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Perceptions of Factors Influencing Effectiveness of ATC Field Training

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16. Abstract
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List of Acronyms

AJI	ATO Safety and Technical Training
AJI-155	Human Performance Team
ARTCCs	Air Route Traffic Control Centers/ En Route Centers
AT	Air Traffic
ATC	Air Traffic Controller
ATCS	Air Traffic Control Specialist
ATCT	Air Traffic Control Towers
ATO	Air Traffic Organization
ATM	Air Traffic Manager
ATSA	Air Traffic Skills Assessment
CAMI	Civil Aerospace Medical Institute
CBA	Collective Bargaining Agreement
CHG-1	Change-1
COVID-19	Coronavirus Disease of 2019
CPC	Certified Professional Controller
CPC-IT	Certified Professional Controller – In Training
CTI	Collegiate Training Initiative
DiSC	Dominance (D), Influence (i), Steadiness (S), and Conscientiousness (C)
ECT	End-of-Course Test
ERAM	En Route Automation Modernization
FAA	Federal Aviation Administration
FLM	Front-Line Manager
NAS	National Airspace System
NATCA	National Air Traffic Controllers Association
OJT	On-the-Job Training
OJTI	On-the-Job Training Instructor
OPS MGR	Operations Manager
OPS SUP	Operations Supervisor
SET	Skill Enhancement Training
SPSS	Statistical Package for the Social Sciences
STMC	Supervisory Traffic Management Coordinator

AJI	ATO Safety and Technical Training
AJI-155	Human Performance Team
TC	Tower Cab
TMO	Traffic Management Officer
TRACON	Terminal Radar Approach Controls
TSEW	TRACON Skill Enhancement Workshop

Abstract

Researchers conducted a study to gain a holistic understanding of the factors impacting field training success for Air Traffic Controllers (ATCs) by examining the different perspectives of training team members and to guide the eventual implementation of the Training Standards at field facilities. The goal of the research was to identify 1) reasons trainees, who demonstrate the aptitude for ATC and complete Federal Aviation Administration (FAA) Academy training, still struggle with field training certification, 2) ascertain the internal factors challenging trainees from certifying at their first facility, and 3) identify the external factors impacting training success in order to guide policy and procedure changes or best practices to be implemented during field training. Five surveys, based on job role, were disseminated to 353 training team members at six field facilities (two Air Route Traffic Control Centers [ARTCCs] and four Terminal Radar Approach Control facilities [TRACONs]) Surveys focused on background, preparation, process, workload, training feedback, and interpersonal dynamics. The study is not intended to result in sweeping, National Airspace System (NAS)-wide recommendations and changes due to the limited sample size. A sample of the survey questions, included in this report, comprised of scaled measures and open-ended comments. Five new themes emerged from the data: Academy Training, the Field Training Program and the On-the-Job Training Instructors (OJTIs) Experience, Workload, Stress Management, and Interpersonal Dynamics. Respondents emphasized the need for training content and instruction to be updated; field training to be implemented for new arrivals immediately following placement; selecting, placing, and supporting OJTIs; providing stress management training; and reinforcing positive relationships within the facility. Recommendations include updating training content using a scheduled refresh cycle to maintain currency of information, selecting and training instructors and OJTIs, implementing and adhering to training standards, recognizing the impact of OJTIs on trainee experience, and implementing workplace culture improvements through training and facility support. Additional research could be conducted to validate the findings with supervisors and managers, identify differences in facilities with high versus low certification rates, and/or evaluate success of a facility who implements these recommendations.

