gave us the security of knowing he could return to Portland if

Denver didn't work out. In my heart, I hoped he would return to Portland. I had no real interest in moving to Denver, especially now that I had avoided it once.

The home sold fairly easily. (Don't listen to Joe on the matter. His perception is skewed by feelings of guilt over it having been his dream that forced us to sell the house before it had appreciated substantially in value.) I moved into a cheap apartment near my job. We commenced living and loving at a distance. We allowed in the budget for monthly visits, including being together any time I had long weekends or breaks from school. We talked incessantly on the telephone, and to keep in contact more closely I caved to technological progress and bought my first mobile phone. But we were both terribly lonely, and we knew this was not a long-term solution. (Although, honestly, 10 months felt long term at the time.)

When school was over in Portland in 2004, I packed my car and drove to Denver. One of our first conversations was about not being able to live that way any more. Hope springs eternal, and I was positive Joe would be moving home—back to Portland where we belonged.

Same diner, different tears.

I quit my job and flew to Portland to pack the apartment. When all was ready, we rented a giant truck and made yet another long drive half way across the country. I looked into teaching in Colorado and decided it wasn't for me. I had been concerned when I saw a bumper sticker that read "48th in Educational Spending and Proud," but I was shocked by the \$20,000 less per year I would be making as a first year teacher in Colorado, given my 13 years of experience and master's degree in curriculum. Apparently a new chapter was starting for me in more ways than one.

Joe's boss at the flight school needed some projects completed, and to keep myself from going completely stir crazy, I decided to help her out. The hourly wage wasn't generous, but it was enough to make ends meet while I was deciding what I really wanted to do for work.

Shortly after I started working for the school, the owner fell and badly broke both bones in her left forearm. She needed surgery to set the bones and a permanent plate was inserted to strengthen the healed seam. Now she needed full time help. More than full time. I practically turned into her arm. At the office I did everything she normally did except for sales. Data entry, student records, financial transactions, account auditing, purchasing: it all fell on me. I even began writing presentations and discussions for a monthly social-educational function we called "The Forum." I drove her to appointments for hair, nails, doctors, business meetings, sales calls; arranged her personal and corporate gift giving; kept her calendar and got her where she needed to be, mostly on time. I took a cake-decorating class and used those skills in a myriad of ways to support the business. I worked 70-80 hours every week, and she repeatedly raised my hourly pay to show her understanding of the vital part of the company I had become. Her arm healed, but I was so ingrained with the daily function of the flight school that I stayed.

And we trained pilots. They became CFIs, worked for us, earned their hours, and moved on. At that time, a pilot could get a pilot-in-command (PIC) job in the Gulf of Mexico flying for the oil industry with between 1,000 and 1,200 hours logged. Getting a second-in-command position, which paid considerably less, could happen with as few as 600 hours. We knew some pilots 'pencil-whipped' their log books, the industry term for the illegal practice of writing flights into a log book that never happened as a way of reaching the number of hours necessary to get a job, but we believed it never happened at our school, sticking our heads into the proverbial sand. Pilots from our school moved on to work in Nevada, Arizona, Alaska, and even

overseas. We enjoyed a reputation. We strutted with pride at conferences, displaying the company logo and knowing it would earn us dinners, drinks, and tons of free merchandise.

Meanwhile, I was learning about this peculiar industry that is aviation. From my husband's experiences training, I knew a little. I knew you had to have a commercial pilot certificate if you wanted to make money at flying. I vaguely understood it was cheaper to get a private certificate first, although I wasn't sure why. I also knew that geographic flexibility led to the greatest possibility of success in the industry. I had, in fact, learned that first hand.

What I learned on the job included a good deal about FAA regulations. The path to becoming a professional pilot is fairly straight forward. Fly a minimum of 150 hours acting as PIC; take a proctored, written exam; get your instructor to sign a form stating you are ready for your check ride with a designated pilot examiner; take and pass the commercial check ride; and you are now ready to make money.

I also learned why it is cheaper to get a private certificate first: With a private certificate, every time you are at the controls of the aircraft whether solo or accompanied, you get to log the time as PIC. Without a certificate, only solo time is considered PIC. Since much of the flight time necessary to prepare for the commercial check ride is completed with an instructor seated in the cockpit with you, not getting the private certificate nearly doubles the hours you must fly. Since 40 flight hours are necessary to take a check ride to become a private pilot, the next 110 required hours are all considered PIC time.

I found that many students get their instrument rating between their private and commercial certificates also as a money saving method. Although my husband chose not to, the minimum of 40 hours of training required to qualify for an instrument check ride can also be

counted toward the commercial hour requirement. By getting the instrument rating a pilot adds to his or her skill set while also acquiring a rating many employers insist on when hiring pilots.

One of the most disturbing aspects of aviation I learned is the role insurance companies play in what is required of pilots. While the FAA allows commercial activity by a pilot with as few as 150 hours flown, insurance companies that underwrite property and liability coverage require much more. To address this, pilots get a certified flight instructor rating (CFI), and take a job instructing others. This nearly mandatory phase of every pilot's career can last from several months to several years depending on a variety of factors. Student load is a big factor and it is driven in part by aviation funding sources, the nation's economy, the structure of the flight school, the instructor-student ratio, aircraft availability, the list goes on.

My husband was fortunate. He joined the Denver flight school at a pivotal time, and his skills quickly led to him earning the Assistant Chief Pilot position. His pay was still lower than what we wanted, but he was getting great flight experience, and the school had branched into more commercial enterprises, many of which my husband was able to fly. We had agreements with local restaurants and hotels to transport customers by helicopter, fly photographers for aerial views of both private and commercial properties and events, land maintenance workers on mountain tops to save time and money getting to remote, sometimes inaccessible locations.

And the insurance companies continued to wield their power. PIC hour requirements jumped nearly overnight for pilot jobs in the Gulf of Mexico from 800 flight hours to 1,500 flight hours. This significantly lengthened the time it took pilots to build the requisite hours as an instructor. Instructors, therefore, stayed with the flight school longer. New instructors found they were unable to support themselves only on what they earned giving flight lessons, needing to work part time at other jobs to make ends meet. Because instructors were available to students

less, it often took them even longer to build hours, and in a vicious cycle, work became less exciting and slower for our staff.

Meanwhile, I was continuing to learn about the industry, and not all lessons were positive. Friends quickly become enemies in a small industry, and hurt feelings take a long time to heal. Because of the amount of money necessary to purchase and maintain aircraft, many flight schools lease their fleet from private investors. Private investors are fickle. And they don't always make good pilots. Profit margins in aviation are small and can be deeply gouged when fuel prices rise dramatically without adequate time for price point adjustments.

The first time a helicopter at the school crashed, I nearly panicked. The sight of the collapsed support structure and the skids pointed nearly straight up made me shake, and I insisted on tarps being used to cover the wreckage while it sat in the hangar. In what was to be the first of many heart-wrenching 'break ups', the co-owners of the mangled aircraft, one student and one instructor, withdrew from the school. They filed an insurance claim that paid out \$10,000 and lost the flight school owners a 'no loss bonus' of nearly \$40,000, and started a new flight school less than 12 miles away. I almost left the school. I was at a loss about how people I considered friends could make such choices.

Our flight school survived. We found new buyers for aircraft to lease back to the school, watched competitors open and close down the tarmac from our location, and continued to grow as a school and a commercial flight company. We had a couple more crashes, called accidents or incidents in the industry depending on severity. None of the accidents occurred during flight training, so our record was unsullied in that respect. Thankfully we never experienced any injuries to people. And each time, we bounced back, finding new ways to bring in cash to sustain our business.

But funding for training had started to change. One of our biggest sources of student training loans for students, a non-profit that offered low-interest loans for pilot training, folded after selling their notes to aggressive investment companies. Pilots who had used the program now found themselves without the means of paying for completing their training, and persisting in training had been written into the terms of their loans. The investment companies forced students to begin repayment, and late or missed payments meant heavy charges were tacked onto what was owed. More than one student was forced to declare bankruptcy while others took second and third jobs to make payments.

At the same time, a large company specializing in student loans changed its policy and excluded flight training as an eligible educational pursuit. This further crippled our students' avenues for securing funding.

My husband and I, confident in his position at the flight school, decided to build a house. We chose a gorgeous one-acre lot in the foothills outside of Golden, Colorado, and built an amazing home that was way out of our price range. Six months into the project, we realized we would never be able to make the payments, so we put the unfinished home on the market hoping to sell it before it was finished. When it became obvious no sale was forthcoming, Joe, who with 2,500 flight hours had become restless in his career as the assistant chief pilot, accepted a position in Louisiana flying personnel to oil rigs in the Gulf of Mexico. He worked a two-week 'hitch', which earned him two weeks off. It was separation living all over again.

We finished our home and immediately took on a roomer to help with the mortgage. We had at least one roomer for three of the four years we lived in the house and much of the time we had two roomers. With their help, we were able to make the payments. It also helped that Joe

was able to get extra workdays, which kept him away from home more, but the money was badly needed.

At the flight school, we were applying for the right to train former military pilots using funding through the GI Bill. The application process was rigorous and it took months, but when we were finished we were the first stand-alone rotorwing flight school in the nation to be certified as a training center accepting VA funding. (The others in the United States were attached to two or four-year colleges.) This opened training opportunities for veterans uninterested in pursuing an academic degree. We enrolled one, then another, and the feast was on.

At the same time we were transitioning from Part 61 flight rules to Part 141 with the hope of opening new funding avenues. Under Part 61, any CFI can instruct and recommend students for written tests and check rides. Because there are no quality controls on the instruction given to students, check rides must be conducted by an examiner designated by the FAA. Under Part 141 rules, the flight school uses an FAA-approved curriculum to instruct students. This allows the school to hire an internal designated pilot examiner who can also act as a flight instructor. Recordkeeping requirements and random inspections are more rigid under Part 141, but the potential for a dramatic increase in students was the payoff.

To help fill the boredom of living without my husband, and to fill some of the lonely evening hours, I enrolled in one of Colorado State University's Ph.D. program. My boss understood my educational goals and gave me full days off on Tuesdays and ½ days off on Thursdays. Half way through the first semester of classes she insisted on giving me a raise and full days off of Thursdays. She said I needed more time to study and understood the financial constraints I was under. She also gave me a company laptop computer to use until I could afford

to get my own. Her sister edited my papers. Her parents let me stay at their house to cut the 180-mile round trip commute to campus down to 30 miles. Their support of me was overwhelming and I worked Saturdays and Sundays to help keep on top of the never-ending paperwork and to show my gratitude for what they were doing to support me.

And just when all was going well, the bottom fell out from under the school. One of the students got his feelings hurt by the owners and started a campaign to put us out of business. He opened his own flight school within shouting distance of our flight school, convinced aircraft owners to remove their aircraft from the leases with us and lease them to him, talked more than half of our instructors into leaving us and flying for him, and stole student records and began wooing our students. It was ugly and distracting. I found myself unable to focus on my studies while not at work and panicking about my grades while at work. The quality and quantity of my work suffered in both my roles.

One particularly difficult Saturday after work in June, 2010, I called my boss—my friend. I asked if we could meet, said I needed to talk to her. She responded that it was about time. She had known for months I was no longer able to balance work and school, and the stress was wearing on my nerves and affecting every aspect of my life. She had been grooming her newly high school graduated daughter to fill some of my duties, and she assured me they would get along just fine. She wanted me to know that whatever she could do to support me, she would do. A couple weeks later they threw a surprise farewell party for me, poorly organized because I wasn't in charge, at which I cried.

Shortly after I left, the company was 'blessed' with a new partner who was able to secure funding for a whole new fleet of aircraft and the business took off again. Unfortunately, their new partner misappropriated investment funds, the investors called in the loan notes, and the

flight school was left with no way of fulfilling the government and corporate contracts we had earned and a training staff with only one aircraft to share among them. This frightened and confused students, and the business's reputation suffered damage. Not to mention there were no funds to run their business. Instructors who had enough flight hours found new jobs as instructors at a variety of schools. Many students found new schools to complete their training. And the owners started to rebuild their business. . .again.

As I write this, the business has once again bounced. The experienced staff left the school, which significantly lowered payroll expenses. Many students remained loyal and rode out the storm, finding excitement as new aircraft were purchased and the fleet grew again. I continue to be friends with the owners and their family, current and former staff and students from the school, and a variety of contacts I made while employed there. Many of my dearest friends are people I know from that chapter in my life.

When it was time to decide on a dissertation topic, I felt it was natural to choose something in aviation. I stumbled around and finally found myself standing in front of the question of why some of my friends had never finished training. One of my favorite people, a gentle soul who makes me laugh and think, began his training while my husband was still working at the school. He is still only a private pilot with the aspiration of being a professional. While talking to a dear friend of mine who is a former flight instructor at the school, I learned his girlfriend had given up on flight training with 200 hours PIC and only her CFI check ride standing between her and the profession. I knew a big oaf who made me smile with his honesty and insistence that he was going to get this thing done, even though he would be away from training for months at a time. I knew a former soldier who seemed to have been working along nicely, until suddenly I realized he wasn't around anymore.

What had happened to my friends? Why hadn't they become the professional pilots they had wanted to be? And what could we, the flight school, have done to help get them to where they wanted to be: in the cockpit?

The Pilots' Stories: Restoried as a Focus Group

To facilitate clarity and keep true to the materials gathered in interview sessions, dialogue that is created to add fluency to the imagined conversation but was not a part of an interview is presented in normal text. Dialogue quoted from interview data is presented in *italicized text*. Names of participants and flight schools have been changed to maintain confidentiality. To maintain unique voices and perspective in the story, participants' words are never credited to a different 'character' in the focus group script. To facilitate readability, grammar has been standardized in quotations from interview data and in places words have been changed to indicate a response to another participant when a participant was in fact speaking only to me.

Three of the four participants were interviewed in person in a flight school office. The fourth participant now lives out of state and was interviewed by phone. The in-person versus phone interview dynamic will be further discussed in chapter six, but is not addressed in the focus group script. With three participants I conducted two interviews each and one interview with the fourth participant. Data from all interviews are included in the focus group script. All interviews were conducted in a private setting and the focus group script is written with the same candor and vocabulary the participants exhibited in the interviews. A glossary of terms is included to aid comprehension.

Focus group context.

Each focus group participant is a former helicopter flight student. Mandy has self-identified as a drop out, here defined as having no intention of returning to training. The other

three participants self-identify as stop outs, defined as intending to return to training. Both Samuel and Hobbs still intend to become professional helicopter pilots, while Robbie has redefined his aviation goals as recreational. None of the pilots are actively flight training; however, Hobbs is continuing with ground training.

Focus-group setting.

The focus group takes place in the flight school hangar seated in the pilot lounge area, which has two couches, a love seat, coffee table, and coffee and snack cart. Belying the large spacious white space is a feeling of welcome and warmth created by bright blue offices and instruction cubicles. Adding to this welcoming ambiance is the pilot lounge area with the ubiquitous refreshments. From my experiences with the flight school, the hangar becomes a second home for students, instructors, and staff, but there are no other people in the hangar at the time of the focus group's discussion.

Characters.

Becky: Researcher and Interviewer. Becky worked at the flight school where the participants studied flight training until 18 months before the research began. She knows all participants from when she worked at the school.

Hobbs: A 27-year-old male. He entered a public service cadet program after high school and began taking college classes but has not earned a post-secondary degree. He has never held a professional job and his previous career aspirations included military and law enforcement. Not in a romantic relationship, he lives alone and regularly spends time with his parents. He holds a private pilot helicopter certificate and has successfully passed his commercial written exam. He is currently taking ground school but has not taken a flight in over a year. Hobbs identifies his weight, which is 30 pounds over training aircraft seat limits, as the primary cause to training

cessation and intends to return to training as soon as possible. All his training was completed at Copters West.

Robbie: A 38-year-old male. He completed trade school after high school and is a licensed electrician with regular employment. He and his wife have a young son at home and he has an older son not at home from a previous marriage. He holds a private pilot helicopter certificate and has not trained in over a year. Identifies life complications as primary cause of training cessation and identifies his current goal for flight training as recreational. Began training at Premium but transferred to Copters West when Premium went out of business. Both schools are in the same state.

Samuel: A 32-year-old male. Currently in his final semester of an online bachelor's degree program he considers a resume builder as it is not needed for an aviation career. He is ex-military where he worked in munitions. Currently he is living with his girlfriend whose two children from a previous relationship live with their father. He holds a private pilot helicopter certificate and an instrument flight rules rating. He has not trained in 18 months. Identifies money as primary cause of training cessation and intends to return to training as soon as possible. Completed private certificate training at Premium then transferred to Copters West where he completed instrument training.

Mandy: A 26-year-old female. Has a bachelor's degree in communications. Currently working as a waitress. She lives with her boyfriend and is emotionally close to her parents. She holds private and commercial pilot helicopter certificates, and an instrument flight rules rating. She has not trained in seven months. Identifies changed life priorities as primary reason for training cessation and has no intention of returning to flight training. Completed private certificate training in Ohio,

transferred to Copters West and completed instrument and commercial ratings, then transferred to a Florida school for CFI training. Did not complete CFI training.

Cast of secondary flight characters.

Aaron, Alan, Alvin—Flight instructors at Copters West

Alice—Female flight student at Copters West

Connor—Former flight instructor at Copters West, Mandy’s boyfriend

Mack—Owner of the now defunct Premium Helicopters

Trent—Chief pilot at HAATS

Glossary of terms.

To facilitate comprehension, I have included the glossary of terms before the script.

333 (read triple three)—Schweizer 269D Model helicopter. A four-seat helicopter designed to be a personal, training, or corporate aircraft.

ASI—Aviation Safety Inspector. FAA officials responsible for regional oversight of all aspects of aviation safety.

CFI (Certified Flight Instructor)—A person who is authorized to teach others to fly.

Commercial Certificate—authorization granted by the FAA allowing individuals to charge fees for performing the duties of a pilot.

Fuel Load—The time an aircraft can stay in the air is a function of the amount of fuel in the tanks. The amount of fuel in the tanks is limited by weight of the aircraft and everything in it, air temperature, and altitude at takeoff. Shorter training flights increase costs due to the necessary start up and shut down time, and creates a very short time for repetitive practice of skills.

GI Bill—Earned by members of the military and pays for post-secondary education

Green Areas—Normal range of values such as rotations per minute and angle to the ground allowed during flight. Operation of an aircraft outside of normal range can cause damage to the aircraft or may cause an emergency situation.

Ground School—Lessons in the knowledge portions of flight training.

HAATS—High-altitude Army-National Guard Aviation Training Site. Where Army National Guard pilots receive instruction in high-altitude flight.

Heli-hiking—Recreational activity in which hikers are taken to their starting point by helicopter.

Hours and Hour Requirement—The number of flight hours a pilot has logged. Each company sets a minimum number of flight hours for employment as a pilot. This varies depending on insurance requirements, customer requests, and the ratio of jobs available to pilot candidates.

Instrument Rating—Given by the FAA upon successful completion of at least 40 hours of flight training, and written, oral and practical tests, allows a pilot to fly without benefit of seeing outside the aircraft. Used in bad weather.

Part 61—Federal Aviation Regulations Part 61 governs flight training without pre-existing curriculum. Pilot applicants must be tested by an FAA examiner or designated examiner who works independently of the flight school and instructor(s).

Part 141—Federal Aviation Regulations Part 141 governs flight training at schools using an FAA approved curriculum. Schools operating under Part 141 rule may use an internal flight examiner.

Private Certificate—Allows an individual to exercise the rights of a pilot but not for compensation. Pilots holding only a private certificate must be responsible for at least half of the cost of operating the aircraft.

R22—Robinson 22 helicopter. A two-seater helicopter designed to be a personal aircraft.

R44—Robinson 44 helicopter. A four-seat helicopter designed to be a personal, training, or corporate aircraft.

Testers—FAA examiner or designated examiner. Under Part 141 rules, a flight school can retain an examiner on staff.

VA—Veteran Administration. Responsible for administration of GI Bill.

Script.

Becky: Welcome to today's focus group on pilot training. You have each been asked to join us today because when you began flight training you expressed interest in becoming a professional

pilot. Each of you intended for helicopter flight to be your next career, and yet something has stalled your progress. For each of you, it has been at least seven months since your last training flight.

Personal factors: Intrinsic.

Becky: *I want to start today with each of you telling me a little bit about how you decided you wanted to be a helicopter pilot. What led you to that?*

Robbie: *Well, first off I was at a hobby store and I saw some remote control helicopters. I saw this one that was hanging and I wanted it. And the guy was like, “No, it’s too much money. You can’t afford it” and this and that. And I told him, “I want that helicopter. Give me all the parts and pieces that will make it fly. I want it to fly. When I take it home, I want it to be able to fly.” He sold me the stuff, and it cost me like 2,300 bucks. I took it home and put it all together, and I flew it. And it was fun. Crashed it, but I flew it.*

Later I was working on the road in Texas, and every day I saw helicopters flying in the sky. There were hundreds of them, and I was like, “Man, that must be cool.” And I told my girlfriend, now my wife, “Hey, I want to fly helicopters.” And I found a school, and I started flying.

Mandy: *I was on vacation in Alaska with my family, and we did some heli-hiking. I had graduated college the year before, right when the economy took a dive. So I was nannying at the time, and we took a family vacation to Alaska and went heli-hiking. Our helicopter pilot was a female, and I befriended her. And I was just like, “Wow, I never even thought about doing this. I wonder if I could go do this.” I didn’t have much else going on at the time. I had an advertising degree, and I couldn’t get a job in advertising. So I was like, “Well, I need a plan b, this sounds like a good idea.”*

Becky: *Hobbs, what about you?*

Hobbs: I knew I wanted to be a pilot since I was a little kid. My grandpa took me flying when I was like seven, and since that point I was hooked. And I did the fixed wing world for a little bit after I graduated from high school, but I was sure that I was going to become a police officer at that point, and the only real opportunity was a helicopter position in the police department.

Becky: And Samuel, when did you first think, “Hey, I want to be a helicopter pilot”?

Samuel: I’d done two years as a contractor in Iraq; and I didn’t want to be a contractor in Iraq anymore; and I was looking for something else to do. It just kind of came to me. I had a little bit of extra cash, and I figured why not. Plus, my dad’s got a buddy that does it, is a helicopter pilot. That’s probably what planted the idea.

Becky: What keeps the three of you motivated for flying?

Samuel: In the military I was a . . . what was the official title? Ammunitions Systems. We rigged up bombs for the planes to drop; rigged them up, wired them up, tested guidance systems on missiles, and things like that. That didn’t have a whole lot of application once I got out, so I looked for something else to do. I’ve always been interested in flight. It seemed like a really cool thing to do and helicopters were cooler than the rest of it. And I had flown around in them before, not as a pilot or copilot, but it seemed really cool.

Hobbs: Just after high school I was in the Denver Police bird on a ride along. I was in the public safety cadet program, and we worked with the police, fire, and sheriff departments. And we were required to take two rides a month with any of the branches. And the sheriff stuff was boring. Court room experiences. The fire stuff was fun and exciting, hanging off the back of a fire truck, sitting inside the bunking gear helping them out. Dragging hoses and stuff. Being the new guy and getting shat on a whole bunch. Well, I expressed a high interest in aviation, and the manager of the cadet program, kind of as a pat on the back and a thank you for taking a pretty crap

assignment for them, put me up in the bird, and I got to ride around with them for six hours. That was great.

Robbie: I want to fly helicopters as a hobby, along with golfing. I figure I can fly to a different golf course and go golfing. That's my thing, so whatever makes that happen is what I'm going to try to do. It might not ever happen. I might not ever get to fly a helicopter for leisure time. But it's a thrill, you know. I just like it. I like it.

Becky: Robbie, did you start with the intent of doing this as a job?

Robbie: At first, yeah, because the electrical industry is always up and down. It flip-flops, and normally in the wintertime there's no work, there's nothing for us to do. Or people aren't hiring during the winter. So it was like, "What do I do now?" And I figure if I was flying I could work for some tour guide people or fire fighters. Because every year, I don't care where you're at, we get fires in the summer. They put those out with helicopters too, before the ground trucks come. But that was my intent. I didn't care if it was Flight for Life that hired me, and I got to fly, you know. Or the news channel. I figure the news channel wakes up early in the morning, about three o'clock, they go fly and give you all the reports. Nine o'clock dude's done. They don't fly any more. Another crew's going to come in and do the afternoon. That's my thinking on it. So if it ever happens like that then great, you know, but until then I'll just keep twisting wires and pulling wires through conduit. But it's just fun. It's another little thing like being an NBA ball player or a NFL ball player or Derik Jeter or somebody. They say they love the game. They play because they love it. They don't want to do nothing else. And it's kind of like that. I got the two things, you know. I'm electrical because I been doing it since I was like eighteen years old, and flying because your office is six thousand feet in the air.

Mandy: I love flying. Aviation is fascinating if you're into it. The aerodynamics, all the instrument work, and you never think about that stuff unless you're learning about aviation. But after it stopped being all really new, cool, interesting, all of a sudden it was, "Oh, I'm going to have to do this for the rest of my life? For my job? Oh, wait a minute. Maybe this should have just been my hobby." But, I mean it's an expensive ass hobby to have. I think aviation is awesome. I love flying, but the commitment level isn't there for professional. And I found that out harshly. But, you live and you learn, I guess. I guess I've learned as I've gotten older that for me personally a career is just something you do. It's not your whole life. To me having a family is more important. A job is just something you do; your family is the rest of your life. I think it's a lot of fun, but I'm not willing to make it my whole life.

Becky: Did any of you consider fixed wing over rotorwing?

Hobbs: I did the fixed wing world for a little, but, um, my fixed wing instructor actually got into a fatal accident. Crashed. Died. So I got into a state of panic and thought "Fixed wing isn't the way to go." I went through a little bit of a scared state, didn't know what I wanted to do, and then one day just decided, "Alright, it's time to get moving. Are you going to go back to fixed wing, or are you going to move over to helicopter stuff?" And I thought, "Well, you have more control in a helicopter. You can stop when you need to." So I just decided that's where I needed to be.

Samuel: Nope. Helicopters seemed a little cooler.

Robbie: I just want to go, "Hey, let's go flying." Pay a little money, rent the helicopter, and be gone. Bring it back, put it back in their hangar, and go about my business. That's what I want to do, have fun like that.

Becky: As I said, it has been quite some time since each of you has taken a training flight. What seems to be stopping you from flying right now?

Mandy: Motivation. You have to be self-motivated to do a lot of this stuff, and it's a lot more of a struggle to be a CFI than they make it sound.

Hobbs: My weight. I'm heavier than the seat allowances for the birds. I want to get under 300 pounds because that's the seat limit for the R44, and I want to take my check ride in the R44.

Becky: And what are you doing to get there?

Hobbs: Salads. Chicken, fish. I just got a video game that turns your body into the controller. I'm down 5 pounds because of that. It does crazy amounts of cardio. I got a bike; I stopped riding it because it hurts the tailbone.

Samuel: I got my private mostly in the R44s at Premium.

Becky: They flew R22s up here too, didn't they? And an R22 is cheaper. Why didn't you fly those?

Samuel: They did but between me and most of the instructors at the time we would have had about 45 minutes worth of fuel and still be able to take off during the summer, so I just got to work in the R44s.

Robbie: For me, I'm not flying because I was working and then I wasn't working and then I had to take care of home. It's like really hard to keep flying when you have a bunch of stuff on your plate, you know.

Becky: Can you talk a little bit about that piece you just glossed over, the working and the not working and the home?

Robbie: Well, what I mean by that is when I got off the road and was working local, like three maybe four years ago, I was able to fly a little while, do some training. Then a job would come

up and I wouldn't be able to train. Also, I work in construction, I'm an electrician, so I'm working 50, 60, 70 hours a week. So it was really hard to come home and then study flying and try to get up to the airport to fly. Basically the travel time from my house to school is 45 minutes. And when I wouldn't work I would be frustrated, because I can't provide for my family. So I was getting frustrated, and I couldn't do anything. So I would try to do odds and ends and just keep the house in order. It wouldn't be fair for my wife to come home, dishes still in the sink, you know what I mean? It just wouldn't be fair. And now a days everything's supposed to be all fifty-fifty and stuff like that. Beside that, her and I have to work for us to live happily ever after. So whatever I have to do I try to do, and when I'm not working I do have to do the house thing.

Becky: Samuel, what about you?

Samuel: Uh, money. My dad has agreed to loan me the money to finish it off, but with the requirement that I have some other kind of income, because that's what screwed me before. I had enough money to pay for training but I didn't have anything to live on, so I ended up paying rent with it, you know what I mean?

Becky: So how did you get this far?

Samuel: The GI Bill.

Becky: Do you want to talk about that a little bit?

Samuel: Like I said, my dad's got a buddy, and that's what planted the idea. After contracting in Iraq, I was looking for something, and I decided on helicopters. I called around to a few places. I was looking for a school that was accepting the GI bill and I got ahold of Premium Helicopters, when they were in business down the road there, first. And the guy was a little less than honest about his status with the VA, but I didn't realize that until I moved out here and started. He said

that he was really close to being certified to take GI Bill funding, and when I got down here it turned out he was nowhere near certified.

I ended up, well, then I looked into it more, and I figured out that the VA wouldn't help out with any of the private license so I figured I'd just get that done, and then I'd figure out a place that was current with the VA to finish it off.

Once I got my private I started pressing him pretty hard about it, and it just finally came out that it wasn't going to happen anytime soon. I think one of the admin girls there finally was like, we were just sitting around talking one day, and she was like, "Oh, you know, I think Mack's full of crap. I don't think we're anywhere close to getting this."

Becky: But you didn't know that before?

Samuel: No I, when I first came down I was under the impression that they would have it very very quickly. After I heard that they weren't going to have it anytime soon, I, well I worked for a little while because I wasn't sure what I was going to do with myself. I didn't even realize Copters West was there for a while for some reason, and when I finally heard about them, I checked in with them and started back again.

Becky: Then you went to Copters West trying to work out the VA funding. And how's that worked out?

Samuel: I think the VA eventually got me back the 60% or whatever, for my instrument rating, but it was never. . .They paid it out really weird. They kept giving me little \$200 deposits. You know what I mean. I can't remember how much I spent or how much they owed me; but, I was expecting. . .I spent like nine grand or something and I was expecting like five of it back or whatever, and I eventually got it, it was just it was paid out really weird, and I have no idea why. I could never get a hold of anybody with the VA to explain it to me as far as what was going on.

Becky: And did you work while you were doing your training for your private and instrument?

Samuel: For a while when I was with Copters West I worked; but I got it through a temp agency and there was only a certain amount of hours they let me work, and then I had to do something else. And my time with the temp agency expired while I was training with Copters West.

Becky: Is the VA going to pay for more pilot ratings as you go along?

Samuel: I need to look into it again. I think they just put some new things into the post 9/11 GI Bill, and I think it might be a little better for this kind of thing now. I need to look into that a little closer, but yeah, I'm still planning on using it to finish off my ratings at Copters West.

Becky: Mandy, was money an issue for you?

Mandy: Well, not anything like that. My parents loaned me the money, so I've got a huge loan. My mom was in corporate finance forever. So she refused to let me take out a bank loan because of the horrendous interest rates that they put on us poor people. So mom and dad offered me a loan interest free. I pay them back monthly. Granted, I would much rather be in debt to them than to a bank or those student loan people. Because, if I can only afford to give them a certain amount that month, then they're okay with it. They understand my situation at the moment. So, I'm really grateful to have a loan from them. But, being a CFI kind of like sounds like a penniless existence for a long time. And that wasn't what I expected.

Becky: Hobbs, do you mind talking about your weight? What are you doing to work on that?

Hobbs: Well, we talked about the salads and fish. And a little cardio on the video game. But I got to this weight because I was wicked depressed and ate a lot of cheeseburgers.

Becky: Were you diagnosed with depression? Was it situational, or was it medical depression where you were medicated?

Hobbs: I've never been medicated, but I've always been a pessimist. So, delving in on your own pessimism after a while, just kind of hanging out on the low side of things, and from time to time you forget to look up.

Becky: Can you talk about some of what was going on in your life pushing you down?

Hobbs: First, there are times where I miss my friends that all went into the military, and they have this specific life style, and they are all pretty much done with their tours at this point. They're buying houses, starting families, getting cars and stuff, and I'm still, you know, 27 almost 28 years old stalled out, doing my thing, playing video games and occasionally going to school.

Personal factors: Extrinsic.

Becky: Hobbs, had you considered going into the military?

Hobbs: I always wanted to be a pilot. Since I was a little kid I wanted to be a pilot. And then I went through high school in a paramilitary organization, with ROTC. And I loved that structure. When I started talking about flying, you know, my parents realized that it wasn't something that was going to go away anytime soon, and I would have to get through it. And going through high school I was fairly convinced that I was going into the military and become a reservist. I wanted to fly Apaches. We were one of the higher ranked schools in ROTC drill, so we were pretty well known, at a national level. We would have instructors from military academies come in and grade our program. So, after a while you work in a program that is doing successful things, and making successful progress, and you have a bunch of recruiters start to take note, and they come to you because they're trying to make their numbers. So, my good friend got an appointment to West Point. Everyone else that I knew went either marines or army, and when I sat down and had the talk with mom, of "Hey, it looks like the military is really the way to go. I want to fly.

How's this going to work?" That's when she said, "No. I'll pay for your flight school. Stay out of the military." The agreement was made.

Becky: Did your mom come down and say you're not going in the military, or was it as you just characterized an agreement between the two of you?

Hobbs: My mom is the kind of person that will let you do whatever it is that you absolutely want to do. And she made it very clear what a shame it would be if I threw away our relationship as well as the method in which she raised me to go into the military in a time of war and probably get assigned to an infantry unit as opposed to a flight unit or a flight wing. And, yeah, she said, "You're not going into the military." And of course I combatted with, "Well, I'm almost eighteen. I can do what I want." And she said, "You're right. You can do whatever you want. You're not going into the military." So, yeah. She did forbid my entrance into the military. I could have gone behind her back. It was funny. We were down at Fort Carson a little while back and somebody said, "What about you," because I was with two people who are military reservists, and we were talking to guys that were department of defense, DOD, air traffic controllers down there. And one of them turns to me with his swagger and says, "What about you? Are you an ex-military?" And I went, "No, momma wouldn't let me join." And he looked at me and said, "Well, my momma wouldn't let me join either. I told her to go fuck herself and went and signed the papers." And that's just. . .I. . .I'm sure there's a position for people to do that, but, I. . .I don't know. . .I owed her more than that. So, I wasn't going do that. There were other options available, and I took them.

Becky: What other options?

Hobbs: My mom had said, "As long as you don't go into the military," because she's a total hippy, "As long as you don't go into the military, we'll assist you in flight training."

Becky: And are you taking classes now other than the flight training?

Hobbs: This is it. Being here and taking care of my family.

Becky: What do you mean taking care of your family?

Hobbs: I'm going through some family issues right now. My mother is sick and requires a lot more attention than she did previously. Um. So uh yeah. So my training, although it needs to be a priority because I need to be able to get out into the real world and start working, I have a tendency to keep my eye on my mommy. Hang out with my parents while she's in this weird state.

Becky: Does she require emotional care from you or physical care from you?

Hobbs: Both. She has to make three or four doctors' appointments a week and it's not every time that my dad can take her to these appointments, so there'll be times when I need to step in and take her. And then there are little things around the house that you don't necessarily. . .um, I mentioned that my mom is sick, she has cancer, and she's in round two of a chemo treatment, and she is sapped of energy. She is. . .She's dead after about five minutes worth of movement, so anything around the house that, you know, we take for granted. You know we go around our house, and we clean it for 45 minutes, and we sit down and enjoy our clean area. And she doesn't have that ability right now so I'll help her. She doesn't like it when strangers come into the house, so hiring a cleaning lady really isn't an option. So my dad and I will help her out. My dad's around all the time with her now so he doesn't necessarily. . .he contributes to the mess. He doesn't really pick everything up, so I'm kind of the outside entity that swoops in and gives her a hand with stuff. Just normal chores, yard work, you know. . .going to the store, carrying around bags of stuff, groceries. Just everyday life. Just helping her out with that kind of stuff. And my dad kind of got burnt out. He lost his job, and he took over managing her treatment. Making spread sheets of what pills to take and when and stuff like that. After a while of course,

he gets burnt out with that, needs a little bit of vacation, some days off. So I help them out. Do whatever I can. So the burden. . .it's not a burden. . .the responsibility of getting mom to appointments and stuff. . .I'm helping out a lot more. Plus, she's paying and I can't really take the money and be here flying and having it all when I should be helping out and spending time with her. Hanging out. Outside help isn't going to happen. She won't let friends help and doesn't want me to clean. She wants to do it all but just can't. So I need to be. . .I need to help her out and not worry about flying all the time right now.

Becky: You say she's still paying for your training?

Hobbs: Yeah.

Becky: But her illness doesn't allow her to work?

Hobbs: Correct

Becky: And your dad doesn't work?

Hobbs: He does not.

Becky: Can I ask where the funds, the finances come from? What's the family living off?

Hobbs: Savings, I guess. Savings, unemployment for my dad. The unemployment has recently run out.

Becky: Do you live at home?

Hobbs: I live in a home. I don't live with my parents.

Becky: And how do you pay for your expenses? Rent and. . .

Hobbs: Rent is not an issue as mommy and daddy picked up the house when we decided that I wasn't going to college and I needed to be out of the house, they bought a little house in south Denver, and originally I had been paying rent and everything, utilities, stuff like that. But rent at that point had covered the cost of the mortgage, and since then I haven't been able to pay for

rent; my parents are completely understanding. They have said take care of whatever you need to take care of. Get us cash when you can. So, I've not been paying rent. I do odd jobs around the house to help them out. If I need help out with power, stuff like that. . .water, they take care of that for me. Whenever I work and get a check, I usually turn that over to them, or pay off bills as best I can. So everyone's pitching in. But I'm still the leech of the family at this point. Which is kind of embarrassing. That is definitely motivation to get done in training.

Becky: And they're still committed to paying for your flight training?

Hobbs: Correct. The majority of my flight training is behind me. The actual flying portion is pretty much taken care of. The ground school, my ratings, and about 10 more hours of flight is what still remains. Thankfully the flight school owner has said, "We'll get you taken care of." So, I'm assuming it's going to be rack up some time on her behalf and then pay her back once I'm instructing. Help out where I can. Be a contributing member of the organization.

Becky: That's a lot of stuff to be carrying around.

Samuel: How do you concentrate when you study?

Hobbs: I do okay. I took my commercial written test and got an 87%.

Becky: Does anyone else have family care responsibilities?

Robbie: I have my son. And he's only like two and a half years old, so I can't really bring him to fly when I'm training. I can't bring him when I'm studying. Plus, when I'm not working I can't pay for him to go to day care. So I'm stuck and I can't train. And then I'll pick up work again. But when I'm working I don't have the time.

Becky: And now that you're working again, day care's not an issue?

Robbie: Nope. Because I'm working. I can pay for daycare now. Instead of just the one person working, paying the bills, now you got two people paying the bills, everything will work, because

it worked before. It worked really great before. Then when I stopped working it just put a damper on the training. There was no money to train and no money for day care, so I had to stop training.

Becky: Can we talk a little bit about what each of you is doing to get past the current hurdles that are keeping you from flying?

Robbie: I just need to fit the time in. It's just hard. Especially when you're trying to do something else. I don't have to do this. I'm doing it because I want to. I'm already an electrician. I've been doing that for like 16, 17 years, and it pays good when I work. Some people play basketball as their hobby. Some people golf as their hobby. I want to fly helicopters as a hobby. So, now I'm at the point where I have to quit working on Saturdays and Sundays. I'll work seven days a week just because it's what I'm supposed to do. You know, no free time for me. But, I'm going to make time because I'm prolonging this too long. I still don't have the ratings. And I know a lot of people that want to fly, and two people I know want to buy a helicopter so I can fly. But I can't do that if I don't finish. I'm making the time now. Every Saturday or Sunday, every weekend basically I'm going to have to come. I'm going to have to finish. It's got to get done. Just so I don't have to be like. . .hell. . .you know what I mean?

Samuel: I know what you mean, but it's not that easy for me. At the moment I'm kind of stuck until I find some regular employment, you know. Right now I'm headed to Idaho to stay at my parents' house. I got ahold of a guy I used to know that does general contracting stuff, basically moving heavy stuff for him for a couple of weeks. He just needs an extra pair of hands. He's trying to get some stuff done before it snows. So I'd rather not work in a fast food restaurant, but when I get back to Denver, I may apply at Starbucks. I try to send out one resume every day it seems like. And it's always the same thing. All I ever get is an email or a call saying, "Alright,

we got your stuff. We'll give you a call as soon as we start the actual hiring process." So, the only thing I have going on right now other than my classes at college is just finding something, some kind of income to get the loan money out of dad.