Keywords: Air Traffic Controller (ATC), FAA Academy, field training, instructor, simulation, On-the-Job Training Instructor (OJTI), workload, stress management, interpersonal dynamics, training team

Introduction

The Air Traffic Control Specialist (ATCS) is a safety-critical occupation responsible for maintaining the separation and flow of air traffic (AT) in the National Airspace System (NAS). The Federal Aviation Administration (FAA) is tasked with recruiting, selecting, and training applicants to perform these tasks. The applicants must meet multiple criteria prior to being selected for the position. The FAA has implemented this multiple criteria selection approach for many years, with various iterations being used for ATCS hiring. Previous models follow different hiring tracks, consisting of differences in the applicant pools, rankings for job placement, and training requirements. The current model, implemented in 2017, involves using a two hiring track approach, with three distinct hiring pools, to recruit and select candidates for the position (FAA, 2019a). Since controllers can take as many as five years to certify on position, many trainees were likely selected using different criteria. The new hiring process and FAA Academy training is documented to describe the hiring and training for new controllers who have never checked out or certified at any facility, but have recently been assigned to field qualification training, also known as *Developmentals*.

General Public New Hire

The two hiring track approach affects individuals' recruitment, selection, and training path. The first hiring track (Track 1) termed *General Public,* contains two pools of applicants. Individuals who were trained in a college or university under the Collegiate Training Initiative (CTI) program, as well as, certain military veterans are listed as Pool 1 applicants. All other US citizens who do not meet the requirements for Pool 1 can apply through Pool 2 (FAA, 2019a). Applicants must meet the age (30 years old or younger) and U.S. citizenship requirement for this track (FAA, 2019a). A multiple selection hurdle is in place for individuals who apply using the *General Public* track. First, candidates are required to complete a pre-employment aptitude based exam, Air Traffic Skills Assessment (ATSA) (FAA, 2019a). If a passing score is achieved, additional medical, psychological, and security clearances are required. Upon successful completion of the clearances, applicants are then assigned into an option by facility (FAA, 2019a). New hires are then sent to the FAA Air Traffic Academy to begin Air Traffic Basics training (FAA, 2019a).

Prior Experience New Hire

The second hiring track (Track 2), termed *Prior-Experience*, was established for candidates who meet the minimum of 52 weeks working as a certified Air Traffic Controller (ATC) at either a civilian or military facility (FAA, 2019a). Candidates who apply under this pool are given priority consideration. Applicants must meet the age (35 years old or younger) and U.S. citizenship requirement. Candidates in this track are required to complete the same medical, psychological, and security clearances as the *General Public*, but are not required to take ATSA (FAA, 2019a). Candidates who are successful are then assigned into an option at a facility (FAA, 2019a). These new hires are sent directly to the field assignment.

Academy Training Courses

The Air Traffic Basics course (referred to as Basics) is designed to teach newly hired controllers with no prior experience basic aviation and AT knowledge in order to prepare them for option-specific skill training (FAA, 2018). Candidates are required to pass five knowledge tests administered at the end of each block of training in order to progress to the next training block (FAA, 2018). At the end of the blocks, i.e., 5 weeks of training, candidates must pass the End-of-Course Test (ECT) in order to move onto the Initial Qualification Training course (referred to as Initial) based on their selected option at hire (FAA, 2018).

Candidates who successfully complete Basics will attend Initial training. The Initial training assigned is based on option, either En Route or Terminal. Each option has specific job-related knowledge and skill-oriented training along with specific training hours assigned (FAA, 2019a).

Initial En Route Training Course

The Initial En Route Training course provides job-related knowledge and skill-oriented training using classroom instruction as well as utilizing the En Route Automation Modernization (ERAM) simulation environment (FAA, 2018). Candidates are required to pass four written and six performance assessments resulting in a cumulative score established as 70% for passing (FAA, 2018). The course is approximately 13 weeks long. Upon successful completion of this training course, candidates are sent to their assigned field location (FAA, 2018).

Initial Tower Cab/Terminal Basic Radar/TRACON Skill Enhancement Workshop Courses

The Initial Tower Cab (TC) Training course provides job-related instruction in TC procedures (FAA, 2018). The course is approximately 8 weeks long (FAA, 2018). The Terminal Basic Radar Training course provides instructions in radar approach control and skills in a simulated environment (FAA, 2018). This course is approximately 4 weeks long (FAA, 2018). The Terminal Radar Approach Control (TRACON) Skill Enhancement Workshop (TSEW) provides advanced training for candidates assigned to Level 9, 10, 11, and 12 radar facilities (FAA, 2018). This course is approximately 3 weeks long. For each training course, candidates are required to pass academic and performance evaluations following the cumulative score approach with a pass/advance minimum score requirement (FAA, 2018). Upon successful completion of these training course, candidates are sent to their assigned field locations (FAA, 2018).