Becky: Hobbs, what about you? What are you doing to move forward?

Hobbs: I'm doing a lot of self book study. I teamed up with a guy who is trying to get a CFI license and we've been bouncing ideas off of one another, having many in-depth conversations about all things flight related. I'm building my CFI book. Whenever I come across an aha moment, I throw that down in the book so that when I do go to take the CFI test I have a lesson plan all ready to go.

Academic.

Becky: How was learning the knowledge portion of training for each of you?

Samuel: Yeah, the ground school part I've always had a really easy time with.

Robbie: I'm an average person. I might have to read it a few times to really understand it, or to get it. I'm the visual type. I'm the hands on type. You really can't. . .the book is Chinese to me. I don't understand it. I have to sit down and read it over and over and over and over again. And finally, it's "Oh man; that's what you've been saying?" Then I get it. But if you tell me what you want me to know, or read it to me, or I read it, and then you show it to me, you show what you're talking about, then I can do it.

Mandy: I think it is extremely challenging. Sometimes I felt like it was harder than college; because, it's a lot of information that's not easy at all.

Becky: How do you find the course work, Hobbs? Is it easy for you?

Hobbs: It's not, because it's all presented to me in textual format via textbooks and handouts and stuff like that. And I'm a. . .lack of a better term, I don't know if I'm using it right, I'm a very

kinesthetic learner. I have to have my hands on things. I can read about things for hours and hours and hours on end, and I get bored, and I'll retain most of it; but, if I'm not using my hands to do things, then I don't get why you're doing what you're doing. So bookwork is kind of tough, um, and I realize this is just a beast that has to be tackled in order to complete the process, but it's kind of a pain.

Becky: As you've been studying and working with the instructors and working with the material, have you ever thought, "A better way to do this would be 'blank'. If you could only teach it to me this way instead." Have you ever come across those things?

Hobbs: Yeah, definitely. Um. Our ground school consists of sitting down with somebody and having a conversation with them. And the whole time you're doing that, you're still sitting down. If, when I become an instructor, I will not be sitting down. I'll have a computer in front of us to show us videos of, you know, break downs of things and how things work. And I will have a hands-on approach. I feel like people see. . .people are bombarded with images and words and stuff every single day from the time that they wake up to the time that they go to bed. Nothing really stands out. You know, I definitely. . .personally I always remember the stuff that I have my hands on, so, instead of sitting down and having a conversation about things, which is going to be required for portions of it, I would like to have a majority of it, you know, touching aircraft parts, understanding what is connected to what and how that is working instead of just talking about it.

Mandy: I'm definitely a hands-on learner. If you can show me something, for example on the helicopter, if you're going to teach me about the engine if you go show me all the different parts, that's way easier than just out of a book. Or using visual aids. And that was the other great thing about aviation, it's hands-on learning, or you can pick up a toy helicopter and move the airfoil

around, and that's exactly how it works. It's right there in front of you. But that's definitely my learning style. Hands on. I'm not a big book learner.

Becky: And, Hobbs, have you brought this up to your instructor at all? Said, "Can we go look at a real helicopter and see what you're talking about?"

Hobbs: I have, definitely. Um. There are times where it's well received and other times where it's just, "Well, we can work on something else right now." And it's just kind of glossed over. But, whenever I ask for additional training in a specific area I am getting it, now. Not so much a while back. I've. . . I don't know if this is a specific situation, or I don't know if I'm alone in this, but I've been through 13 instructors; that's quite a few. I mean I get pawned off from person to person to person. So, the guy that I'm with right now, he's solid. If I ever say, "I need to understand how this works", he's in-depth and doesn't leave the conversation until he thinks I have a firm grasp on what's going on. So, I'm thankful to have him around right now, but, like I said, it wasn't always the case. It was, "I don't understand this," and we'd move onto something else to talk about it later, and it'd never come up again.

Mandy: I've had a bunch of different instructors. The first instructor I had for my private, he was a super nice guy. I was his first and only student, which was great because he was super attentive and really excited about it; but, I think when it came around to my testing and my check ride and my preparedness, I could have been a lot more prepared. I understand the first time is a little difficult; but, there was definitely stuff that I could have been more prepared for. And I might have suffered a little bit through my check ride because of it. But he was great.

At Copters West I'd say all my instructors. . . all around it was hard to find a bad instructor at that place, not just because they're all my friends, but it's true. They are all super willing to help you and informative. When I went down to Florida, my CFI instructor was horrendous. And

that's where you need to have his help for instruction and for guidance. Oh, this is the kicker: he was a student at my original school. He was a commercial or instrument student when I got my private. He was a nice guy, he didn't mean anybody any harm, but he was a brick wall, and that is just not the kind of personality I mesh with. Especially if I'm expected to learn from him and get pointers. I would prepare a lesson plan and give him a two-hour lesson that I prepared, and he would just stare at me. You know, and I'd do all the mock instruction, like, "Do you have any questions?" or "need examples?" and he was just a brick wall. And the feedback was just awful. Like, "Well, you had good eye contact." He would always comment on how I'd use a variety of colors on the dry erase board. And at the end of the day I just wanted to be like, "Listen, buddy. I have a degree in communication. I know I can communicate my point across to everybody. I learned four years in college how to communicate with people. I've got this stuff nailed. I want to know if I got all my facts correct. Or ask me a challenging question about aviation. I want to be able to know if I can answer intelligent questions." So that was the thing. I was like, "What am I learning here?" I know I can put together a presentation to teach somebody something. That's what I did in college. I mean, I would even tell him the night before. "Tomorrow I'm going to teach you this. Could you come up with five challenging questions?" Because that's the biggest thing; I can put together my notes and recite whatever; but, if somebody asks me a question, and I can't answer it, I'm obviously missing a big conceptual point of what went on in the lesson. And I don't want to get taken aback with the first student and be like, "Duh. . . Well, obviously I don't understand this enough to answer a question." I'd ask him to do that, and he just wouldn't. He'd be like, "Well I don't really have any questions." I'm like, "Really, do something." And that's how my training went for like three weeks. That's what we'd do every

day. I know all this information, and I can teach it to somebody, but am I going to pass the check ride? I feel like I was throwing my money away on this guy.

Robbie: But for me the learning part is not hard. The hard part is to get to the teacher.

Hobbs: I agree. We are. . .the flight industry is. . .I feel it's unique. Now, I have a very small fish bowl to be looking in at, so my perspective might not entirely be correct on this. I feel like you run into two types of people when you are receiving instruction in the flight realm. You run into a group who's genuinely interested in instructing. They thrive on that "aha" moment that their students get. As soon as the students grasp a concept, that is the fulfilling portion for them. It is secondary that they are receiving flight hours for these kinds of things. They're not. . .at least they're not making it apparent that they're doing it for a paycheck.

The other type of people are the people who are building hours. That is their number one priority. And if they're not building hours, they're not really interested in the material. They're not really teachers; they're just showing you what to do. And if they're not flying, that's the end of your relationship with them. That's as far as it will go. You know, I've had instructors who say, "If you need help understanding a concept, call me." And I've had instructors who say, "If you have problems understanding the material," I'm talking about homework, "If you have problems understanding the material, we'll talk about it next time." And the people who say we'll talk about it next time are, I feel like they're the ones who are building a paycheck. You know, "We'll talk about it next time so I can charge you for it." Whereas the other people say, "Call me any time, send me emails at any time, and I will help you come along." So, I don't know. Those are the two groups of people that I've run into. Additionally, I don't know if it's with every industry, but there are people who are trainers and there are people who are teachers, but that's what I've run into.

Robbie: Yeah, but I took matters into my own hands sometimes. *I do a lot of the reading and a lot of the studying at home, so I wouldn't come up all the time. Maybe twice a week or so I would come up. Then when I was at school, I'd say, "Hey, I'm not understanding this. I didn't feel like calling you. I want you to explain it to me in person." That's how I would get it. But tell me to go home and "Read these chapters" or something. "Understand airworthiness and the certificates" and stuff. When I didn't understand it, I had to come and visit and ask, "Hey, what does this mean?" Then they'd show me. They'd get out the FAR/AIM book and show me and tell me. Then I understand. If I don't understand, I'm going to get to you just so I can understand.*

Hobbs: And like I said, *there are times where it's well received and times when it's not.*

Mandy: *My instructor at Copters West was extremely laid back and very approachable. I don't think anybody's afraid to bring anything up to this guy. He's just very approachable. I think it had a lot to do with his type of personality and just like most instructors, they'll remind you a million times, "Please, if you have any questions." And even though you hear it a million times, it's always nice to hear it again. "Seriously, don't feel bad asking me something." And I guess I am also just one of those people. I've always asked a lot of questions in school just; because, if I'm confused it makes me angry. So I'm going to ask as many questions as I need to figure it out. So that also has something to do with my personality. If I have a question I'm asking it. I don't care who thinks I'm stupid.*

Samuel: *And Hobbs said something and I didn't know if it was just me, or if it happened to everybody, but it seemed like everybody else gets like a permanent instructor, and I seem to get passed around a lot for some reason. I don't know why. It felt like I was going out to fly with a different instructor, a different guy every time. Here at Copters West it seemed more like guys kept finding another job as soon as I started flying with them, you know. But at Premium, I had a*

new instructor almost every time. *And it seems a little easier to have just one instructor, especially with the flying part; because, everybody, every instructor wants everything done just a little bit different, and you think you're doing everything right, and they're like, "No, no, no! What are you doing?" Every guy wanted me to do it a little bit different. Everybody had slightly different ideas on how to come in, landing, you know. How to approach the runway and all that. Everybody wanted you to do something just a little bit different. And they get kind of testy about it if you didn't do it their way.*

Mandy: *For commercial I worked with a bunch of different people. I worked with Alvin, Aaron, and then to get ready for my check ride I did a bunch of autos with Alan, and he helped me out a lot. It was pretty much whoever was available; because, I was working at the time, part time. So, I worked in the afternoon, so whoever was available I would pretty much work with. I still worked with Connor, but I would work with the other guys too.*

Becky: *So at Premium it felt more like that was the way they did their business, and at Copters West is was more circumstantial?*

Samuel: *Uh, a little bit, yeah.*

Becky: *And how do you think that affected your training?*

Samuel: *I'm sure with the. . .especially with the actually flying, it slowed it down a little bit, you know.*

Hobbs: *One big problem is the information base from one person to another. You go from one instructor who teaches you something and knows you understand the material. Has tested you. Has quizzed you, and you've demonstrated that you have a firm grasp on the concepts. Then you go to instructor B, and they ask you a question, and you give them verbatim the same answer that you gave instructor A, but he doesn't like it. And there's no standardization there. And I'm*

assuming that's much more Part 61 learning than anything else. I've noticed with Part 141 everyone is saying the same thing, and there are different ways to get there, but in the end everyone is saying the same thing. And that is a highly positive part of Part 141. People want the same answer. As long as you can get there, and get somebody else there, you're golden.

Becky: And do you think that's because your instructors are better informed, or is it that they're all using a standard vocabulary.

Hobbs: It's standardized; they have an answer key.

Mandy: They produce great pilots at Copters West; the training is top notch.

Robbie: That's a good point. That reminds me of the very first guy that was instructing me at Premium. He didn't do a really great job, because, for one, it took a lot of money, and two some other people taught me the same thing and explained it to me at Copters West, and then I was able to get it and finish my check ride. And that tells who the good ones are. They didn't know me from Timbuktu, and I'm telling them I'm ready for a check ride, and they're looking at me like, "No you're not." You know. And they started asking me questions, and I was like, "What are you talking about?"

Becky: And this is the person in the company who says whether or not you can schedule your check ride?

Robbie: Yeah, but then when he rephrased the question, or he turned it around or something, I was like, "Oh. How come you didn't say that the first time?" I was like, "Well, it isn't said like that." That's not how I was taught it. But a lot of people used to teach it in different ways. After that, we went through it for about a week or a week and a half. This new guy taught me a bunch of stuff, and I was ready for my check ride. And I basically had it all down, it was just the way he was asking me the questions.

And then, I had one instructor at Premium that just wanted to fly. He was just wracking hours. Wasn't telling me anything. Wasn't showing me anything. He just. . .he would actually grab the controls and tap it and bring us back to the green areas, you know what I mean with the RPMs and stuff. With everything. He would do what needed to be done, and the helicopter would adjust, and he didn't let me fly. Of course, I was loving it, because I was flying. I didn't know any better. I should have asked, "Hey! Why am I doing this? Why do you keep touching the stick?" So those are like the two that I don't like. But the other people are good. And instructors at Copters West are good. I just haven't had a chance to get with them, to train. It's going to work though. It's going to work.

Mandy: They needed someone in Ohio to do pre-check ride checks. My instructor was the nicest guy, but I was his first student, and that's a lot of pressure. I didn't feel like he just threw me to the wolves; but, I thought I skated by on my private check ride. As opposed to other check rides I took at Copters West when I knew exactly what to expect. For my private I felt there were just a few gaps. I don't think he did it intentionally; it was his first time having a student. And then when I went to Copters West there were some things that I was just expected to just know off the top of my head that I didn't know. And that kind of alarmed me at the time. I was like, "Whoa, what else don't I know?"

Samuel: I found it hard when they want the same thing but they're explaining it in different ways.

Hobbs: Yeah, you'll run across people who'll, they are. . .they have fulfilled their ratings. They have proven that they understand the material, but they don't know what they're talking about. They know exactly the minimum that the FAA wants you to know, and that's it. And then there are other people who believe the FAA minimum is a launching point for that knowledge base. And they go, "Okay, I know this, let's delve deeper. Let's find out how everything is linked to

everything else, and this is our end result for it". So when you ask somebody a question, you either get, "Oh, that's a good question. Go Google it." Or you get a half hour lecture about things, which, I don't know. . . I can recognize when I'm being over loaded with details, but I appreciate having a bunch of detail so that I can understand where things are coming from. So, that kind of goes along with what I said about instructors versus teachers.

Robbie: And I have to know. Before I found out a helicopter can auto-rotate, I figured they dropped out of the sky if anything went wrong. That's the honest to god truth. I thought that's what happened. I want to know as much as I can know. I try to know everything.

Hobbs: Take the structural limitations of the seat. In the book, as far as a limitation, it just says 300 pounds seat limit. No real explanation. But I've learned if you get in a crash, they say your back will survive if you're under 300 pounds. The seat will collapse underneath you, and based on the thickness of the metal and the accordion structure that it collapses in, you'll probably be able to walk away from it if you're under 300 pounds.

Samuel: That's important to know, especially for someone like me who pushes that limit most of the time.

*Hobbs: Plus it's who you hire. And even at *Copters West*, there's a very high turn around rate. And the guy training me now, I've vocalized to him how much I appreciate somebody who will sit down and explain the material as opposed to just go over the material with me. And there's always the risk that he's going to get presented with a huge yearly check, and he'll be on his way out. But part of the problem with a bad instructor is ego. When you go from one instructor to another, and you give them an answer, they still haven't heard themselves talk, so they want to say it again. And then a two-hour lesson later, you've covered the same concepts, you've covered the same topics, there's duplicate information floating around in your head. And instead of*

spending two hours on something you're then spending four hours on something, multiplied of course by however many instructors you've had by that point.

Becky: Meanwhile you're paying for this.

Hobbs: Right. Right.

Another part of my lesson plans is at the end of each section I have little quiz, just a little written quiz. So I will have in writing the perception of the material from the other person. And they will have it as well. Because I've gone back and looked at things that I've written down that I thought I had a good grasp on, and I reread everything that I had written down, you write down what you think your ideas are and how to get there. Later on you find out you were way off, and you need to be way more in depth. And I didn't have anybody to arrest that method by saying like, "Oh no, that's not how it works. This is how it works." This way people can go back and look at their answers or whatever, and trace the development of that thought. I think that helps people learn quite a bit. You can tell somebody an answer, but if you didn't show your work, you know, there's no proof that the concept was grasped.

Social.

Becky: Mandy, can you talk about what it was like to be a woman in flight training?

Mandy: I've had two different types of experience with it. At my original flight school in Ohio, I was the first and only female to ever attend their school, and they treated me like a leper because of it. I wasn't placed in the group classes, which I think would have helped me learn better, because you ask questions and get to know other people. And group classes were all at night, so I could have attended them, because I worked during the day. And actually, I would have been able to work more because I used to work during the day with my instructor. Nobody ever talked

to me except my instructor. It was pretty much they didn't know what to do with me. But it was not a friendly situation at all.

Becky: And do you think women are at a disadvantage in this industry?

Mandy: No I don't. I didn't love it enough to make it my life, but in my opinion, from women I know, they tend to be a little more driven than men when they decide to do something. Especially in aviation. I kind of always felt like I had to prove myself. I didn't want all these guys thinking that girls are some kind of sissy idiots that can't do what the boys can do. And I know that Alice felt the same way about that. "I'm going to study my butt off so I can prove that I can do what the boys do." Also, a lot of the ASI guys would be hanging around, and they say some of the best pilots they know are women, because women get it in their heads they have to prove themselves, they're just very driven individuals, and they move to the top very quickly. So I always heard positive things about women in aviation.

Becky: Did you feel that you had, as a woman, some support around you when you were at Copters West?

Mandy: Yeah, definitely. Because there were other women at the hangar and at Copters West, and like I said, nobody, not one person or instructor or anybody that even worked at Copters West ever thought it was weird that there was a girl there. It's just normal, a regular person.

Becky: And did it make a difference for you having other women who were students? Did you feel like you had a connection there?

Mandy: Yeah. I mean it's never that great of a feeling to be the only one. Overall, at Copters West, my experience at the flight school was just more friendly period. I mean regardless if there weren't any females. Everybody was super nice and friendly, and the fact that there was more people so it's a bigger pool of people. But the fact there was other females was just cool is the

only way to put it. It's always nice to meet other people that are in your exact same boat. You know, being a female, doing this, and being the minority.

Becky: Does anyone else want to talk about the atmosphere at the school or making connections?

Hobbs: I teamed up with a guy who is trying to get a CFI license and, we've been bouncing ideas off of one another, having many in depth conversations about all things flight related. Plus, I help out occasionally at Copters West and I try to be a contributing member of the organization.

Robbie: Pshsh. I don't mean to say it like this, but I think that Copters West could call me every so often, and say, "Hey, you still trying to do this," or "You still coming in? I got room on the schedule." And then that would keep me in the loop, or that would keep me trying to keep scheduling. Like I said, I've made my decision to quit working Friday night and come flying Saturdays and Sunday. But that's probably the thing for me they could have done. But nobody even notice I was not flying, you know what I mean? But you asked me that question, and that's what I think they could have.

Samuel: Everybody I dealt with at Premium has seemed. . .Premium just came off to me as a little bit, I don't know if I want to say shady, but it seemed like everybody had an idea they weren't going to be in business too long looking back on it. Copters West has just been really easy to deal with, and everybody is really friendly. It just struck me as a much nice place than Premium from the time I walked in. I mean, just from the time I walked in. Immediately the owner was right there shaking my hand, and the chief pilot was right there shaking my hand. It just seems like a really friendly environment, you know.

Institutional factors.

Becky: I want to talk about the schools a little bit. What experiences have you had with your flight schools?

Robbie: Premium screwed everybody.

Becky: How'd they do that?

Robbie: They took all our money and left. They locked the doors and left, and we've never seen them again.

Becky: No explanations? Do you have any idea what happened?

Robbie: I don't know nothing about nothing. I didn't have that much money in it, you know.

Here's how it works. You put the money on the books or money on your tab, and then you work off of that. And when you don't have any more money, you put some more money on your account.

Mandy: Same at Copters West.

Robbie: Well, I only had so much money there when they left. You know what I mean. We all came up to school one day, and there was nothing in the hangar and the doors were locked.

Becky: Did that kind of put you off?

Samuel: I left before all that happened.

Hobbs: I've heard stories about them. That's crap.

Robbie: It wasn't thousands of dollars for me, but they got a lot of money from other people, you know. It took me a while to find Copters West mainly because I was skeptical about trying to do this again. I mean I didn't understand. I gave you a lot of money, and then you just up and leave? I didn't have my certificate or anything. It's like whoa, what's going on. So I was like really skeptical. I didn't want to do it no more. . . Almost. You know, I just, I like to fly. It was actually fun. And then when they did that, I didn't know what to do. I was like out in limbo. I didn't know what to do. And then my wife was like, "Well, just go find another one. Go and just really interview them and just find out, because you know what they did, and make sure they

won't do it again." And I found Copters West, and they were really nice. So I've been going there. But then the working, and then no work, and home. Like I said, it's hard to keep flying when you have a full plate.

Hobbs: Yeah.

Samuel: Glad I got out of there! What a nightmare. I did have trouble getting passed from one instructor to another. I got nothing but good things to say about Copters West since I started here, but Premium was a little shady. I got sent a couple places to get my private. They sent me to where testers were instead of bringing the testers in. I flew to Phoenix, well, just outside Phoenix once. And my paperwork wasn't right, and apparently the examiner had warned them, because they did it a lot I guess. She told them not to send her any more people with screwed up paperwork, because she wasn't going to deal with it at all. And I guess I was the one that got to be the example, because I got down there, and the paperwork was screwed up, and she said "Sorry, I've told these guys over and over." So I ended up taking a little vacation down to Phoenix for no apparent reason. It was frustrating.

Robbie: Premium tricked me one time to go to Phoenix too. They said they needed to swap out rides, you know. They had a busted R44 here, and they were trading with one in Phoenix so they needed someone to pay the ride, "You pay part of the cost, but get it cheaper." So I said, "Me, I'll do it," I had to have those hours to get to the point of the check ride. So I took my older son from my first marriage out of school, and we flew in the helicopter to Arizona to another school Premium had down there. We were to swap out the helicopter and bring a different one back here. So we get there, and the instructor, he was a nice guy, but he didn't tell me anything, and he starts to leave. I said, "Where are you going? What about us? What am I supposed to do? Where do I go?" And he says, "You're staying here to train for a few days." I'm all, "What! I got

my kid with me, and he's out of school, and I didn't plan this! I have work!" So I called and got ahold of Premium where I was training, and they said, "Yeah, that. . .well. . .we sort of came up with that after you were gone." But they didn't ask or anything. But there wasn't a helicopter to take back so I was stuck. They paid for the instructor to fly back home, but to me they just said, "Get some training, and get ready for your check ride." And that. . .well. . .there was some tension after that. I don't think you send someone all that way without them knowing what's going on. I didn't have extra money to pay for plane tickets, but I sent my son home on a plane so he could go back to school. A day or two is one thing. You know what I mean? I couldn't keep him down there on vacation just ignoring school and getting no grades. So we sent him home. And they didn't even say anything about the money I spent on that. I did do some training, but it was all different. Up here everything's different. You know what I mean? The altitude, it's all power this and power that, and there you have all the power you need and there's no one to say, "You don't have the power to do that." It wasn't too long later, and they had that R22 go down at the place I was training. Then they took everything, and locked us all out. You know what I mean? And I. . .well. . .maybe it wasn't too smart to stay as long as I did. I should have seen it coming, you know. But I didn't, and I was just, well, I didn't need to go to Phoenix with my kid without knowing the plan.

Hobbs: Holy crap!

Robbie: They said it came up after we took off but they could have told me. But they waited until they got what they wanted. They got the helicopter down there with me paying. And I had no way to get home but take a plane

Samuel: Yeah, Premium just came off to me as like a little bit, I don't know if I want to say shady, but it seemed like everybody had an idea they weren't going to be in business too long,

looking back on it. Copters West has been really easy to deal with and everybody is really friendly. It just struck me as a much nicer place than Premium from the time I walked in. Like, immediately the owner was right there shaking my hand, and the chief pilot was right there shaking my hand. It was just. . .it seemed like a really friendly environment if nothing else. And with Premium, I got sent to Phoenix for no apparent reason, and I know there was one other time I was supposed to take the check ride, and it got cancelled. I got prepared to take my private exam three times before I finally took it. But the examiner said I was great, and I figured preparing three times will probably do that.

Robbie: Yeah, I should have figured out they were crooked, but I just thought. . .I just went along because I love this, because it's fun.

Mandy: I think Copters West is shady, too. The aviation and the piloting side of that place is phenomenal. Like, the chief pilot has a wealth of information and a wealth of knowledge and a million friends. It's so cool when all the Black Hawks roll in, or I learned some mountain flying techniques from Trent, who runs HAATS. The aviation part of that school is phenomenal. They produce great pilots; the training is top notch. But the business is atrocious. I don't have a business degree, and I don't know that much about business except what I grew up around. My mom's in finance, and we had Excel spread sheets for our lunch money. It's just how I was raised. But Copters West was just shady. I mean I felt weird dumping money into that place knowing once it was gone it was gone. And if I wanted it back it was going to take a few months, maybe a year to get a refund.

Samuel: Even with the money. I've always felt Copters West was pretty up front. Especially like sitting down and talking with an instructor about it. It was always pretty straight up about what was going to be going on. And Copters West people like to give the worst case, then if you get it

done before that, the school looks good. But Premium, I mean I wish I could have gone to a place where I could have immediately started collecting the GI Bill as soon as I started on instrument and commercial. And I wish I would have had a little better idea how much it was actually going to cost so I could have had it together, rather than this thing where I do a little bit then run out of money, because I have to pay rent with the money I had put aside for training. But Premium, it wasn't really until I got down there, I mean, they definitely gave me a way low end. But Copters West tells you the worst case so you know.

Robbie: I just think Copters West people don't try to trick you into stuff. They call you and say, "We don't have a helicopter today. What are you going to do?" They call you, and tell you so you can decide on the 45 minutes to drive. Or the trip to Phoenix. That was not the way to run a school.

Messages for others.

Becky: Looking back, do you regret starting flight training? Or do you think this is still a viable option and you're still really excited about it?

Samuel: I wish I would have thought a little bit more about it and had my stuff together a little better before I started, but that's about it. I don't regret it at all. I mean, it's what I want to do. Like I said, I kind of jumped into it without looking at it real close at first, you know. But, yeah, my only real regret is that I didn't plan a little more carefully, and look into a little more closely.

Robbie: That it's taking so long, and that I don't have it yet. I'm frustrated that I'm prolonging too long. I still don't have it done.

Mandy: I would never regret doing any of my training, because I love flying. I think it's a lot of fun, and I'm proud of the work I did. And it's not everybody that can do it. But I'm not willing to make it my whole life.

Hobbs: I don't regret that I stayed out of the military, because I would have been, I think I would have regretted fighting for a cause that wasn't necessarily just.

Part of me wants to hurry up, and finish so I'm still with this instructor. But that's bigger than me. I don't have any control over that. My personality not being as aggressive as a lot of the other people around me has definitely extended the duration of my training. Because I'm just kind of going with the flow.

Maybe I regret that I didn't go after anything as aggressively as I perhaps should have. I didn't understand that I needed to go up to somebody and say, "This is what I need. This is how I need to get it. Help me do this." Instead I was just like okay, I'll take it as the normal classroom setting, where you go in, you sit down, you shut up, you listen, and you take away what you can. And that's what excites me about instructing at some point is taking a different approach, you know and asking somebody, "Are you understanding what I'm telling you? Or am I just filling the air with words that you're not picking up at this point." And finding those deficiencies. And getting someone to have that aha moment on a much more intimate level than a classroom environment. I look forward to that.

And I will greet the initial interaction with a sense of humor as much as I can, to get a smile out of somebody. Because once you get the laugh, it's game on. You take somebody out of that stale, uptight element of student-instructor position, you get them back down to a personal level, and I feel that helps people learn a little bit better.

Now that I'm in a position of reading FOIs, fundamentals of instruction, and learning the psychology of learning, it makes sense to knock down somebody's ego in order to get to a better state of learning with somebody. When I have instructors, typically my passivity prevents me from doing that. It prevents me from taking the reins and saying, "Okay, this is what I need; this

is how we're going to get there; this is what I need you to do for me." You just wait and ride the wave of however they're going to teach you. It's like some instructors were like, "I'm going to throw out gold, and it's up to you to catch it." Others it's like, "I'm going to make sure you have a basket and can catch it all, everything that I'm going to throw at you. And if you don't, we're going to go back, and we're going to insure that you have the tools and the understanding of what we're talking about."

What next?

Becky: So what's the next step for each of you?

Robbie: I have to quit all working on Saturdays and Sundays. I'm gonna make time because I'm prolonging too long. So I'll get done working on Friday, go out to Red Robin; then, Saturday and Sunday come in here.

Samuel: Apply at Starbuck's? I have to do something to get the money out of dad. Plus I'm still in school. I'll probably have a bachelor's in the fall, I think, if I manage to pass the one or two courses that are still required.

Becky: So while you're going to university is the VA paying for your tuition?

Samuel: I'm under the old Chapter 30, so I get \$1,400 bucks a month for being enrolled full time. And I qualify for \$2,700 in grants every semester so that pays my tuition.

Becky: Is the reason you're at university to get the VA to pay your monthly stipend, or is there another impetus for that?

Samuel: Well, it's always seemed to me that a degree would increase my hirability. Just having my degree would increase my chances of employment. It just seemed like a good idea. But really I'm just trying to find some job and finish off this degree. I haven't really thought about using the

degree. But basically it's a business administration degree with a focus on aviation. So I figured it would be pretty versatile.

Hobbs: I'm going to be going for walks, and be moving a lot more. In-taking less. Drinking a lot more juice. Eliminating sodas. The healthy choices. Getting down under 300. Plus compiling my CFI book, so when I take the CFI test I have the lessons ready to go. Self study. Taking care of the family.

Mandy: I actually just applied for a job at the TSA, at the airport. We'll see how that pans out. I'd like to have a job where I'm working with people and doing activities and planning events. Party planning is really hard to get into unless you know the right people, but that would be really fun. Or maybe working for some kind of non-profit where you're doing some sort of good, and it's not about clocking in everyday and doing your work and sitting at your desk and wearing your fancy clothes. A non-profit would be really cool to work with. Yeah, you don't really make the big bucks doing that, but at least it's meaningful.

Becky: Do you have anything else you want me to know, that you wonder why we didn't talk about?

Mandy: Just that it's a lot harder than they say. It's a lot bigger. . .more of a struggle to be a CFI than I originally thought when I first signed up to do all this stuff. And I. . .they make it. . . people made it sound like it was cake. It's hard.

Robbie: That whoever wants to fly or whoever likes the training needs to really stick with it. It's hard; it's challenging. But it's really fun.

Samuel: I kind of jumped into it without looking at it real close at first. So my only real regret is that I didn't plan a little more carefully, and look into a little more closer. I wish I would have

had a little better idea how much it was actually going cost, you know. So I could have had what money I needed put together.

Hobbs: Just what I said about catching gold. Find an instructor who will help you catch the gold coins.

Becky: With this we conclude the focus group discussion.

Conclusion

Within the context of a created focus group I presented each topic in turn rather than asking readers to follow the themes across four separate stories. Also, by discussing participants' perceptions on each theme at one time, readers are able to compare and contrast how each participant experienced similar events. In chapter five, I address the themes from this chapter and relate academic literature on sub-baccalaureate retention to the experiences of these pilots, building meaning around how their experiences led to where they are on the flight training path.

Chapter 5: Analysis

In chapter 4 I presented the voices of my participants in a form that attempted to “weave . . . unique pieces into one text” (Clandinin & Connelly, 2000, p. 151) while preserving the voice and perspective of each participant. By opening with my story in the helicopter training industry, I created a context for the reader in which to situate each pilot’s story. In this chapter, I will build on that narrative foundation and enlist the perspective of educational scholars to more clearly define the meaning each participant experienced individually and how the collective experiences can help us understand educational retention and attrition in the context of a flight training school.

The categories of factors discussed in this chapter will be organized in a manner similar to those discussed in a section of chapter 2. This organization is also seen in the category headings and organization in the focus group script in chapter 4. Discussion will begin with intrinsic and extrinsic personal reasons, followed by academic, social, and institutional factors, and learning style. I finish this section with a discussion of findings not specifically discussed in retention literature.

Literature on persistence and retention defines three categories of attriters: those who opt out, stop out, and drop out (Castellano et al., 2001; Harbour et al., 2003). Students who opt out are those whose educational needs have been met by the portion of the training they received (Castellano et al., 2001) and are outside the scope of this research. Three of the participants in this study identify as stop outs, whose training has been interrupted but who intend to return to complete training programs. One participant self-identifies as a dropout and does not intend to return to training.

Personal

Causes of attrition from postsecondary education and training programs stem from a variety of sources, both intrinsic and extrinsic (Huett et al., 2008). Many reasons students attrite are personal and unique to each individual's experiences. According to Moran (2000), the important aspect of an experience is how it is perceived by a person, not what really happened. This indicates a person's understanding of what has occurred is more important in the creation of meaning about an experience than are actual events. Moran's statement also indicates that similar experiences have unique meanings attached to them by individuals.

Intrinsic: Motivation and interest.

Retention literature, from both military flight training (Arnold & Phillips, 2008; Boyd, 2003; Thomas, 2009) and other post-secondary educational settings (Bosworth, 2010; Evans, 1994; Sciarra & Whitson, 2007), discusses motivation as a factor in persistence. Arnold and Phillips (2008) report pilots who drop on request (DOR) cite reasons such as no longer being interested in flying and changing one's mind about a flight career. While these statements may earn former pilot trainees the scorn of their peers (Pomarolli, 1966b), the military approves all transfer requests from flight positions due to safety concerns (Thomas, 2009).

One motivational factor for career training is an interest in and excitement for the topic or activity (Sciarra & Whitson, 2007). This is true in flight training as well (Arnold & Phillips, 2008). Each participant in the current study expressed an interest in exciting behaviors and appeared especially excited by flight. While Hobbs never stated directly he is motivated by excitement or fun or those qualities in flight, he does talk about experiences he had as a member of a public safety cadet program and his interest in participating in more active and exciting activities.

I was in the public safety program, and we worked with the police, fire and sheriff departments. And we were required to take two rides a month with any of the branches. The sheriff stuff was boring. Court room experiences. The fire stuff was fun and exciting. And the police one was riding with police officers, and I expressed a high interest in aviation; and the manager of the program, kind of as a pat on the back and a thank you for taking a pretty crap assignment for them, put me up in the bird, and I got to ride around with them for six hours.

Similarly, Samuel does not state his interest in aviation is from excitement, but his military career indicates he has an interest in career paths others may perceive as dangerous.

I was in ammunition systems. We rigged up bombs for the planes to drop, rigged them up, wired them up, tested guidance systems on missiles, and things like that. Unfortunately it didn't have a whole lot of application once I got out, you know what I mean?

Robbie and Mandy state directly they are interested in the fun factor of flight. Robbie goes so far as to say he only chose flight training because it is fun, comparing himself to professional athletes who play for the love of the sport.

But it's just fun. It's another little thing like an NBA ball player or an NFL ball player or Derik Jeter or somebody. They say they love the game. They play because they love it. They don't want to do nothing else.

Robbie, who has a career as an electrician that supports him financially, is also willing to continue with aviation as a hobby even if he is not able to realize his initial goal of making helicopter flight a career. "So if it ever happens like that then great, but until then I'll just keep twisting wires and pulling wires through conduit." Robbie is interested in continuing with flight solely for the fun factor, stating intent to persist even if he is unable to fly professionally. While Robbie talks about finding time to pursue training by taking weekends off work, it becomes evident that his commitment is tempered by other factors. In the following statement, Robbie states his desire to further his training by not working as an electrician on Saturdays and Sundays, but he interrupts himself with an aside about his work ethic.

So, now I'm at the point where I have to quit working on Saturdays and Sundays. I'll work seven days a week just because it's what I'm supposed to do. You know, no free time for me. But, I'm going to make time because I'm prolonging this too long. I still don't have the ratings.

Robbie's statements regarding responsibility, however, may not be the entire reason for his seven-day-a-week work habits. There may be other factors informing his choice of work over both time with his family and time for flight training.

The perceived impact of excitement on a person's ability to complete flight training is a belief supported by military flight training literature. Parker (1990) reports military personnel attempted to draw on the excitement factor in the effort to retain pilots in both flight training and flight career positions by waging advertising campaigns aimed at glamorizing flight. The underlying premise was a belief that creating an aura of excitement would increase pilots' motivation to persist.

While Mandy states she enjoys flying, the fun factor is not enough to sustain her interest in training. Mandy says, "I love flying. I think it's a lot of fun," and "the flying is super fun. It's a blast." She tempers this, however, with statements such as "But I'm not willing to make it my whole life," and "the commitment level isn't there for professional." For her, once the novelty and newness of flight were over, she realized she may have committed to a lifetime of aviation. When describing the thoughts leading to her choice to abandon flight training and a potential flight career, she related the following inner dialogue: "Oh, I'm going to have to do this for the rest of my life? For my job? Oh, wait a minute. Maybe this should have just been my hobby; [but] it's an expensive hobby to have." Mandy's statements echo the sentiment expressed by Arnold and Phillips (2008) that sustained motivation is a necessary component of flight training completion. Mandy recognizes her own lack of commitment to the career as a factor in her non-

persistence. Even while still in training, she recalls, “You have to be self motivated to do a lot of this stuff and I’m sure my motivation was lacking from time to time.”

Comparing Mandy’s responses to Samuel’s, we see a very different level of interest.

When I questioned Samuel’s commitment to finish, he responded defensively with,

That’s what I’ve been trying for forever now. It’s just I’ve been doing it so long it’s almost, I don’t know. It’s definitely what I want, to get my commercial and CFI and that, but at the moment I’m stuck until I find some regular employment.

When I pressed him further he said, “It’s what I’ve decided to do. It’s what I’ve been trying to do for three years now.” Samuel verbalizes a commitment that Mandy reports not feeling even when she was in training.

Hobbs and Robbie both show high levels of motivation. Hobbs continues with his ground training even though he is currently unable to fly due to weight restrictions. (The aircraft he flies has a seat limit of 300 pounds.) This shows a commitment to his stated career goals even as he is unable to move forward in the flight aspects of training. Hobbs states “Within about two months I’m hoping to get back in the air,” and he talks about what he “looks forward to” in his flight career. He also uses language such as “when I become an instructor,” indicating a belief in his ability to complete training.

According to Bosworth (2010) an accelerated training program can help students reach completion by reducing the amount of time necessary for students to maintain motivation. Mandy talks about interruptions in her training specifically while she was completing her instrument rating, which was disrupted each time government-contracted students (ASIs) were training. ASI trainees were given preferential scheduling and exclusive use of aircraft in accordance with the terms of the government contract with the flight school.

When I was doing my instrument in the 333, the ASIs would come in for three weeks, and I wouldn’t fly. So it takes that many more hours to get your scan

going and back in the swing of instruments. Because the instruments are all about keeping current, especially when you're learning.

Here, Mandy refers to learning a skill set (instrument scan) that is different in each aircraft and termed 'perishable' in aviation terminology, meaning skills degrade quickly when not regularly practiced. She perceives her training was not only interrupted by the periods when she could not use the aircraft, but was compounded by a disruption in the use of the perishable skill of instrument scan, leading to the necessity of remediation.

Robbie's statement that his training is too prolonged and Mandy's repeated statements about how long training takes echo the principles in "Build for Success" educational models (Bosworth, 2010), which argue that compacting an educational program and shortening the requisite time commitment can increase persistence because educational motivation does not need to be sustained as long.

For the three participants intending to pursue additional flight training, the sense of fun and glamour is strong enough to help sustain their further efforts. Mandy, on the other hand, further tempered her excitement for flight with concerns for safety, a concern also discussed in military DOR literature (Ambler & Burnette, 1963; Boyd, 2003). Mandy articulates her concerns by stating,

You know, there's always the safety concern. I think that's another issue of why I let it go. I mean at the end of the day you're still rolling the dice. You can still be as safe in your preflight and your knowledge of the aircraft and emergency procedures, but there's a certain part of the time that you're still just rolling the dice. And that was something big, especially if I was going to have a family some day. That would be a big decision for me, if I would fly helicopters and decide to have a bunch of kids, I don't know if I could go on with my life like that. So that definitely was a factor.

Mandy's excitement for flight is offset by safety considerations, further reducing her overall motivation to a level making continued flight training improbable. Later in this chapter I will discuss Mandy's safety considerations in other aspects related to her non-persistence.

As each pilot discussed what motivated him or her toward flight, it became evident that motivation is unique to each individual. By looking at each story I was able to generalize a discussion about motivation, but was not able to identify one unequivocal motivating factor common to the participants.

Extrinsic: Financial concerns and family care.