Trainees

Upon completion of FAA Academy training, candidates are now defined as Developmentals (FAA, 2018). Developmentals are new controllers who have never checked out or certified at any facility, but have passed the Basics and Initial courses at the Academy (FAA, 2018). In addition to Developmentals, persons previously certified at a FAA facility may also be in training if they transfer to a different facility. Specifically, Certified Professional Controllers – In Training (CPC-ITs) are controllers who move from one facility to a different facility in the

same or a different ATC option, move between a facility (i.e., an up/down facility where there are TRACON and Tower controllers), or need qualifications on a new sector/position (FAA, 2018).

Field Training Program

The field training program uses blended instruction involving instructor-led courses, simulation exercises, and On-the-Job training (OJT) to train Developmentals and CPC-ITs (referred to as trainees) at their assigned facility (FAA, 2018). Each trainee is assigned a training team (FAA, 2018). The training team consists of the employee's Front-Line Manager (FLM) and/or Supervisory Traffic Management Coordinator (STMC), two to three On-the-Job Training Instructors (OJTIs), the developmental or CPC-IT, and any other person assigned by the Air Traffic Manager (ATM) or designee (FAA, 2018). The OJTI must be a non-supervisory Certified Professional Controller (CPC) who is certified on the same position being trained and has been certified for a minimum of 12 months (FAA, 2018). The OJTIs and other members of the training team can change during the field training program (FAA, 2018). The En Route Field Training program consists of three additional stages of instruction for field training (FAA, 2018). The Terminal Field training program consists of six additional stages of instruction for field training (FAA, 2018). Proficiency is measured at various intervals throughout the training program (FAA, 2018). Before beginning OJT, a training plan must be developed and documented, laying out the expectations for the training program (FAA, 2018).

Skills Checks

Training feedback and assessments are used to determine Developmentals/CPC-ITs performance in field training using two types of skills checks, Performance Skills Checks and Certification Skill Checks (FAA, 2018). The feedback and assessment used for this purpose includes written feedback, verbal feedback, simulation-based feedback, or performance-based feedback while on position (FAA, 2018). The feedback can be informal or formal from any member of the training team. The goal of the feedback is to ensure Developmentals/CPC-ITs are informed of performance expectations and certification requirements (FAA, 2018). Feedback received in this manner is in the form of Performance Skill Checks, which should be completed using FAA Form 3120-25 (FAA, 2018). Performance Skills Checks are used to assess progress and identify areas for improvement, do not count toward OJT hours and are not used for certification or qualification on position. Conversely, Certification Skill Checks are formal assessments used to certify Developmentals/CPC-ITs on operational position(s) (FAA, 2018). Developmentals/CPC-ITs must be informed of the requirements to pass Certification Skill Checks prior to completing the assessments (FAA, 2018). OJTIs and/or Training Teams along with Developmentals/CPC-ITs should review previous training documentation noting any areas for improvement prior to conducting the assessment (FAA, 2018). Certification Skill Checks are formal assessments completed by the FLM/STMC through direct observation of controlling live traffic (FAA, 2018). FAA Form 3120-25 is used during the assessment, with certification results being documented on FAA Form 3120-1 (FAA, 2018). FLM/STMC uses input from the training

team, performance during OJT, and this assessment to recommend whether a developmental/CPC-IT certify on the position, continue with OJT hours, participate in Skill Enhancement Training (SET), or suspend OJT (FAA, 2018).

Suspension of OJT

When a developmental/CPC-IT fails to certify on a Certification Skill Check, OJT may be suspended until a formal training review can be completed (FAA, 2018). The developmental/CPC-IT must be notified in writing of the performance deficiencies (FAA, 2018). A training review meeting must be conducted in order to decide whether the OJT should be resumed with extra hours or terminated (FAA, 2018).