Intrinsic factors of non-persistence are often intangible, therefore difficult to identify. Extrinsic complications, which can also lead to both stopping out and dropping out from educational pursuits, are more easily identified than internal factors, and while they are external to a person they are still perceived as personal (Sciarra & Whitson, 2007). For many people, one major extrinsic concern in accessing post-secondary education is money, and some researchers believe it to be the number one barrier to higher education (Levin et al., 2010; Zeidner, 2006).

Contrary to what I had expected, Mandy and Hobbs are unconcerned with the financial aspect of training. Samuel and Robbie, however, both discuss financing training as an issue. Samuel states that money is the only reason he is not currently in training. In response to "Why aren't you training right now?" he states,

Money. My dad has agreed to loan me the money to finish it off, but with the requirement that I have some other kind of income, because that's what screwed me before. I had enough money [saved to pay for training] but I ended up paying rent with it.

Later, Samuel talked about having access to post secondary education funding as a former soldier, but accessing those funds for flight training is complicated. Accessing GI Bill funding to

cover monthly living expenses while enrolled in school is more straightforward, and he does this by staying enrolled in an online bachelor's degree program.

I get about 1,400 bucks a month for being enrolled full time, but it's after. I have to be enrolled for a month, then tell [the VA] and then they give me the 1,400. I [also] qualify for \$2,700 in [federal] grants every semester, so that pays my tuition. You can get the VA to pay you up front, and use that toward your tuition, but I've never bothered with it because I've had the grant money, and I just went with the 1,400 bucks a month.

While the VA program for which Samuel is eligible will pay for 60% of flight training expenses, his financial picture is further complicated due to changing policies and procedures and inability to navigate confusing protocols. In explaining his experiences with VA funding for his instrument rating, he said,

I think they eventually got me back the 60%, but they paid it out really weird. They kept giving me like little \$200 deposits. I can't remember how much I spent or how much they owed me but, I was expecting. . . I spent like nine grand or something, and I was expecting five of it back. I eventually got it, it was just paid out really weird, and I have no idea why. I could never get ahold of anybody down [at the VA] to explain to me what was going on.

The complication of funding for his flight training, including VA procedures that were difficult to navigate, an inability to get a steady job to secure a loan from his father, and exhausting his savings completing his private and instrument ratings, continue to prevent him from pursuing training.

Robbie's difficulty with funding is more straightforward than Samuel's. Robbie finds that when he is regularly employed he has the money to train. When he is not working on a regular basis, money in the family is tight and training funds are not available. Talking about money not being available for flight training, Robbie states, "Just my wife was working, paying the bills. And when I wouldn't work I would be frustrated." When he considers his current financial

situation, however, he states, “Now you got two people paying the bills. When I stopped working it just put a damper on.” He continues this line of conversation talking about the two-sided problem of time versus money. When he is regularly working, the money for training is available, but he finds he does not have enough time for training.

I’m working 50, 60, 70 hours a week. So it was really hard to come home and then study flying and try to get up to the airport. Then I wouldn’t work. And then I have my son. And he’s only like two and a half years old, so I can’t really bring him to fly when I’m training. I can’t bring him when I’m studying. When I’m not working I can’t pay for him to go to day care.

Robbie’s commitment to re-entering training is evident when he speaks of needing to make time for training. “I have to quit all working on Saturdays and Sundays.” When asked if money was an issue at this time he responded, “Nope. Because I’m working. I can pay now. Instead of just the one person [in the family] working.” Robbie’s ability to train is directly linked to the regularity with which he has work as an electrician, which is dependent on the availability of work.

Lack of resources for paying for flight training is not an issue for Mandy; her parents’ ability to support her dream of flight training eliminated the financial barrier she may have had if she had been paying for training on her own and needed to take out a loan with interest. When I asked Mandy if her parents supported her financially, she replied,

Yes, with a loan. My mom was in corporate finance forever. So she refused to let me take out a loan because of the horrendous interests rates that they put on us poor people. So they offered me a loan interest free.

Additionally, when I asked Mandy if money was a consideration in whether or not she would go back to training, she responded

It’s more that I’m not willing to put the industry first as opposed to other life issues. With the helicopter industry, unless you want to be a CFI for the rest of

your life, if you can even find a CFI job, you almost have to be willing to relocate to wherever you find an opportunity, and I'm not necessarily willing to do that.

Later, when asked if she would ever return to training, she mentions that she "can't afford it any more," but immediately restates that her primary reason for ending her training was a personal choice based on what she feels her life priorities are. "I wasn't willing to make it my first life priority, moving wherever and doing whatever job." Mandy is responsible to pay back the loan from her parents, but money was not a reason to stop training.

Similarly, but to a stronger degree, Hobbs is completely dismissive of financial concerns. In his first discussion about money, he talks about having worked as a teenager to save for college and using that money for flight training instead.

I worked since I was fifteen. Dumped all of that cash into a savings account for college, and then when the military thing kind of dried up. . .when I was forbidden from joining the military via the mother, just dumped [the money] into flight training.

Additionally, his parents are able to offer financial support for living expenses as well as helping to cover the cost of flight training. When asked about paying rent and bills since he does not have a job at this time, he stated,

Rent is not an issue as mommy and daddy picked up the house when I decided that I wasn't going to college and I needed to be out of the house. They bought a little house in south Denver. Originally I had been paying rent, utilities, stuff like that. But rent at that point had covered the cost of the mortgage. Since I haven't been able to pay for rent, my parents are completely understanding. Have said take care of whatever you need to take care of. Get us cash when you can. So, I've not been paying rent. I do odd jobs around the house to help them out. If they need to help out with power, stuff like that, water, they take care of that for me. Whenever I work, I get a check, I usually turn that over to them, or pay off bills as best I can. So everyone's pitching in.

Hobbs' disregard of financial concerns persists even in the face of lagging family income.

Becky: So your mom's illness doesn't allow her to work.

Hobbs: Correct.

Becky: And your dad doesn't work?

Hobbs: He does not.

Becky: Can I ask where the funds, the finances come from. What's the family living off?

Hobbs: Savings, I guess. Savings, unemployment for my dad. The unemployment has recently run out.

Becky: And they're still committed to paying for your flight training.

Hobbs: Correct.

Later, when I raised the issue of money again, this time in reference to the additional cost associated with being taught the same material by more than one instructor, Hobbs responded dismissively.

Hobbs: It also kind of hinders because instead of spending two hours on something you're then spending four hours on something, multiplied of course by however many instructors you've had by that point.

Becky: Meanwhile, you're paying for this.

Hobbs: Right. Right. I look forward. . . another part of my lesson plan is at the end of each section to have little quiz, just a little written quiz.

By quickly dismissing the issue of money, and refocusing on what he considers more important, he indicates the financial component of flight training is not a consideration for him.

I discussed money and flight training funding with each of the participants thinking that for each of them there would be a financial component to the interruption of training. This does not seem to be the case, and as noted by several sub-baccalaureate retention researchers (Gladieux & Swail, 1999; Lee et al., 2008; Richman et al., 1998) eliminating financial restraints does not necessarily translate to completion. Mandy and Hobbs do not identify money as a factor of their incompletion and while Robbie says money plays a role, it is not his primary concern. Only Samuel identifies money as the primary reason for his failure to persist.

Another extrinsic factor discussed in educational literature as a potential factor in non-persistence is care for others, including children and parents (Comings et al., 2003; Levin et al., 2010). This is echoed to a small degree by Robbie and to a larger degree by Hobbs. Robbie talks about needing to secure supervision for his young son while he is training.

I have my son. And he's only like two and a half years old, so I can't really bring him to fly when I'm training. I can't bring him when I'm doing some studying. [And when] I'm not working I can't pay him to go to day care.

For Robbie family care is a function of money. For Hobbs, who talks about needing to “take care of my family” because his mother is ill, family care is a function of emotional and logistical need.

My mom is sick. She has cancer, and she's in round two of chemo treatment, and she is sapped of energy. She is. . . She's dead after about five minutes worth of movement, so anything around the house that, you know, we take for granted. We go around our house, and we clean it for 45 minutes, and we sit down and enjoy our clean area. And she doesn't have that ability right now. So I'll help her. She doesn't like it when strangers come into the house, so hiring a cleaning lady really isn't an option. So my dad and I will help her out. My dad's around all the time with her now so he doesn't necessarily. . . he contributes to the mess. He doesn't really want to pick everything up, so I'm the outside entity that swoops in and gives her a hand with stuff. Just normal chores, yard work, going to the store, carrying around bags of stuff, groceries. Just everyday life. Just helping her out with that kind of stuff.

He stresses his commitment to his mother's care by saying, “So I need to be, I need to help her and not worry about flying all the time right now,” and “So my training, although it needs to be a priority, I have a tendency to keep my eye on my mommy. Hang out with my parents while she's in this weird state.”

Neither Mandy nor Samuel discuss having family responsibilities as interruptions to their training. Mandy now has a significant other with whom she lives, but was not responsible for or to other people throughout her training. Samuel lives with his romantic partner who has children

from a previous marriage, but the children reside full time with their other parent. Similarly, neither expressed care concerns for other family members. These diverse experiences speak to the individual nature of factors of attrition. Hobbs, who identifies family care as a major part of his life at this time, is the only participant who is working consistently to move forward in any aspect of training.

Academic: Remediation and Learning Style

In addition to intrinsic and extrinsic personal factors that may lead to attrition, the ability to learn the material being taught is a critical factor in educational success. The participants in the current research were chosen because they hold a private pilot certificate, indicating they are able to learn at least the basics of flight, those pieces of knowledge deemed necessary by the FAA to be a pilot in command of an aircraft. More advanced knowledge and skills are required to complete the mandatory written, oral, and practical exams to achieve professional pilot status.

Academic readiness is discussed in retention literature as a factor leading to attrition (Bosworth, 2010, Castellano et al., 2001). Students who do not quickly and easily master the skills necessary to complete courses may believe they are unable to learn the materials and may attrite rather than ask for help (Sciarra & Whitson, 2007). Research conducted in military aviation settings reveals similar findings, and academic shortcomings are cited as factors in both DOR and forced removal from training positions (Doll, 1971).

To try to understand how a lack of proper foundational knowledge and skills may have led participants to leave training without completing, I asked each of the pilots to discuss their experiences learning the material. Only Samuel felt confident about his ability to learn the material easily, stating, “The ground school part I’ve always had a really easy time with it. I’ve been accused of being smart but lazy a lot.”

At the opposite end of the spectrum, Mandy stated, “It is extremely challenging. Sometimes I felt like it was harder than college because it’s a lot of information that’s not easy at all.” She also discussed the issue of foundational knowledge. She expressed her concern over gaps in her understanding of foundational materials, saying:

When I went to Copters West there were some things that I was just expected to just know off the top of my head that I didn’t know. And that kind of alarmed me at the time. I was like, “Whoa, what else don’t I know?”

However, rather than internalizing this lack of knowledge and assuming the gaps in knowledge were personal shortcomings (Sciarra & Whitson, 2007), Mandy took control of the situation and asked for remediation. “And I brought it up to my instructor too. [When] I noticed it I was like, ‘Hey, I noticed these things. Do you mind if we go over some of this stuff?’”

Hobbs has a similar story about not understanding concepts, and he encountered two different responses from instructors. One response is very like what Mandy experienced. Hobbs describes it by saying: “If I say, ‘I need to understand how this works’, he’s in-depth and doesn’t leave the conversation until he thinks I have a firm grasp on what’s going on.” He contrasts this to earlier experiences with less responsive instructors. “[That] wasn’t always the case. It was, ‘I don’t understand this,’ and we’d move onto something else and [the topic I didn’t understand would] never come up again.”

What Mandy and Hobbs expressed is a need for remediation, and retention literature supports remediation as a positive factor in persistence (Levin et al., 2010). Because flight training culminates in a standardized test, instructors must ensure students reach a level of understanding rendering them capable of passing the FAA written test. This necessity indicates a need to address the learning style of the individual student or risk poor academic performance, dissatisfaction with the educational experience, and attrition (Harbour et al., 2003). To address a

variety of learning styles instructors need to convey meaning in ways that are natural and comfortable for students (Brilliant, 2000).

Hobbs, Robbie, and Mandy all talk about their learning style being active and hands on.

Hobbs states,

I'm a very [kinesthetic] learner. I can read about things for hours and hours and hours on end and I get bored and I'll retain most of it but if I'm not using my hands to do things I don't get why you're doing what you're doing. So bookwork is kind of tough. Personally I always remember the stuff that I have my hands on, so, instead of sitting down and having a conversation about things, which is going to be required for portions of it, I would like to have a majority of it touching aircraft parts, understanding what is connected to what, and how that is working instead of just talking about it.

When I asked Hobbs if he addresses this issue with his instructors, he replied, "I have definitely.

There are times where it's well received and other times where it's just, 'Well, we can work on something else right now.' And it's just kind of glossed over."

Robbie echoes the sentiment about the difficulty in learning from a book.

The book is Chinese to me. I don't understand it. I will have to sit down and read it over and over and over and over again. But if you tell me what you want me to know, but then you show it to me, you show what you're talking about then I can do it. Then it's cake work.

Mandy's opinion is that aviation lends itself to hands on learning, which she states is her preferred learning style.

I'm definitely a hands-on learner. If you're going to teach me about the engine if you go show me all the different parts that's way easier than just out of a book. Or using visual aids. That was the other great thing about aviation. It's hands on learning. You can pick up a toy helicopter and move the airfoil around, and that's exactly how it works. It's right there in front of you. But that's definitely my learning style. Hands on. I'm not a big book learner.

Addressing students where they are in the learning process and teaching to them in a manner that recognizes their learning style will help students be successful. As illustrated with Mandy, however, who states “aviation. . .is hands on learning”, which matches her learning style, not all attrition can be arrested with academic strategies.

Social: A Sense of Belonging

Another component of a successful academic experience is a sense of belonging. Personal contact with others associated with the school promotes the belief students have a legitimate place in an academic environment. A sense of belonging can also lead to increased self-confidence, which plays a part in persistence (Nichols, 2010). While I listened to the pilots’ stories, I realized one aspect of the positive environment they encountered at one school that was absent from other flight training centers was a feeling of welcome and belonging.

Samuel describes his positive experience with Copters West by saying: “Just from the time I walked in. Immediately Gayla was right there shaking my hand, and Mark was right there shaking my hand. It just seemed like a really friendly environment.” He contrasts this with experiences at Premium that he describes as “a little shady.” Similarly, Robbie says, “[Premium] couldn’t be trusted,” and he contrasts this negative atmosphere to a more open and honest atmosphere at [Copters West]. Both Samuel and Robbie state an intent to re-enter flight training at Copters West, which they described positively.

Mandy talks at length about the atmosphere at her first flight school, Ohio Flight, especially in regards to being “the first and only female to ever attend their school.” She further states she was treated as a “leper because of [being female]” and says, “Nobody ever talked to me except my instructor. It was pretty much they didn’t know what to do with me. But it was not a friendly situation at all.” She talks about not being put into group classes, instead being given

one-on-one instruction as a way of keeping her segregated from the male trainees. Mandy admits she “goes back and forth” on whether she prefers individual instruction or group instruction, and verbalizes her inner dialogue concerning this personal question saying,

A lot of times you benefit from [group instruction] because there’s a lot more questions. You learn from other people’s questions and then you can work together on extra things. But I would say there are benefits of the group and you can still get some one-on-one help any time you need it. I would say small groups I benefit more from and then extra one-on-one if you need it, or you only have one or two instruction times in a group then a couple one-on-one.

While waffling about which instruction model benefits her most, she is very clear about the discomfort she felt as an outsider at Ohio Flight, saying, “maybe if I would have had a better experience I would have stuck around.” She further illustrates her point when she contrasts the Ohio Flight atmosphere to the more inclusive environment she encountered at her Copters West.

I mean it’s never that great of a feeling to be the only one. Overall my experience at the [Copters West] was just more friendly period. I mean regardless if there weren’t any females. Everybody was super nice and friendly and the fact there was other females was just kind of. . .it was just cool is the only way to put it. It’s always nice to meet other people that are in your exact same boat. You know, being a female, doing this, and being the minority I guess.

While addressing minority experiences in flight training is outside the scope of the current research, Mandy’s experience being treated as an outsider illustrates the necessity of creating an inclusive learning environment for all students (Shaw & Coleman, 2000).

Institutional Factors

As with all educational settings, there are factors in flight training centers as institutions of learning that interfere with persistence. These factors may manifest as normal business practices that school leaders fail to critically examine or as traditions that are routinely overlooked. Pittenger and Doering (2010) specifically discuss the distraction of focusing on

instructor issues such as pay and scheduling as problematic, a sentiment echoed by Levin et al., (2010) when they discuss putting student learning above all other concerns.

The participants in the current research were candid about their experiences with the flight schools they attended. Even considering their understanding of my ongoing relationship with the flight school personnel, they were willing to discuss problems they encountered. Mandy was the most candid, stating,

[Copters West] run a terribly planned business. They need an accountant; they need a business planner. They need something to get it together. They produce good products. And they produce good pilots. The aviation and the piloting side of that place is phenomenal. The business is atrocious. I don't have a business degree, and I don't know that much about business except what I grew up around. My mom's in finance and we had Excel spread sheets for our lunch money. It's just how I was raised. I felt weird dumping money into that place knowing once it was gone it was gone. And if I wanted it back it was going to take a few months, maybe a year.

She further adds her perspective on the unprofessional nature of the business practices of the school by relating the events that led to her leaving the school and pursuing training at a third flight school.

And then, all of a sudden, at the drop of a hat, there's not one aircraft in there. How could that be legal? How could that happen? I know there's lots of stuff I don't know about that, and I don't care to know, it's just that my dad's a lawyer, and I don't know how you don't have a contract about that kind of stuff. A lot of this might be the way I grew up. It's just hard in my family not to do something if somebody has not legally signed for something. But that whole thing just kind of blew my mind. How could you let that happen to your business? And everyone's like, oh, well, it happened before. Copters West was almost gone before and it comes back. I was like, "What? Are you kidding?" And Connor was like, "Yeah, this happened, something like this. Not as drastic, but they went through a rough time when I got my CFI. It definitely is a factor of why I was here for so long." And I was like, "I didn't sign up for this."

Mandy states that she is uninterested in the details of what led to the school losing the fleet of aircraft in a business deal. "I know there's lots of stuff I don't know about that, and I don't care to know." Listening to Mandy's perspective and comparing it to my own perspective on the same events, I was reminded of the discussions by Moran (2000) and Natanson (1973) who assert meaning is separate from actual events and is individual to the person in the experience. Mandy's perception of what occurred led her to transfer to a new training site.

Samuel and Robbie, both of whom had negative experiences with Premium, discuss what they perceive as dishonesty by school personnel. Samuel's experiences related to his need to access VA funding and the school's status as a certified training center.

I was looking for a school that was accepting the GI bill, and I got ahold of Premium Helicopters. The guy was a little less than honest about his status with the VA, but I didn't realize that until I moved out here and started. I knew I had to get my private before I could even worry about the VA stuff. Then once I got my private I started pressing him pretty hard about it, and it just finally eventually came out that it wasn't going to happen anytime soon. I think one of the admin girls there finally was like, "Oh, you know, I think Mike's full of crap. I don't think we're anywhere close to getting [VA certification]." After I heard they weren't going to have it anytime soon, I worked for a little while because I wasn't sure what I was going to do with myself. I didn't even realize Copters West was there. When I finally heard about them, I checked in with them and started back again.

Robbie's experiences, although very different from Samuel's, created similar feelings of distrust toward the flight school.

Premium got me tricked one time to go to Phoenix. They said they had a busted [helicopter] here and they were trading with one in Phoenix, so they needed someone to pay the ride. [They said] you pay part of the cost, but get it cheaper. I said, "Me, I'll do it," because you need to have those hours to get to the check ride. So I took my older son out of school, and we were going to fly to Arizona to another school Premium had down there, swap out the helicopter, and bring a different one back.

We get there, and the instructor, he was a nice guy but he didn't tell me nothing, and he starts to leave. I'm saying, "What about us? Where do I go?" And he says, "You're staying here to train for a few days." I'm all, "What! I have my kid, and he's out of school. I didn't plan this; I have work."

So I called and got the school up here, and they said, 'Yeah, that. . .well. . .we sort of came up with that after you were gone.' But they didn't ask or anything. There wasn't a helicopter to take back so I was stuck. They paid for the instructor [to take a commercial flight home.] But me, they just said, "Get some training and get ready for your check ride." There was some tension after that. I don't think you send someone all that way without them knowing what's going on. I didn't have extra money to pay [for plane tickets] but I sent my son home on a plane so he could go back to school. A day or two is one thing; but, I couldn't keep him down there on vacation just ignoring school. And the flight school didn't even say anything about the money I spent on that.

Robbie continues this discussion by explaining that he overlooked what he considered to be flaws with the way the flight school was run because he enjoyed the flight training. "Maybe [it was] not too smart to stay as long as I did. I just went along because I love this; because it's fun."

Robbie's misgivings about the flight school turned out to be an omen to the closing of that flight school. He relates his experiences with Premium going out of business. "They took all our money and left. They locked the doors and left. Never saw them again. They took everything and locked us all out." This experience left him "almost skeptical about trying to [flight train] again", but his love of flying was strong enough that he contacted a different school, describing them as "really nice."

Unprofessionalism in all types of businesses can manifest in a variety of ways, and a common topic for three of the participants in the current study was a lack of consistency in their instructors. Content and knowledge outcome standards are published by the FAA, and all students must pass a proctored written exam before taking the oral and practical tests with a designated pilot examiner. Schools and instructors, however, are not given standard curricula for

learning outcomes, and each instructor may have very different teaching methods and vocabulary.

Mandy, who states that she has had multiple instructors, does not identify having a variety of instructors as a negative component of her training. Mandy had one instructor throughout her private certificate training and a second instructor throughout her instrument rating training. When it came time to train for her commercial training, she said, “For commercial I worked with a bunch of different people. I worked with Alvin, Aaron. To get ready for my check ride I did a bunch of autos with Alan, and he helped me out a lot.” She does not, however, consider this a barrier to her learning. She indicates it was by her own choice. “Whoever was available I would work with. I still worked with Connor [her instrument instructor]; but, I would work with the other guys too.”

By contrast, both Hobbs and Samuel considered having different instructors a serious barrier to progress and name it as a factor in the time it took to complete their ratings. I opened the conversation with Samuel regarding the quality of his instructors by asking “How were your instructors”, and his first response was,

I don't know if it's just me or if it happens to everybody, but it seems like everybody else gets like a permanent instructor and I seem to get passed around a lot for some reason. I don't know why.

When I asked Samuel how he felt it affected his flight training, he responded,

I'm sure, especially with the actually flying, it slowed it down a little bit. Every guy wanted me to do it a little bit different, you know. Everybody had slightly different ideas on how to just come in, landing, you know. How to approach the runway and all that. Everybody wanted you to do something just a little bit different. And they get kind of testy about it if you didn't do it their way.

He also stated that educational goals from one instructor to another were often confusing, leading to not understanding what was expected of him. “It might just be they want the same thing,

they're just explaining it in different ways." Samuel's perception is that "every instructor wants everything done just a little bit different. And you think you're doing everything right, and they're like, 'No, no, no! What are you doing?'"

When I asked Samuel if not having a consistent instructor was an issue at both flight schools he attended, he stated, "[At Copters West], not as bad as Premium, but yeah." Later he explained that while at Premium he felt as if not assigning permanent instructors to students was normal, at Copters West "it seemed more like guys kept finding another job as soon as I started [flying] with them." Samuel agreed when I paraphrased his statements by saying, "So at Premium it felt more like that was the way they did their business and at Copters West it was more circumstantial?"

In a strikingly similar way, Hobbs' training was conducted by a variety of instructors, which he too views with negativity. "I don't know if I'm alone in this, but I've been through 13 instructors, quite a few. I mean I get pawned off from person to person to person." His language, "pawned off" makes it very clear that he internalizes the lack of consistency in instructors. He states there are two factors that make learning difficult when not given a primary instructor.

Number one is the information base from one person to another. You go from one instructor who teaches you something and knows you understand the material. Has tested you. Has quizzed you and you've demonstrated that you have a firm grasp on the concepts.

Then you go to instructor B and they ask you a question and you give them verbatim the same answer that you gave instructor A, but he doesn't like it. And there's no standardization there.

The second issue Hobbs identifies is ego.

The other part of it is ego. You go from one person to another person, you give them an answer, and they still haven't heard themselves talk, so they want to say it again. And then a two-hour lesson later, you've covered the same concepts, you've covered the same topics, there's duplicate information floating around in your head.

Later in the interview, Hobbs adds to the discussion on ego by explaining his method of building rapport with an instructor as a way of leveling the power differential between instructor and student to facilitate meaningful and effective instruction.

I usually will greet the initial interaction [with a new instructor] with a sense of humor as much as I can, to get a smile out of somebody. Because once you get the laugh over, it's game on. Once you take somebody out of that stale, uptight element of student-instructor position, you get them back down to a personal level, I feel that helps people learn a little bit better. Now that I'm reading the [FAA's] fundamentals of instruction, and learning the psychology of learning, it makes sense to knock down somebody's ego in order to get to a better state of learning.

In a very perceptive way, Hobbs understands that creating equity in the student-instructor relationship will help him be more affective and/or effective in his learning. This is tempered, however, by what he considers the reality of his personality, which he repeatedly described as passive.

Typically my passivity prevents me from doing that. It prevents me from taking the reins and saying, "Okay, this is what I need, this is how we're going to get there, this is what I need you to do for me." It's kind of like [I] just wait and ride the wave of however they're going to teach.

Hobbs acknowledges a positive aspect of repetition when he says,

If you learn the content from somebody, and then you learn the same content from somebody else, you find the elements that you retained a little bit better from those two different parties. I feel like you understand the material a lot better. That's the upside to the extension of training.

He immediately, however, iterates an additional negative. "The downside obviously is you're not making money for five years."

Unexpected Findings

I found it interesting that much of the data I collected in these interviews aligned with other research. As I analyzed and reread the interview transcripts, however, I also noted themes that did not align with sub-baccalaureate retention literature. The themes discussed next do not stand alone in causing attrition for the participants in the study; rather, they act as one piece in a complicated web of factors leading to attrition (Māori, 2007).

Safety.

Earlier I discussed Mandy's concerns regarding safety. She talks about "rolling the dice" with each flight. Mandy's interest in safety extends to other areas of her life as well. For instance, her parents give her an interest-free loan, allowing her to fund flight training without risking her financial security. Now that she has dropped out of training and is repaying her loan, her parents allow her to make payments according to her financial ability without penalty. "If I can only afford to give them a certain amount that month, then they're okay with it. They understand my situation at the moment."

Another area Mandy is concerned about her safety is in personal relationships. When I pointed out to her each relocation she made had an emotional safety net of a person with whom she is close, she stated, "Relationships are really important, because life's about who you keep company with." I believe it's more than that, however. She is emotionally vulnerable when she is alone, and by ensuring personal connections before moving, she also ensures her emotional safety and comfort.

Mandy's concern for safety was discussed in three aspects of her life: physical safety in flight, emotional safety, and financial safety. While Mandy identifies her reason for dropping out of flight training is an unwillingness to "make it my whole life", we can see safety as a large

factor in her life. To her, being a CFI means having a “penniless existence” for which you have to “move wherever and do whatever job” while “rolling the dice” on physical safety.

Depression.

Because of the unique nature of aviation, there are limits on pilot weight, due to both aircraft limitations and job/payload necessities. One of the participants in this study has on-going issues of being over the seat weight allowances for the aircraft he chooses to fly. But there are deeper issues for Hobbs than simply getting more exercise and eating healthier. Hobbs talks about being “wicked depressed” and being a “pessimist.” Although Hobbs has never been diagnosed with depression, he talks insightfully about his depressive state. “Delving in on your own pessimism after a while, just kind of hanging out on the low side of things, and from time to time you forget to look up.” Hobbs does not directly identify factors leading to his depressive state, but he does talk about missing friends whose lives took different paths than his, being the “leech of the family”, and his mother’s on-going health concerns.

Hobbs’ depression is a very real factor in how long it is taking him to complete flight training. He recognizes the relationship between his depression and eating habits, but has up until now been unable to adequately address the connection. Between the first and second interviews, a period of 18 weeks, Hobbs gained 18 pounds. He attributes the increase to “the holidays” and has recommitted to changing his diet and exercise habits. This commitment, however, is fragile; sustaining commitment will be a determining factor in his success at flight training.

Responsibility.

While analyzing Robbie’s interview and transcript, I noticed a strong sense of responsibility to his family. He talked about getting mad when he is not working because he “can’t provide”. Now that he is working he says, “I’ll work seven days a week just because it’s

what I'm supposed to do. No free time for me." He is not willing to make flight training a priority over his responsibility to his family, and has even redefined his flight goals as recreational, a "hobby". His career as an electrician takes him away from home, and he often works seven days a week, not leaving enough time for family interaction or other pursuits such as flight training. For Robbie, this responsibility to family goes beyond simple financial concerns; it speaks to his values. He prioritizes his financial responsibility to his family as the manifestation of what he owes to them as a provider. As part of this, he recognizes flight training is a luxury, and he is unwilling to allow that luxury to interfere with his responsibility to family.

Privilege.

In direct contrast to Robbie's sense of responsibility, I noted the theme of privilege throughout the interviews with Mandy and Hobbs. Mandy's privilege can be seen when she talks about banks assessing high interest rates on "us poor people" when in reality her parents are able to and do loan her the money necessary to train. Further, she takes a seemingly leisurely approach to paying back the interest free loan her parents gave her. "If I can only afford to give them a certain amount that month, then they're okay with it."

Mandy's parents have a similar attitude about the money she spent on training. When Mandy talked about her parents' opinion of her dropping out of training, she voices their opinion about the financial aspect. "The money's gone. It's not coming back. There isn't anything you can do about it. Get over it." Their dismissive attitude about Mandy spending thousands of dollars on training she will not use reinforces her privileged status and contributes to an on-going lack of motivation to find a job commensurate with her training and education.

Similarly, Hobbs, whose mother's health does not allow her to work and whose father has lost his job, continues to rely on his parents to make housing and utility payments as well as pay

for training. Whenever I raised the issue of money, he dismissively responded and often changed the direction of the conversation. During the second interview, I pressed the issue of money, and he answered honestly he is not sure from where the money for his expenses comes. “Savings, I guess. Savings, unemployment for my dad. The unemployment just has recently run out. And, uh yeah.” When I followed these statements with, “Your parents are still committed to paying for your flight training?” his response was equally dismissive. “Correct. The majority of my flight training is behind me. The actual flying portion is pretty much taken care of.”

Hobbs does verbalize an understanding of his personal responsibility when he talks about wanting to “be a contributing member of the [flight school].” He also talks about being the “leech of the family” which he calls “kind of embarrassing.” He is beginning to recognize a need to take responsibility for his financial needs, but as of yet has done very little to act on that recognition. As I consider his lackadaisical attitude toward financial responsibility in tandem with his on-going issues with weight, I wonder if he is self-sabotaging his ability to train to justify financial dependence on his parents.

Disillusionment.

Finally, I noted the theme of disillusionment. This was especially prominent in Mandy’s interviews when she relates her thoughts about aviation being a life-long career. “Oh, I’m going to have to do this for the rest of my life? Maybe this should have just been my hobby.” She talks about losing interest in flying when it was no longer “new and cool”. Mandy entered flight training thinking it was an easy and exciting career. When it turned out to be difficult, time consuming, and repetitive, she lost interest and redirected her passion to a relationship for which she is willing to sacrifice, living and working where she is unhappy to be with her boyfriend.

Analyzing Hobbs' interviews I noted he experienced similar disillusionment while participating in a law enforcement cadet scholarship program in his teens. His experiences seeing law enforcement personnel different from his imagined ideal led him to discontinue the public service cadet program and associated college course work. "After being involved with that, I decided to stay away from the cadet program entirely. I stopped going to [college] at that point." Although Hobbs still shows a commitment to an aviation career, if he has experience a similar disillusionment, he may be slowing his own progress as an avoidance mechanism, uninterested in entering the profession but unwilling to walk away from the invested time, effort, and money.

Disillusionment is not discussed directly in either sub-baccalaureate or military flight training literature, but both bodies of literature discuss changing career goals as a factor in non-persistence. Sub-baccalaureate literature recognizes when a student's career and educational goals change, the training program in which they are enrolled may no longer meet their needs and they may drop out (Perry et al., 2008). Similarly, military research shows some pilots DOR because they are no longer interested in a career in aviation (Arnold & Phillips, 2008; Boyd, 2003; Thomas, 2009).

Conclusion

While writing chapters 4 and 5 I heavily relied on the theoretical discussion of restorying as discussed by Ollerenshaw and Creswell (2002). While not necessarily following the standard form of narrative presentation within narrative inquiry research, I felt this method of framing the story allowed me to show that common events do not necessarily translate to common experiences (Moran, 2000; Natanson, 1973).

Discussion in chapter 6 will specifically address research question 2: How can flight schools intervene to support flight students toward completion of instrument, commercial, and

instructor training? My effect on the data and interpretation is addressed, specifically in relationship to the pilots' descriptions of their experiences with flight schools and flight school personnel given my on-going relationship with some flight school personnel. The chapter will conclude with recommendations for flight school practices and additional research.

Chapter Six: Discussion

Chapter six includes four sections. First, I address research question 2 by discussing factors of non-persistence for the participants in this study. Themes are discussed in the order previously used in chapters two, four, and five. Discussion then turns to my unintended impact on the data during collection. Finally, recommendations will be made for flight school practices and future research.

Themes for Intervention

Research question 2 in this dissertation asks, “How can flight schools intervene to support flight students toward completion of instrument, commercial, and instructor’s training?” To address this question, I align each theme from the interviews with recommendations found in the body of literature on sub-baccalaureate retention.

Personal: Intrinsic and extrinsic.

Many students experience intrinsic and extrinsic personal factors that lead to attrition from sub-baccalaureate educational pursuits. For the students in this study, personal factors manifested as financial concerns, family care issues, and lack of motivation. While little can be done about the rising cost of helicopter flight training, school personnel should continue to research funding sources for loans, grants, and scholarships for flight training (Wentworth, 2009) and share this information with students. Similarly, while large schools may be able to offer childcare options, a small school with narrow profit margins may not have the same option. School officials may, however, want to encourage a childcare co-op that allows parents the option of caring for each other’s children during training as lack of childcare can cause a student to drop out of educational pursuits (Johnson et al., 2009). Additionally, school officials may compile a list of community childcare options for consideration by students. Supporting such

programs may have addressed Robbie's childcare dilemma, which he expressed by saying, "I have my son. And he's only like two and a half years old, so I can't really bring him to fly when I'm training. I can't bring him when I'm studying." Having childcare co-op or other care options may eliminate a piece of the burden from this student.

Motivation, which is addressed in military flight training literature (Arnold & Phillips, 2008; Boyd, 2003; Thomas, 2009) as well as other sub-baccalaureate literature (Bosworth, 2010; Evans, 1994; Sciarra & Whitson, 2007), can be addressed in a variety of ways. While waging an advertising campaign to glamorize flight careers may be outside the budget of the flight school, compressing the time necessary to complete training into a shorter period from start to finish might help students with inherent goals maintain motivation long enough to complete training (Bosworth, 2010). This may address the concerns expressed by each participant in this study that training took or is taking longer than expected. Mandy specifically talks about her motivation waning the longer she trained. "I'm sure my motivation was lacking from time to time," and "I felt like it would take me a lot longer to get my CFI there just because my instrument took me a year." Compressing Mandy's flight training experience may have helped her persist by maintaining motivation throughout the process.

Personnel must at the same time be aware of other factors impacting student success. Assuming a one-size-fits-all model may lead to overlooking other factors such as disinterest in the training and lead to attrition for other reasons. Flight school personnel should work with each student to create a completion timeline that is sensitive to each student's completion deadlines. An academic outline will allow student, instructor, and school leadership to address timeliness of goal acquisition if deadlines are not met. Also to be considered is the instructor's timeline for building flight hours to be eligible for industry jobs other than instructing. Flight school

management must have open discussions with flight instructors about plans for leaving instruction once industry standard flight hours have been met. By doing so, management can more effectively balance instructor goals with student needs.

Academic.

Each of the four participants was asked about experiences regarding learning the material. Only one student expressed confidence in the ability to learn easily. The other participants discussed being hands on learners, having difficulty learning from textbooks, and experiencing gaps in foundational materials. The FAA clearly outlines what knowledge a student must have to pass mandatory written, oral, and practical tests. The FAA does not prescribe methods for teaching and learning from the necessary material. Each instructor and flight school is given autonomy concerning teaching methods.

Mandy and Hobbs talk about being “hands on” and “kinesthetic” learners respectively. Mandy enjoyed her training experiences because in her mind, “it’s hands on learning.” Hobbs talks about looking forward to teaching using an active instructional approach. “When I become an instructor, I will not be sitting down. I’ll have a computer in front of us to show us videos of breakdowns of things and how things work. I will have a hands-on approach.” Similarly, Robbie wants to see the material in application. “But [if] you show it to me, you show what you’re talking about then I can do it. Then it’s cake.”

Flight school personnel need to encourage instructors to address individual students’ learning styles. Flight school leaders could offer classes and seminars to instructors in teaching and learning theory and how to apply these theories to instructional settings, purchase commercially available teaching materials, and support instructor-produced audio-visual materials. Instructors could also take advantage of courses in teaching and presentation offered at

local colleges. Of particular importance given the one-on-one and small group instructional settings employed is recognizing students' learning styles and tailoring instruction to address varied learning styles.

Social.

Showing students, especially students from minority backgrounds, they are a valuable member of the school community is an important step in retention efforts. Students who feel valued at school and who feel school personnel are invested in their educational success are more likely to continue their education when facing other issues (Nichols, 2010). This was echoed by Robbie when he said,

I think that Copters West could call me every so often, and say, "Hey, you still trying to do this," or "You still coming in? I got room on the schedule." That would keep me in the loop, or that would keep me trying to keep scheduling. That's probably the thing for me they could have done. But nobody even noticed I was not flying, you know what I mean?

By not directly targeting Robbie with retention measures, specifically showing an interest in his progress, the flight school overlooked an opportunity to re-enroll a student. Robbie initially stopped training because of financial concerns, but states that currently he is able to afford training. Contact by school personnel may be the impetus he and others need to restart training.

Another social aspect of educational pursuits is a sense of belonging in the educational community. To create an environment in which all students feel welcomed and valued, the flight school should create programs to help students make connections in both academic and social ways. These programs may include new student orientations, social and quasi-social events at the flight school and away from school, and opportunities for students and instructors to socialize in informal settings. By building an atmosphere in which students feel included at a personal level, students will feel valued at school and will be less likely to attrite (Tighe, 2006).

Institutional.

While this research did not focus on minority issues in post-secondary education, Mandy's feelings of alienation from her first flight school create a need to address issues concerning marginalization due to dimensions of diversity. Mandy reports,

At my original flight school in Ohio, I was the first and only female to ever attend their school, and they treated me like a leper because of it. I wasn't placed in the group classes. Nobody ever talked to me except my instructor. It was not a friendly situation at all.

She later states, "Maybe if I would have had a better experience I would have stuck around." She is not equating her experiences to her choice to drop out of training, but does say the treatment she received contributed to her choice to transfer to a different school.

Attrition data show a disproportionate number of minority students drop out of post-secondary educational pursuits (Bosworth, 2010; Maldonado & Farmer, 2006; Sciarra & Whitson, 2007). Minority students are less likely to return to their education or even say they plan to return (Harbour et al., 2003). It is therefore critical for all educational institutions to pay particular attention to their minority students by hiring instructors from diverse backgrounds, learning about each student individually, and addressing individual student needs when appropriate.

Unexpected findings.

Preparing to write this section, I considered how I might address each of the factors of non-persistence I encountered that does not align with existing research literature. For example, I asked myself, "If I still worked at the flight school, and I knew Mandy's safety concerns had the potential to cause her to attrite, what steps could I take to help her persist?" Similar questions can be created for each theme I encountered. "How can I help Hobbs deal with the depression that contributes to his weight problems? How can I help Robbie fit flight training into his life without

leading him to feel irresponsible to his family? What can I do to address students' privileged status and its impact on persistence? Is there a way to re-create beliefs about aviation after a pilot's disillusionment? How can I create an environment for transfer students that addresses their academic and social needs?"

After grappling with possible answers, I considered there might not be answers. There may simply be times when students will attrite, and there is little schools can do to intervene. However, flight school personnel should attempt to intervene even without a guarantee of success. The first step in trying to address these issues is to realize the issues exist. To do that, school personnel must talk to the students, listen to them, get to know them, and potentially refer them to appropriate services to meet their needs.