Additional OJT Hours

If a developmental/CPC-IT does not certify, the Operations Manager (OPS MGR)/ Traffic Management Officer (TMO), second level manager, or ATM may assign additional OJT hours not exceeding twenty-percent (20%) of the target hours (FAA, 2018). These additional hours are used for Developmentals/CPC-ITs who are expected to certify with additional training (FAA, 2018). Upon completion of the additional hours, a Certification Skill Check must be completed leading to either certification or suspension of OJT (FAA, 2018).

Training Review Process

The training review process is used when there are questions about a trainee's performance. The process is conducted by a neutral team of employees who are not directly responsible for the training of the Developmental/CPC-IT (FAA, 2018). The review process includes reviewing all documentation and training records related to the trainee's performance (FAA, 2018). Interviews with training team members or other individuals are conducted as well during the review (FAA, 2018). The ATM/District Manager must consider all relevant information and make a final determination for continuation of training or termination of the training within thirty (30) days of the suspension of OJT (FAA, 2018). Developmentals/CPC-ITs who are terminated from training at their first facility may be assigned to a lower level facility or they may be terminated from employment (FAA, 2018).

Training Investment

Developmentals/CPC-ITs participate in a robust, complex training program outlined above. The process is lengthy and costly. FAA Academy costs include housing, per diem, and salary; training takes up to 4 to 5 months depending on the assigned option (FAA, 2019a). Field training costs include OJTI hours, simulation usage, and training time on position; field training takes an additional 1½ to 3 years on average (FAA, 2019a). Terminal controllers are likely to certify between 1½ to 2 years, while En Route controllers average 3 years (FAA, 2019a). The investment into each trainee is substantial, equating to approximately $118,000 per year (FAA, 2019a). According to the ATC Workforce Plan 2019-2028, approximately 86% of controllers who began training from FY 2011 to FY 2015 successfully completed training at their first

facility (FAA, 2019a). However, that leaves 14% who have either been terminated, resigned, transferred to a lower facility, or are still in training (FAA, 2019a). The financial costs for trainees who need additional training hours or are transferred to a lower level facility can increase substantially as additional time and training resources are dedicated to certifying those individuals. Additionally, Developmentals who are terminated represent a significant sunk cost and affect the FAA's bottom line. Regardless of the outcome, when an individual does not initially certify at the first facility, the FAA absorbs tremendous costs for each failure or transfer lower. Thus, the FAA has been conducting research to identify reasons for failures, providing recommendations for improving the training experience, as well as identifying factors influencing ATC certification in order to mitigate these costs.

Previous Research

An initial qualitative research study was conducted to uncover factors, other than ability, that might affect developmental controllers from successfully certifying during field qualification training (Pierce & Bryne, 2015). The goal of the study was to provide strategies and/or interventions to decrease the likelihood developmental controllers would fail at their first facility (Pierce & Bryne, 2015). From the results, questions arose regarding the organizational culture, support developmental controllers needed to transition into the new career at the FAA, and training requirements of OJTIs (Pierce & Bryne, 2015).

A follow-up study to identify issues from the perspectives of successful and unsuccessful developmental controllers was planned (Pierce & Bryne, 2015). The follow-up study conducted by Buck and Pierce (2018) surveyed successful, unsuccessful-terminated, and unsuccessful-transfer lower developmental controllers in order to identify internal and external factors perceived as influencing their training experience and certification at their first facility. However, the unsuccessful-terminated group was eliminated from the analysis because of significant missing data (Buck & Pierce, 2018). Based on the frequency and similarity of the responses, five content areas emerged: Training Teams, Training Procedures, Facility Culture, Individual Ability, and Individual Well-Being (Buck & Pierce, 2018).