Understanding Mandy's quiet fear that flight is dangerous could lead to candid discussions about safety systems and protocols. Mandy's instructor may also choose to spend additional time practicing emergency procedures in flight.

To address Hobbs' depression, school personnel might actively involve him in social and quasi-social events, perhaps at a planning level, to help him make connections at the school with instructors and peers and avoid prolonged absences from training due to depression.

Knowing that Robbie's desire to train is tempered by his sense of family obligation could lead school personnel to help him develop a realistic plan for completion. Showing him ways to meet his responsibilities while addressing his training goals might be the impetus necessary for re-enrollment.

Understanding the privilege some students bring with them to training can help instructors be more motivational. Based on the timeline instructors can model how completion of short-term goals can lead to attainment of long-term goals.

The best way to address disillusionment may be to avoid allowing students to become disillusioned. Running a professional and efficient business can help, as can insisting that all school personnel conduct themselves in a professional manner by avoiding gossip, dishonesty, and disinterest in students' success.

To help transfer students feel welcome, school personnel need to listen to the factors that led to the student's choice to transfer schools. Voluntary transfers may have been planned, but may also have been due to dissatisfaction at the previous school. Understanding what led to the transfer can help school personnel attend to students' perceived needs.

Of course, these actions or any other maybe inadequate for retaining some students. Lack of a guarantee of success does not, however, indicate no attempts should be made. If getting to know students on a personal basis and responding to their perceived needs helps one student persist to completion, then there is value in the effort as there may be impact on the school's reputation and increase positive word-of-mouth advertising.

My Unintended Impact on Data

Constructivist research does not aim for objectivity, and meaning is co-constructed by researcher and participants. Influence of the researcher, although evident throughout the study, still must be discussed explicitly, especially when the impact is unintentional and may have altered collected data.

In person versus phone interview dynamic.

I do not know if the data collected from Mandy, who participated in this study by way of a telephone interview, is of higher or lower quality than if the data had been gathered in face-to-face interviews (Shuy, 2002). Mandy gave very candid responses to questions about her experiences with Copters West, and some of what she said was negative, especially concerning

business practices. She stated, “I don’t have any problem saying anything about Copters West. The people there are some of the nicest, most down-to-earth people ever, but they run a terribly planned business.”

Her candor may have been a function of the relative anonymity afforded by not seeing me during the interview. However, ascribing her candor solely to the mode of interview would be making an assumption that may have no basis. Her decision to answer with such honesty may have been informed by other factors such as her self-identification as a dropout, her sex, her life experiences, our friendship, or some other factor I have not considered.

Censorship by participants.

While analyzing data from interview transcripts, I noted passages that may have been the result of participants’ knowledge of my on-going association with flight school personnel. I attempted to elicit authentic responses, asking for clarifications when appropriate, but my influence is still evident in the censorship shown by participants.

One passage I found particularly layered with my influence was during the first interview with Samuel. He stated he had been “passed around” from instructor to instructor. When I asked if he experienced this at Copters West where I am associated with school personnel, he hedged, saying, “Uh, well you know I haven’t. . .it’s been so. . .yeah. A little bit. Not as bad as Premium, but.” In this case, I have left the quote in the original transcript format without modifying for readability. This excerpt shows what may be discomfort on Samuel’s part, not wanting to say anything negative about the flight school he intends to return to. I had assured Samuel that his involvement in the study was confidential, but he had chosen to meet in an office at the school, so he may have felt exposed.

The second interview with Samuel was conducted by telephone, but his response was similarly guarded. I asked him again about being passed from instructor to instructor and he replied, “Take Premium. It felt like I was going out with a different instructor every time. Copters West it seemed more like guys kept finding another job as soon as I started going with them.” Although I offered to meet participants in their home, at a coffee shop, or the setting of their choice, three of the four participants chose offices at the flight school for the interview. Even though no one at the flight school listened to the interviews, participants could have been seen coming to and going from the interview session, making it evident they were taking part in this study. This may have limited participants’ sense of anonymity and impacted the data. If I were to repeat the study, I would not offer the flight school as a possible interview site to increase participants’ confidentiality.

Researcher bias.

While analyzing the interview transcripts, I noted two passages that could be interpreted as biased questioning. Both passages can be found in Mandy’s interviews. The first incident occurred during our conversation about her motivation for the career. She stated, “You almost have to be willing to relocate to wherever you find a [job] opportunity, and I’m not necessarily willing to do that.” My follow-up question was, “But you’re willing to relocate to stay with your boyfriend?” Her response was, “Well, yeah because I wouldn’t be by myself.” To address this, during the second interview I asked her, “So listening to the steps you’ve made in your life, every major move that you’ve made has been with someone else. Would you say that relationships are really important to you?” Her response was “100%.” (While readers may question Mandy’s choice to relocate for her boyfriend’s job, I am reminded of my own journey: I moved from Michigan to Oregon to Colorado with my husband in support of his flight career.)

The second incidence of what might be interpreted as questioning bias was during Mandy's second interview. In this case I was aware of the biased tone before the question was asked. To address this, I started the question by saying, "This is going to sound like a snotty question, and it's really not." The question was,

You talk about the chief pilot in Ohio giving you the vibe that, "You're not going to make it; you're a woman; it's not going to work out for you." In retrospect, now that you've decided not to pursue flight training, have you thought about that at all? About his attitude and whether or not that played a part in what led you down the path to deciding to quit training?"

Mandy's response made it clear that she did not give the chief pilot in Ohio any power over her choices, nor does she place blame for her non-persistence on her sex. She discusses the sexist attitudes she encountered as a young woman, and states, "There's lots of guys who decided not to do this too." I could have better worded this question by asking, "I understand the chief pilot in Ohio gave you the vibe 'You're not going to finish.' Can you talk about how his sexist attitude may have played a role in your persistence?" Such wording attempted to eliminate value-laden verbiage and allows for a more authentic response, however, my use of "sexist attitude" continued to show my bias.

Researcher bias can be problematic if it is not addressed openly in research manuscripts (Creswell, 2003). Open discussion of bias allows researchers to thoughtfully consider their impact on the research and gives readers the opportunity to judge whether the bias has impacted the data collected and the study's findings. Discussion of bias also helps inform researchers of the type of impact they have on their own study as well as the interpretation of the studies of others.

Recommendations to Flight School

For the cooperating flight school, this research has implications for practice. It may be impractical to expect flight school personnel to implement all recommended practices, but thoughtful consideration of each recommendation may lead to implementation of new practices and higher retention rates. Over time, personnel may evaluate effectiveness of each practice implemented and decide whether continuation of the practice is warranted or needed.

Recommendations are separated into business and instructional categories.

Business practices recommendations.

A: Continue to research funding sources for loans, grants, and scholarships for flight training students.

B: Encourage a childcare co-op that allows students with children the option of caring for each other's children during training. Make available a list of local childcare programs.

C: Create social and quasi-social opportunities for students to interact with instructors and other students as a way to build connections and a sense of belonging.

D: Raise awareness of students who are no longer training, and place personal phone calls, letters, and emails to students who have not trained for two months. Follow up contact may be made monthly or as discussed with students.

E: Create an inclusive atmosphere that recognizes and encourages participation by students of all backgrounds and pay particular attention to students from minority backgrounds who may not culturally identify with other students or instructors at the school. Hire instructors from diverse backgrounds to encourage cultural connections between instructors and students.

F: Learn about students on a personal level and respond to their individual needs.

Instruction practices recommendations.

G: Create a personalized program sensitive to timeline considerations for each student.

Understand the impact of instructor timelines on instructor-student relationships and progress.

H: Offer classes to instructors on teaching and learning theory and how to integrate theory into instructional practices.

Recommendations for Future Research

Recommendations for further research in sub-baccalaureate retention fall into categories of population and sample, research design, and topic. By changing and/or broadening the population and sample to include students from a variety of flight training centers, students who entered training but who did not persist to private pilot status, or pilots who persisted through instrument, commercial, and CFI ratings but who left the profession within one year of completion, researchers could understand attrition from a broader perspective. Similarly a phenomenological study design would include more participants and may allow a researcher to reach saturation of non-persistence factors, thereby better informing business and instructional practices. Finally, research of minority experiences in helicopter flight training or other sub-baccalaureate educational pursuits could inform better practices for creating positive educational experiences for students from diverse backgrounds.

Conclusion

As the world of work becomes increasingly technical, and jobs require more specialty-trained employees, the role of post-secondary education including sub-baccalaureate programs becomes more critical. Students who attrite from educational programs have no economic advantage over people who do not enter educational programs. This indicates a necessity for all schools to take measures to retain as many students as possible.

In the helicopter industry, potential pilots must first complete the basic FAA requirements to work professionally, then earn between 1,000 and 1,500 pilot in command flight hours to be eligible for industry jobs such as tour and EMS pilots. As with other educational pursuits, flight training can be interrupted by a myriad of factors, often multiple factors acting in tandem and making persistence difficult. Flight school leaders and personnel need to be aware of the variety of reasons leading to attrition and work with individual students to create completion plans to ensure each student reaches training goals.

References

- Allen, C. W. (2002) Wright military training at College Park in 1909. *Air power history*, 49, 12-21.
- Alon, S. (2005). Model mis-specification in assessing the impact of financial aid on academic outcomes. *Research in Higher Education*, 46, 109-125.
- Ambler, R. K., & Burnette, E. R. (1963). *Reasons for voluntary withdrawal from naval aviation training*. Unpublished manuscript, U. S. Naval School of Aviation Medicine, Pensacola, FL. Report No. 63-2
- Arnold, R. D., & Phillips, J. B. (2008). *Causes of student attrition in US Naval aviation training: A five year review from FY 2003 to FY 2007*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL.
- Austin, B. (2010). Helicopter Pilot Training & Job Placement. eHOW. Retrieved from <http://www.ehow.com/>
- Aviation Supplies & Academics. (2011). *FAR/AIM 2011*. Newcastle, WA: Author.
- Baddeley, J., & Singer, J. (2007). Charting the life story's path: Narrative identity across the life span. In J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 177-202). Thousand Oaks, CA: Sage Publications, Inc.
- Bair, J. T., & Ambler, R. K. (1953). *Expressed reasons and background characteristics for naval aviation cadets withdrawing voluntarily during January 1953*. Unpublished manuscript, U. S. Naval School of Aviation Medicine, Pensacola, FL. Report number 53-2
- Bair, J. T., Ambler, R. K., & Snyder, J. F. (1957). *A study of voluntary attrition in the naval air advanced training command*. Unpublished manuscript, U. S. Naval School of Aviation Medicine, Pensacola, FL. Report number 57-5
- Barefoot, B., & Gardner, J. (1993). The freshman orientation seminar: Extending the benefits of traditional orientation. In L. Upcraft, R. Mullendore, B. Barefoot, & D. Fidler (Eds.), *Designing successful transitions: A guide for orienting students to college* (pp. 141-153) Columbia, SC: University of South Carolina.
- Bean, J. (1990). Why students leave: Insights from the research. In D. Hossler, & J. Bean (Eds.), *The strategic management of college enrollments* (pp. 170-185). San Francisco, CA: Jossey-Bass.
- Blower, D. J., & Dolgin, D. L. (1991). *An evaluation of performance-based tests designed to improve naval aviation selection*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL.

- Bosworth, B. (2010). *Certificates count: An analysis of sub-baccalaureate certificates*. Washington, DC: Complete College America. Retrieved March 10, 2011 from www.completecollege.org
- Boyd, A. E. (2003). *Analysis of determinants of student pilot success for United States Naval Academy graduates*. Unpublished master's thesis. Monterey, CA: Naval Postgraduate School. Report number 20030930 070
- Brilliant, J. J. (2000). Issues in counseling immigrant college students. *Community College Journal of Research and Practice*, 24, 577-586.
- Bureau of Labor Statistics. (2009). *Air Transportation*. Career Guide to Industries, 2010-11 Edition. Retrieved from <http://www.bls.gov/oco/cg/cgs016.htm#related>
- Carretta, T. R. (1990). *Cross-validation of experimental USAF pilot training performance models*. Unpublished manuscript, Air Force Human Resources Laboratory, Brooks Air Force Base, TX.
- Carretta, T. R. (1997). *Group differences on US Air Force pilot selection tests*. Unpublished manuscript, Air Force Research Laboratories, Wright-Patterson AFB, OH.
- Carretta, T. R. (2002). *U. S. Air Force pilot selection and training methods*. Unpublished manuscript, Air Force Research Laboratories, Wright-Patterson AFB, OH.
- Carretta, T. R., & Ree, M. A. (1993). *Pilot candidate selection method (PCSM): What makes it work?* Unpublished manuscript. Armstrong Laboratory, Brooks Air Force Base, TX. Report No. AD A262871
- Carretta, T. R., & Ree, M. A. (1994). Pilot candidate selection method sources of validity. *The International Journal of Aviation Psychology*, 4(2), 127-139.
- Carretta, T. R., & Siem, F. M. (1988). *Personality, attitudes, and pilot training performance: Final analysis*. Unpublished manuscript, Air Force Human Resources Laboratory, Brooks Air Force Base, TX.
- Castellano, M., Stringfield, S., & Stone, J. R. III, (2001). Career and Technical education reforms and comprehensive school reforms in high schools and community colleges: Their impact on educational outcomes for at-risk youth. Minneapolis, MN: National Research Center for Career and Technical Education at University of Minnesota.
- Chase, S. E. (2003). Learning to listen: Narrative principles in a qualitative research methods course. In R. Josselson, A. Lieblich, & D. P. McAdams (Eds.), *Up close and personal: The teaching and learning of narrative research* (pp. 79-100). Washington, DC: American Psychological Association.
- Chickering, A. W., & Gamson, Z. E. (1987). Seven principles for good practice in undergraduate education. *Wingspread Journal*, 9(2), 63-69, special insert.

- Civil Aeronautics Administration Division of Research. (1946). *The history and development of the Biographical Inventory*. Unpublished manuscript, National Research Council Committee on Selection and Training of Aircraft Pilots. Report No. 70
- Clandinin, J., & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. San Francisco, CA: Jossey-Bass.
- Clandinin, J., & Rosiek, J. (2007). Mapping a landscape of narrative inquiry: Borderland spaces and tensions. In J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 35-76). Thousand Oaks, CA: Sage.
- Cohen, A., & Braver, F. (2003). *The American community college* (4th ed.). San Francisco, CA: Jossey-Bass.
- Comings, J., Cuban, S., Bos, J. M., & Porter, K. E. (2003). "As long as it takes": Responding to the challenges of adult student persistence in library literacy programs. New York, NY: Manpower Demonstration Research Corporation. Retrieved from ERIC database. (ED477276)
- Complete College America. (2010). *Policy brief: Boosting completion at community colleges: Time, choice, structure and the significant role of states*. Report submitted by request to The White House Working Group for the President's Summit on Community Colleges: Author. Retrieved from <http://www.mdacc.org/PDFs/Completion%20Summit/Complete%20College%20America/White%20House%20Briefing%20for%20Community%20College%20Summit,%20Complete%20College%20America.pdf>
- Creswell, J. W. (2003). *Research Design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Damos, D. L., & Gibb, G. D. (1986). *Development of a computer-based naval aviation selection test battery*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL.
- Davis, R. (1989). *Personality: Its use in selecting candidates for US Air Force undergraduate pilot training*. Unpublished manuscript, Maxwell Air Force Base, AL: Air University Press. Research report no. AU-ARI-88-8
- Dean, B. J. (1996). *Aviation selection testing: The effect of minimum scores on minorities*. Unpublished manuscript, Naval Postgraduate School, Monterey, CA. Report No. 19960430
- Delaney, H. D. (1990). *Validation of dichotic listening and psychomotor task performance as predictors of primary flight training criteria: Highlighting relevant statistical issues*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL.

- Doll, R. E. (1971). *Early aptitude-achievement discrepancies as predictors of later voluntary withdrawal from naval aviation training*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL. Report No. AD728989
- Dowd, A., & Coury, T. (2006). The effects of loans on the persistence and attainment of community college students. *Research in Higher Education*, 47, 33-62.
- Elliot, T. E., Joyce, R. P., & McMullen, R. L. (1979). *The causes of attrition in initial entry rotor wing training*. Unpublished manuscript, US Army Research Institute for the Behavioral and Social Sciences, Alexandria, VA.
- Ely, M. (2003). Braiding essence: Learning what I thought I already knew about teaching qualitative research. In R. Josselson, A. Lieblich, & D. P. McAdams (Eds.), *Up close and personal: The teaching and learning of narrative research* (pp. 215-238). Washington, DC: American Psychological Association.
- Evans, T. (1994). *Understanding learners in open and distance education*. Philadelphia, PA: Kogan Page.
- Federal Aviation Administration. (2008). US Civil Airmen Statistics. Retrieved from http://www.faa.gov/data_research/aviation_data_statistics/civil_airmen_statistics/2008/
- Fiske, D. W. (1947). *Validation of naval aviation cadet selection tests against training criteria*. Unpublished manuscript, University of Michigan, Ann Arbor, MI.
- Gladieux, L. E., & Swail, W. S. (1999). Financial aid is not enough: Improving the odds for minority and lower-income students. In J. E. King (Ed.), *Financing a college education: How it works, how it's changing* (pp. 177-197). Phoenix, AZ: Oryx.
- Green, L. R. (1963). *An exploratory investigation of the relationship between four personality measures and voluntary resignation from aviation training*. Unpublished manuscript, U. S. Naval School of Aviation Medicine, Pensacola, FL. Project MR005. 13-5001, subtask 1, report number 25
- Griffin, G. R., & McBride, D. K., (1986). *Multitask performance: Predicting success in naval aviation primary flight training*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL.
- Griffin, G. R., & Mosko, J. D. (1977). *Naval aviation attrition 1950-1976: Implications for the development of future research and evaluation*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL. Report No. AD-A046212
- Griffin, G. R., & Mosko, J. D. (1982). *Preliminary evaluation of two dichotic listening tasks as predictors of performance in naval aviation undergraduate pilot training*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL. Report No. AD-A127337
- Guba, E. G. (1990). *The paradigm dialog*. Newbury Park, CA: Sage.

- Guinn, N., Vitola, B. M., & Leisey, S. A. (1976). *Background and interest measures as predictors of success in undergraduate pilot training*. Unpublished manuscript, Personnel Research Division, Air Force Human Resources Laboratory, Lackland Air Force Base, TX. Report No. AD-A025851
- Harbour, C. P., Middleton, V., Lewis, C., & Anderson, S. K. (2003). Naming the other: How dominant culture privilege and assimilation affect selected underrepresented populations at the community college. *Community College Journal of Research and Practice*, 27, 827-842. doi: 10.1080/1066892039220408
- Hill, A., & Dalley-Trim, L. (2008). Hanging in there: What makes a difference in the first year of an apprenticeship. *Youth Studies Australia*, 27(1), 36-42.
- Hollingsworth, S., & Dybdahl, M. (2007). Talking to learn: The critical role of conversation in narrative inquiry. In J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 146-176). Thousand Oaks, CA: Sage.
- Hopson, J. A., Griffin, G. R., Lane, N. E., & Ambler, R. K. (1978). *Development and evaluation of a naval flight officer scoring key for the naval aviation biographical inventory*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL. Report No. AD-A141523
- Huett, J. B., Kalinowski, K. E., Moller, L., & Huett, K. C. (2008). Improving the motivation and retention of online students through the use of ARCS-based e-mails. *The American Journal of Distance Education*, 22, 159-176.
- Hulley, B. J. (1999). General aviation: A stepping stone to a world career in aviation. *Journal of Air Transportation World Wide*, 4(1), 36-47.
- Johnson, E. M., & Henderson, W. D. (1986). *Human factors research in aircrew performance and training: Annual summary report*. Unpublished manuscript, Army Research Institute Field Unit, Fort Rucker, AL.
- Johnson, J., Rochkind, J., Ott, A. N., & DuPont, S. (2009). With their whole lives ahead of them: Myths and realities about why so many students fail to finish college. San Francisco, CA: Creative Commons. Retrieved from <http://www.publicagenda.org/files/pdf/theirwholelivesaheadofthem.pdf>
- Keith, P. M. (2007). Barriers to nontraditional students' use of academic and social services. *College Student Journal*, 41(4), 1123-1127.
- Lee, S. M., Daniels, M. H., Puig, A., Newgent, R. A., & Nam, S. K. (2008). A data-based model to predict postsecondary educational attainment of low-socioeconomic-status students. *Professional School Counseling*, 11(5), 306-316.
- Lee, S. M., Puig, A., & Clark, M. A. (2007). The role of religiosity on postsecondary degree attainment. *Counseling and Values*, 52, 25-70.

- Levin, J. S., Cox, E. M., Cerven, C., & Haberler, Z. (2010). The recipe for promising practices in community colleges. *Community College Review*, 38(1), 31-58.
- Lincoln, Y. S. (1990). The making of a constructivist: A remembrance of transformations past. In E. G. Guba (Ed.), *The paradigm dialog* (pp. 67-87). Newbury Park, CA: Sage.
- Maldonado, C., & Farmer, E. I. (2006). Examining Latinos involvement in the workforce and postsecondary technical education in the United States. *Journal of Career and Technical Education*, 22(2), 1-13.
- Māori, T. T. M. (2007). Lifelong learning: Beyond the rhetoric of retention. *Higher Education Research & Development*, 26(4), 363-376.
- Matthews, D. (2009). *A stronger nation through higher education: How and why Americans must meet a "big goal" for college attainment*. Lumina Foundation for Education. Retrieved February 20, 2011 from http://www.luminafoundation.org/publications/a_stronger_nation_through_higher_education.pdf
- Melton, A. W. (1947). *Apparatus tests. Army air forces aviation psychology program Report No. 4*. Washington, DC: U. S. Government Printing Office.
- Mendoza, P., Mendez, J. P., & Malcolm, Z. (2009). Financial aid and persistence in community colleges: Assessing the effectiveness of federal and state financial aid programs in Oklahoma. *Community College Review*, 37(2), 112-135.
- Miller, M. T. (2011). A tribute to military pioneers. *Military.com: Military Headlines*. Retrieved May 1, 2011 from http://www.military.com/Content/MoreContent1/?file=BH_Tuskegee
- Moran, D. (2000). *Introduction to phenomenology*. New York, NY: Routledge.
- Morgan-Fleming, B., Riegle, S., & Fryer, W. (2007). Narrative inquiry in archival work. In J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 81-98). Thousand Oaks, CA: Sage.
- Morrison, P. L. (2006). *Effectiveness of introductory flight screening (IFS) for United States Navy and Marine Corps student pilots*. Unpublished manuscript, Naval Postgraduate School, Monterey, CA. NSN 7540-01-280-5500.
- Murray, S. F. (1998). *A statistical analysis of the determinants of naval flight officers training attrition*. Unpublished master's thesis, Naval Postgraduate School, Monterey, CA.
- Nash, R. J. (2004). *Liberating scholarly writing: The power of the personal narrative*. New York, NY: Teacher College.
- Natanson, M. (Ed.). (1973). *Phenomenology and the social sciences* (Vol. 2). Evanston, IL: Northwest University Press.

- Newton, W. P. (2004). The origins and early development of civil aviation in Montgomery, 1910-1946. *The Alabama Review*, 57, 6-25.
- Nichols, M. (2010). Student perceptions of support services and the influence of targeted interventions on retention in distance education. *Distance Education*, 31(1), 93-113.
- North, R. A., & Griffin, G. R. (1978). *Aviator selection 1919-1977*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL. Report No. ADA 048105
- Ochberg, R. (2003). Teaching interpretation. In R. Josselson, A. Lieblich, & D. P. McAdams (Eds.), *Up close and personal: The teaching and learning of narrative research* (pp. 113-134). Washington, DC: American Psychological Association.
- Ollerenshaw, J. A., & Creswell, J. W. (2002). Narrative research: A comparison of two restorying data analysis approaches. *Qualitative Inquiry*, 8(3), 329-347. doi: 10.1177/10778004008003008
- Parker, J. C. (1990). *Combatting [sic] pilot attrition in the USAF in the 1990s*. Unpublished manuscript, Air University, United States Air Force, Maxwell Air Force Base, AL.
- Perry, B., Boman, J., Care, W. D., Edwards, M., & Park, C. (2008). Why do students withdraw from online graduate nursing and health studies? *The Journal of Education Online*, 5(1), 1-17. Retrieved from <http://www.thejeo.com/Archives/Volume5Number1/PerryetalPaper.pdf>
- Phillion, J., He, M. F., & Connelly, F. M. (2005). *Narrative experience in multicultural education*. Thousand Oaks, CA: Sage.
- Pinnegar, S. & Daynes, J. G. (2007). Locating narrative inquiry historically: Thematics in the turn to narrative. In J. Clandinin, (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 3-34). Thousand Oaks, CA: Sage.
- Pittenger, A., & Doering, A. (2010). Influence of motivational design on completion rates in online self-study pharmacy-content courses. *Distance Education*, 31(3), 275-293.
- Pomarolli, R. S. (1966a). *Psychological factors in voluntary withdrawal from flight training*. Unpublished manuscript, U. S. Naval Aerospace Medical Institute, Pensacola, FL. Special report 66-2
- Pomarolli, R. S. (1966b). *Perceptions and attitudes of aviators toward voluntary withdrawal from flight training*. Unpublished manuscript, U. S. Naval Aerospace Medical Institute, Pensacola, FL. Special report 66-4
- Pomarolli, R. S., & Ambler, R. (1965). *Voluntary withdrawal from primary flight training as a function of the individual flight instructor*. Unpublished manuscript, U. S. Naval Aerospace Medical Institute, Pensacola, FL. Special report 65-2

- Popkewitz, T. S. (1990). Whose future? Whose past? Notes on critical theory and methodology. In E. G. Guba (ed.), *The paradigm dialog* (pp. 46-66). Newbury Park, CA: Sage.
- Reinhart, P. M. (1998). *Determinants of flight training performance: Naval academy classes of 1995 and 1996*. Unpublished master's thesis. Naval Postgraduate School, Monterey, CA. Report No. 19980909016
- Richman, J. M., Rosenfield, L. B., & Bowen, G. L. (1998). Social support for adolescents at risk for school failure. *Social Work, 43*, 309-323.
- Riessman, C. K. (2008). *Narrative methods for the human sciences*. Los Angeles, CA: Sage.
- Rogers, A. (2003). Qualitative research in psychology: Teaching an interpretive process. In R. Josselson, A. Lieblich, & D. P. McAdams (Eds.), *Up close and personal: The teaching and learning of narrative research* (pp. 49-60). Washington, DC: American Psychological Association.
- Rogers, R. A. (2009). 'No one helped me out. It was like, "Get on with it. You're an adult now. It's up to you". You don't. . .it's not like you reach 17 and suddenly you don't need any help anymore': a study into post-16 pastoral support for 'Aimhigher students'. *Pastoral Care in Education, 27*(2), 109-118.
- Rosenbaum, J. E., Redline, J., & Stephan, J. L. (2007). Community college: The unfinished revolution. *Issues in Science and Technology, 23*(4), 49-56.
- Rosenwald, G. C. (2003). Task, process, and discomfort in the interpretation of life histories. In R. Josselson, A. Lieblich, & D. P. McAdams (Eds.), *Up close and personal: The teaching and learning of narrative research* (pp. 135-150). Washington, DC: American Psychological Association.
- Ryan, M., & Glenn, P. (2004). What do first-year students need most: Learning strategies instruction or academic socialization? *Journal of College Reading and Learning, 34*(2), 4-28.
- Savoie, O. (2010). *Helicopter Pilot Facts*. eHOW. Retrieved from <http://www.ehow.com/>
- Schultz, J. W. (2003). The prototypical scene: A method for generating psychobiographical hypotheses. In R. Josselson, A. Lieblich, & D. P. McAdams (Eds.), *Up close and personal: The teaching and learning of narrative research* (pp. 151-176). Washington, DC: American Psychological Association.
- Sciarra, D. T., & Whitson, M. L. (2007). Predictive factors in postsecondary educational attainment among Latinos. *Professional School Counseling, 10*(3), 307-316.
- Shaw, K. M., & Coleman, A. B. (2000). Humble on Sundays: Family, friends, and faculty in the upward mobility experiences of African American females. *Anthropology & Education Quarterly, 31*(4), 449-470.

- Shull, R. N. (1990). *Performance of marine AV-88 (Harrier) pilots on a cognitive/psychomotor test battery: Comparison and prediction*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL.
- Shuy, R. W. (2002). In-person versus telephone interviewing. In J. F. Gubrium, & J. A. Holstein (Eds.), *Handbook of Research: Context & Method* (pp. 537-556). Thousand Oaks, CA: Sage.
- Simpson, O. (2004). The impact on retention of interventions to support distance learning students. *Open Learning, 19*(1), 79-95. doi: 10.1080/0268051042000177863
- Stephens, E. (2009, March). Silver State Helicopters: What really happened. *Rotor & Wing Magazine, 43*(3) 50-53.
- Stoeckel, P. R. (2004). *Reflective leadership by selected community college presidents* (Doctoral dissertation). Available from ProQuest Dissertations and Theses Database. (UMI No. 3143863)
- Stoker, P., Hunter, D. R., Kantor, J. E., Quebe, J. C., & Siem, F. M. (1987). *Flight screening program effects on attrition in undergraduate pilot training*. Unpublished manuscript, Air Force Human Resources Laboratory, Brooks Air Force Base, TX.
- Street, D. R., Helton, K. T., & Dolgin, D. L. (1992). *The unique contribution of selected personality tests to the prediction of success in naval pilot training*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL.
- Taylor, E. (2009). The foundations of critical race theory in education: An introduction. In E. Taylor, D. Gillborn, & G. Ladson-Billings (Eds.), *Foundations of critical race theory in education* (pp. 1-13). New York: Routledge Taylor & Francis Group.
- Thomas, W. A. (2009). Minimizing the loss of student pilots from voluntary attrition. *Air and Space Power Journal, 23*(3), 44-50. Retrieved from <http://www.airpower.maxwell.af.mil/airchronicles/apj/apj09/win09/thomas.html>
- Tighe, W. L. (2006). The VCCS online college orientation: A faculty survey and syllabi analysis to determine delivery methods of course objectives. *Inquiry, 11*(1), 35-48.
- Voas, R. B. (1959). Vocational interests of naval aviation cadets: Final results. *Journal of Applied Psychology, 43*(1), 70-73.
- Waag, W. L., Shannon, R. H., Ambler, R. K., & Baisden, A. G. (1973). *A factor analytic study of attritions from naval aviation training*. Unpublished manuscript, Naval Aerospace Medical Research Laboratory, Pensacola, FL. MF51.524.002.5012 DX5X.8
- Weiland, S. (2003). Writers as readers in narrative inquiry: Learning from biography. In R. Josselson, A. Lieblich, & D. P. McAdams (Eds.), *Up close and personal: The teaching and learning of narrative research* (pp. 199-214). Washington, DC: American Psychological Association.

- Wentworth, R. (2009, October/November). Funding flight training education. *Rotorcraft Professional*, 14-23.
- Wherry, R. J., & Curran, P. M. (1965). *A study of some determiners of psychological stress*. Unpublished manuscript, Naval School of Aviation Medicine, Pensacola, FL. NSAM-941
- Wherry, R. J., & Hutchins, C. W. (1964). *An investigation of unpredicted differences in attrition rates among students from different procurement sources*. Unpublished manuscript, U. S. Naval School of Aviation Medicine, Pensacola, FL. Project MR005. 13-3003, subtask 1, report number 40
- Wilson, B. A. (2011). Military women pilots. Retrieved May 1, 2011 from <http://userpages.aug.com/captbarb/pilots/html>
- Wilson, D. V. (1966). *An improved methodology for screening military pilot applicants*. Unpublished manuscript, U. S. Army Command and General Staff College, Fort Leavenworth, KS. Report number 19990510 009
- Young, I. A. (2002). *Development of a pilot candidate selection model using multivariate techniques*. Unpublished manuscript, Air Force Institute of Technology, Wright-Patterson Air Force Base, OH.
- Yussen, S. R., & Oxcan, N. M. (1997). The development of knowledge about narratives. *Issues in Educational Psychology: Contributions from Educational Psychology*, 2(1), 1-68.
- Zeidner, T. (2006). Information and access: Modeling the nexus of the academic preparation and financial aid literatures. *Peabody Journal of Education*, 81(4), 118-138.

APPENDIX A:

Institutional Review Board Letter of Approval

NOTICE OF APPROVAL FOR HUMAN RESEARCH

DATE: July 27, 2011
TO: Makela, Carole, Education
Cobb, R Brian, Education, Wentworth, Rebecca, Education
FROM: Barker, Janell, , CSU IRB 1
PROTOCOL TITLE: Factors of Non-persistence in Civilian Helicopter Flight Training: A Narrative Inquiry into Pilot Attrition
FUNDING SOURCE: NONE
PROTOCOL NUMBER: 11-2841H
APPROVAL PERIOD: Approval Date: July 27, 2011 Expiration Date: July 21, 2012

The CSU Institutional Review Board (IRB) for the protection of human subjects has reviewed the protocol entitled: Factors of Non-persistence in Civilian Helicopter Flight Training: A Narrative Inquiry into Pilot Attrition. The project has been approved for the procedures and subjects described in the protocol. This protocol must be reviewed for renewal on a yearly basis for as long as the research remains active. Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed.

If approval did not accompany a proposal when it was submitted to a sponsor, it is the PI's responsibility to provide the sponsor with the approval notice.

This approval is issued under Colorado State University's Federal Wide Assurance 00000647 with the Office for Human Research Protections (OHRP). If you have any questions regarding your obligations under CSU's Assurance, please do not hesitate to contact us.

Please direct any questions about the IRB's actions on this project to:

Janell Barker, Senior IRB Coordinator - (970) 491-1655 Janell.Barker@Colostate.edu
Evelyn Swiss, IRB Coordinator - (970) 491-1381 Evelyn.Swiss@Colostate.edu

Barker, Janell



Barker, Janell

Includes:

Approval is for a maximum of 15 participants using the approved consent form to obtain consent. No changes can be made to this form or the protocol without prior IRB approval.

Approval Period: July 27, 2011 through July 21, 2012

APPENDIX B:
Email First Contact

Date _____:

Dear _____:

I am a former employee of Copters West, the flight school where you trained. I am currently a doctoral student at Colorado State University. For my dissertation study, I am looking into why helicopter students do not continue training to become professional pilots.

As you are one of these pilots, I am interested in hearing your story. I would like to make an appointment to interview you to better understand your journey flight training experiences.

If you are willing to consider participation, please contact me by email (xxxxxxx@hotmail.com), phone (xxx.xxx.xxxx or xxx.xxx.xxxx), or mail (xxxxxx xxxxxxxx xx, xxxxxxx, xx xxxxx).

Thank you for your consideration,

Rebecca 'Becky' Wentworth

APPENDIX C:
Interview Protocol

Interview 1 Guiding Questions with Proposed Follow-up Questions

1. When did you first think that you wanted to be a helicopter pilot?

Prompting questions if necessary

- a. Tell me about the people and events in your life most influenced your decision to pursue flight training?
- b. Was there a event or experience that led you to choose flight training as a career step?

2. Tell me about your training experience.

Prompt with

- a. What about training do you recall?
- b. How might you hope to do things differently if you had it to do it over or if you were to restart training?
- c. What benefits have you realized even though your training was not completed?
- d. What do you think were the primary causes of conflict during your training?

3. I've seen a lot of pilots go through training and many of them had trouble with finances. How did you pay for your training?

Follow-up question if necessary: Do you have debt from training yet? How are you working with it?

APPENDIX D:
Informed Consent Form

**Consent to Participate in a Research Study
Colorado State University**

TITLE OF STUDY: Factors of Non-persistence in Civilian Helicopter Flight Training: A Narrative Inquiry into Pilot Attrition

**PRINCIPAL INVESTIGATOR: Dr. Carole Makela, 970-491-5141,
carole.makela@cahs.colostate.edu**

**CO-PRINCIPAL INVESTIGATOR: Rebecca Wentworth, 303.809.2099,
bagheerasmom@hotmail.com**

WHY AM I BEING INVITED TO TAKE PART IN THIS RESEARCH? You have been asked to participate because you have completed private pilot helicopter training but did not complete the training for instrument, commercial, and instructor ratings.

WHO IS DOING THE STUDY? The principal investigator is a faculty member at Colorado State University's School of Education. The co-principal investigator is a doctoral student in the same university. The co-principal investigator will be the sole interviewer.

WHAT IS THE PURPOSE OF THIS STUDY? We are interested in learning what factors impeded the continuation of your helicopter training. It is our hope to provide insight or assistance to future students who may need support in areas we are currently unaware of.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST? We will be asking you to meet with one of us for 1-2 hours for a recorded interview. If we identify areas that need clarification, you will be asked to meet with one of us for a second interview.

WHAT WILL I BE ASKED TO DO? We will be asking you to tell the story of your experiences throughout your training to be a pilot.

ARE THERE REASONS WHY I SHOULD NOT TAKE PART IN THIS STUDY? If you feel that we may inappropriately use the information that is learned from you, or if you feel that your story would in some way cause you harm (emotional, psychological, financial, etc.) then you should not participate.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS? We do not know of any risks that are associated with this research. However, it is not possible to identify all potential risks in research procedures, but we have taken reasonable safeguards to minimize any known and potential, but unknown, risks, including those associated with your private stories and personal information.

ARE THERE ANY BENEFITS FROM TAKING PART IN THIS STUDY? There are no direct benefits to you for taking part in this study. It is hoped future student pilots will benefit by having easier access to more tailored support for flight training.

DO I HAVE TO TAKE PART IN THE STUDY? Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

Page 1 of 2 Participant's initials _____ Date _____

WHO WILL SEE THE INFORMATION THAT I GIVE? We will keep private all research records that identify you, to the extent allowed by law. When we write about the study to share it with other researchers, we will change your name and any identifying information we have gathered to pseudonyms to protect your privacy. You will not be identified in these written materials. We may publish the results of this study; however, we will keep your name and other identifying information private.

You will be provided with transcripts from your interview at which time you will be allowed to strike any material you believe potentially identifies you.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. For example, your name will be kept separate from your research records and these two things will be stored in different places with appropriate security measures.

WILL I RECEIVE ANY COMPENSATION FOR TAKING PART IN THIS STUDY? You will not receive any compensation for your participation in this study.

WHAT HAPPENS IF I AM INJURED BECAUSE OF THE RESEARCH? The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

WHAT IF I HAVE QUESTIONS? Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the co-investigator, Rebecca Wentworth at 303.809.2099. If you have any questions about your rights as a volunteer in this research, contact Janell Barker, Human Research Administrator at 970-491-1655. We will give you a copy of this consent form to take with you.

“This consent form was approved by the CSU Institutional Review Board for the protection of human subjects in research on (Approval Date).”

Your signature acknowledges that you have read the information stated and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing 2 pages.

Signature of person agreeing to take part in the study

Date

Printed name of person agreeing to take part in the study

Name of person providing information to participant

Date

Signature of Research Staff

Page 2 of 2 Participant's initials _____ Date _____

APPENDIX E:
Sample of Four-Column Analysis

Sample of Four Column Analysis

Italicized text indicates spoken by participant. Color-coding for theme ‘relationships’ has been replaced with underlined text. * indicates question for second interview.

First Interview Transcription	Researcher Notes	Second Interview Transcription Aligned by Theme	Researcher Notes
<p><i>I live here because my boyfriend is a helicopter pilot and this is the job that he got so this is where we are. So that goes along to say. I mean, he moved here, and it's a lovely horrible town. But, you know I guess I . . . that part right there. I wouldn't be willing to relocate to someplace by myself to you know, for the next however many moves in your career it takes. I don't know. It's just not. . . It's just not worth it to me I guess.</i></p>	<p>Relationships—Mandy is the only one to consider the impact of her career on her relationships.</p> <p>*Where did you go to college? Did you have friends from before college who attended the college with you? I've heard you moved back to your parents' after college, then to Colorado with a friend, then to Florida closer to your parents (although still 2 ½ hours away) and now to Alabama with your boyfriend. Is it fair to say that relationships are a high priority in your life?</p>	<p><i>Oh, one hundred percent. I am a very social person. I don't like being alone very much. I mean everybody needs their alone time, but I mean I'm just very social. I like to do things with other people as opposed to by myself. But yeah, relationships are really important, because life's about who you keep company with. In my opinion at least. I mean like Alabama sucks but at least I have good company.</i></p>	<p>Family is her number one priority in life. A job is what she does to support her family. In that she includes other relationships.</p>