Training Teams were referred to as the least liked field qualification element (Buck & Pierce, 2018). Developmentals often attributed their failures to the differences in expectations between trainers and trainees, as well as the inconsistency in what Developmentals were told to do for success (Buck & Pierce, 2018). Training Procedures included a discussion of inconsistencies and lack of standardization in the training progress (Buck & Pierce, 2018). Developmentals also identified a lack of transparency in the training progress as affecting certification (Buck & Pierce, 2018). Developmentals believed they were using the feedback provided to make adjustments, but were still unable to certify (Buck & Pierce, 2018). This led to questions regarding the usefulness and comprehensiveness of the feedback.

Facility Culture was reported as having the greatest impact on success in field qualification training (Buck & Pierce, 2018). Factors such as personality traits and the "good ol' boy" network were both identified as contributing to difficulty with certification.

Individual Ability was defined by the research team in order to guide placement of Developmentals. Researchers suggested matching individual strengths with facility type prior to field placement (Buck & Pierce, 2018). For example, some Developmentals believed individuals with prior ATC experience or education should be recruited for more complex ATC facilities and positions (Buck & Pierce, 2018).

Finally, responses reflecting Individual Well-Being were used to describe the training factors that contribute to trainee well-being as well as recommendations for improving wellness such as training schedule, facility location, and stress management training (Buck & Pierce, 2018). Developmentals believed providing a more individualized training experience would improve trainee work life and certification outcomes (Buck & Pierce, 2018).

Buck and Pierce (2018) provided five recommendations for improving the field training process:

1) Design OJT training standards to supplement the current evaluation form used by the FAA (3120.4-25) in order to provide more comprehensive feedback.
2) Provide each developmental the opportunity to work with an OJTI in simulation training prior to controlling live traffic.
3) Individualizing the selection of the training team emphasizing the learning styles of the developmental and the OJTI/training team members.
4) Provide better resources and opportunities for the OJTIs/training team members to attend standardized training that emphasizes training techniques, providing constructive feedback, and identifying personal strengths and weaknesses.
5) Design and implement a stress management training to help trainees identify internal and external stressors, provide stress management techniques, and identify resources for managing stress during training.
6) Developmentals should have more control on the option and facility selection prior to assignment (Buck & Pierce, 2018).

Although these recommendations were provided, the researchers also identified limitations regarding the sample, specifically focusing on the developmental perspective and not that of other team members, including OJTIs, CPC-ITs, CPCs, OMs, and labor representatives (Buck & Pierce, 2018). A new research study was designed by Civil Aerospace Medical Institute (CAMI) psychologists and the Human Performance Team (AJI-155) based on the recommendations outlined by Buck and Pierce (2018). The goal of the research project was to provide a comprehensive report documenting field ATC personnel perspectives regarding the outlined factors identified as impacting field training outcomes. The research project was slated to begin in February 2019, however, with challenges encountered including the government shutdown, the research project was delayed until November 2019.

While waiting to begin this research, the Strategic Leadership Team, consisting of senior leaders from the FAA and National Air Traffic Controllers Association (NATCA), requested Air Traffic Organization (ATO) Safety and Technical Training (AJI) to conduct an informal research study to document significant factors promoting or inhibiting success of ATCs during all phases

of field training (FAA, 2019b). The phases of training included Academy, classroom, simulation/lab, and proficiency training. Data was collected from July 2019 to November 2019 by conducting focus groups and interviews at 27 facilities with facility leadership and ATC personnel with varying levels of experience (FAA, 2019b); the results of the study are summarized into eight findings:

1) Previous experience new hires should attend the Academy since the Air Traffic Technical Training policy, JO 3120.4P Change-1 (CHG-1), does not allow this to occur. ATC personnel stated previous experience is not a good indication of readiness to control live air traffic.
2) Update training content as the materials do not align to the current state of ATC operations.
3) Leadership retention is unstable in most facilities as movement from one facility to another is common. This limits the consistency of the training environment for ATC personnel.
4) The OJT National Training Initiative, which requires a set number of OJT hours per week does not focus on training needs but rather training hours. This shift reduces the quality of training received by trainees even though it increased the number of training hours received by trainees.
5) Improve the implementation and integration of training tools, such as the iPads and Falcon, to support training success.
6) Updates are required for simulation training to be successful as current simulation training was listed as unrealistic and out-of-date.
7) Negative general perception of SET even though facilities are working to proactively make SET a reinforcement tool, not a stigmatized experience.
8) Training is inconsistent and varies among OJTIs (FAA, 2019b).

The researchers also stated the use of tools such as FAA Form 3120-25 is not uniform, making it difficult to identify when feedback is appropriate (FAA, 2019b). Recommendations and next steps were not provided (FAA, 2019b).

Current Research

The current research was designed to examine the perspectives of different training team members regarding the identified content areas perceived as factors contributing to field failures. The training team members included as participants were Developmentals, CPC-ITs, CPCs, OJTIs, and operations leadership/managers were based on the recommendation by Buck and Pierce (2018). Five thematic areas were identified as areas of inquiry for this research project based on prior research: *Academy Preparation* (prior to field training), *Field Training Program and the OJTI Experience*, *Workload, Stress Management, and Interpersonal Dynamics*. A description of each thematic area is provided below.

The *Academy Preparation* theme emerged from a review of trainee pass rates at their first facility, as well as reading comments from Developmentals who completed the unsuccessful-transfer lower survey, which suggested Developmentals were not always prepared for the field training program upon leaving academy training. Specifically, the complexity of the airspace

and/or air traffic patterns might be a factor in Developmentals not being able to certify at the first facility.

The Field Training Program and the OJTI Experience was the second theme and was designed to inform the first three recommendations provided by Buck and Pierce (2018). This includes potential factors influencing certification, such as standardization in field training, providing feedback, utilizing training tools and resources (i.e., working in a simulation environment prior to working on position, working with a primary OJTI, prebriefing and debriefing discussions), as well as individualizing training teams and the training team experience for each trainee (Buck & Pierce, 2018). Additionally, understanding OJTIs' training style, identifying ways to prepare OJTIs as trainers, and providing adequate resources for success were all discussed as factors to improve the training experience (Buck & Pierce, 2018).

Although not directly related to a recommendation, a third theme, *Workload*, emerged to identify the impact scheduling, availability, energy, and engagement has on the OJTI experience. Trainees who are assigned an OJTI with a heavy workload and multiple trainees, may uncover challenges affecting training outcomes. Comments regarding the OJTIs quality could also be influenced by the total number of hours worked (i.e., extra shifts, overtime, etc.).

Stress Management emerged directly from one of Buck and Pierce's recommendations (Recommendation Four; 2018). A stress management workshop was designed and delivered in 2019 as part of the Academy's Basics coursework. This workshop provided FAA Academy trainees with basic knowledge of stress and the impacts of stress on cognitive, emotional, physical, and social outcomes (Torrence et al., 2020). In addition, stress management techniques were provided as a resource to help trainees manage their stress during training (Torrence et al., 2020). In order to support this initiative, and because the controller job has been viewed as highly stressful, this theme was designed to capture the effect of stress on field training success. The most common stress management techniques currently used by ATC personnel was also included in the data collection requested as many of these participants had not attended the stress management workshop at the time of this project.

The theme *Interpersonal Dynamics* emerged as an important factor as the relationship between Developmentals and other ATC personnel (i.e., trainees, OJTIs, CPCs, etc.) at the facility could be viewed as tenuous, often dependent on the perception of the other employees' and the Developmentals' capabilities to perform on the job (Buck & Pierce, 2018). Developmentals also identified the use of peer comparison as being detrimental to their success (Buck & Pierce, 2018).

Based on the development of these five themes, specific areas of investigation were identified, including:

- Developmentals/CPC-ITs who demonstrate an aptitude for Air Traffic Controller positions, as well as meet performance expectations at the FAA Academy (Basics and Initial), may not be prepared for facility specific field training
- Internal factors such as interpersonal dynamics, training styles, relationships, and performance at the first field facility impact developmental/CPC-IT certification

- External factors such as location, family issues, training policies and practices, workload, complexity, and training/management styles impact developmental/CPC-IT certification

Methods

Facility Sample

In 2018, the research team reviewed Air Route Traffic Control Centers (ARTCCs) also known as "En Route Centers", Terminal Radar Approach Controls (TRACONs), and Air Traffic Control Towers (ATCT)/ TRACONs known as "Up/Downs" to identify facilities where large numbers of Developmentals and CPC-ITs were "In Progress" for training. Facilities were also compared with respect to training success during 2011-2014 to identify facilities with high and low success rates. The research team, along with the NATCA representative, chose two ARTCCs and four TRACONs as the research sites. However, due to a variety of factors including delays in data collection, turnover in management, availability of participants, the furlough of government employees, and recency of research participation, new facilities were chosen by AJI-155 in 2019. The research team agreed to conduct research with the same number and type of facilities; thus, two ARTCCs and four TRACONs were chosen. Of the new facilities, two were retained from the original selection. In order to maintain confidentiality, facility names have been changed for this report: ARTCCs will be referred to as A1, A2 and TRACONs will be referred to as T1, T2, T3, and T4. The total participation rate was 37% at the six locations.

Participant Sample

ATC personnel, including Developmentals, CPC-ITs, CPCs, and OJTIs participated in this study. Additionally, operations supervisors (OPS SUPs)/managers (OPS MGRs) were selected to participate in the study. Since additional management and training staff completed the survey selecting the OPS SUPs/OPS MGRs, the data is excluded from this report as it could be inaccurate. The majority of Developmentals (76%) were located at the two ARTCCs. Additionally, the CPCs and OJTIs comprised 72% of all survey responses, due to sample and population sizes. Facility response rates varied from high (93%) to low (17%) (Table 1).

Table 1.
TEA Survey Sample Size by Job Role and Facility Location

Location	Job Role				TOTAL
	DEV	CPC-IT	CPC	OJTI	
A1	12	4	14	25	55 / 158 **(35%)**
A2	19	2	20	38	78 / 285 **(27%)**
T1	0	4	25	35	64 / 169 **(38%)**

T2	3	4	10	20	37 / 222 **(17%)**
T3	6	4	7	11	28 / 30 **(93%)**
T4	1	5	24	24	59 / 88 **(67%)**
TOTAL	41 / 55	23 / 96	100 / 269	153 / 565	353 / 952
	(75%)	**(24%)**	**(37%)**	**(27%)**	**(37%)**

Note: Sample/Population represented in table. Total % calculated by facility and job role.

Demographic data included questions pertaining to facility, job option, and time at facility. Not all participants were asked all demographic questions; thus some categories have fewer group responses than others.

Facility

The majority of Developmentals (83%), almost half of OJTIs (44%), and over one-third of CPCs (38%) stated they were at their *First Facility*. Less than 10% of CPC-ITs were at their *First Facility*. For those respondents who stated they were not at their *First Facility*, 63% stated they were at their *Second Facility*.

Transfers

A *Transfer* is a Controller who is not at their first facility. The majority of Transfers (91%) stated they were designated a *CPC* prior to transferring.

Region

The *Region* is the designation used to describe where the facility is located in the country. The majority of CPC-ITs (96%), OJTIs (87%), and CPCs (80%) and over half of the Developmentals (63%) responded *favorably* when asked if their current facility was in their desired region.

Job Option

Job Option refers to the assignment at either an ARTCC or TRACON. The majority of Developmentals (80%) and over half of the CPC-ITs (57%) stated they were assigned the controller *Option Requested* upon hire. The most common option requested by Developmentals was *En Route* (44%), while the most common option requested by CPC-ITs was *TRACON* (40%). About one-third of the trainees (31%) stated they did not have a preference at hire. Most Developmentals (88%) and CPC-ITs (70%) stated they were *Satisfied* with their current job assignment.

Time at Facility

Time at Facility refers to the length of time the participant has been assigned to their current facility. Most trainees (69%) had been at their current facility *18 Months or Less*, while

the majority of CPCs and OJTIs (72%) responded with *Greater than 60 Months*. When asked how long they planned to stay at the current facility, almost two-thirds of participants (65%) stated they planned to remain at their current facility *Longer than 60 Months*, followed by one-fourth stating *12-60 Months*. Less than 10% stated they planned to stay *12 Months or Less*.

The length of time since certification was asked in order to capture the length of time CPCs and OJTIs had been on position and out of the training program. Almost two-thirds of the CPCs (64%) and the majority of OJTIs (88%) completed training *More than Three (3) Years Ago*.

Materials

Five surveys were developed based on job role: Developmental, CPC-IT, CPC, OJTI, and OPS SUP/OPS MGR. Not all questions were asked of each participant group, as some questions were role-specific and not deemed as relevant to every group. Many of the questions and scales were the same, with slight deviations. A sample of the five survey questions are included in Appendix A-E, as this study focuses on a subset of the original survey questions. The Developmental survey consisted of 44 items divided into seven sections with 35 items and six sections retained for this report (Appendix A). The sections were labeled (a) Background, (b) Pre-OJT Preparation, (c) OJT Process, (d) Interpersonal Dynamics, (e) OJTI Other Workload, and (f) Training Feedback. The CPC-IT survey consisted of 56 items divided into seven sections with 47 items and six sections retained for this report: (a) Background, (b) Pre-OJT Preparation, (c) OJT Process, (d) Interpersonal Dynamics, (e) OJTI Workload, and (f) Training Feedback (Appendix B). The CPC survey consisted of 55 items divided into seven sections with 46 items and six sections retained for this report (Appendix C). The OJTI survey consisted of 62 questions divided into seven sections with 51 items and six sections retained for this report (Appendix D). Both the CPC and OJTI surveys were divided into six sections: (a) Background, (b) OJTI Preparation, (c) OJT Process, (d) Interpersonal Dynamics, (e) Workload, and (f) Training Feedback. The OPS SUP/OPS MGR survey consisted of 34 items divided into five sections with 24 items and five sections retained for this report: (a) Background, (b) Pre-OJT Preparation, (c) OJT Process, (d) Interpersonal Dynamics, and (e) Training Feedback (Appendix E).

Items were formatted using single item selection dichotomous, multiple choice, 5-point and 6-point Likert scales. The 6-point scales were used when a neutral or not applicable response was included. Open-ended questions were used for items with a response option of "other" and to collect additional information from participants. The individual scales are described in each section. Some of the results have been modified to collapse categories or change verbatim response categories for readability. Open-ended responses were modified to correct grammar or spelling errors.

Procedures

NATCA, in accordance with Article 50 of the FAA-NATCA Collective Bargaining Agreement (CBA), approved the language and use of the surveys in July, 2019. Upon approval, the sites were contacted to coordinate data collection efforts for this project. An invitation email

was sent out to the NATCA representative prior to arrival to explain the purpose of the research collection. Additionally, the sponsor and NATCA sent emails to coordinate dates and times for data collection.

Data collection began in November, 2019, and concluded in February, 2020. A researcher, along with a NATCA representative, traveled to each location to administer the electronic survey using an online platform, Qualtrics, administered offline through an iPad. The iPads were stationed approximately 3-feet apart in order to ensure the participants completed the survey independently. When a participant entered the room, the researcher and/or NATCA representative explained the purpose of the survey, the navigation of the survey on the iPad, and the length of time required for each survey. Participants spent approximately 20 minutes completing the survey in one sitting.

Data collection at each facility was scheduled for 4 to 5 full days (8 hours each day) in order to solicit the most participants possible. Upon arrival at each facility, the researcher, along with a NATCA representative met with the OPS SUP/OPS MGR and local NATCA representative to explain the data collection process. Depending on facility, the researcher and/or NATCA representative attended the morning briefings to explain the research purpose and solicit volunteer participation.

Survey responses were imported from Qualtrics into Excel and a statistical package (Statistical Package for the Social Sciences [SPSS]) for analysis. Quantitative data was analyzed in SPSS to calculate frequencies, differences in central tendency (i.e., mean and standard deviation), percent agreement, and facility differences (when appropriate). Qualitative data was analyzed in Excel in order to generate a list of themes from responses. Coding was accomplished following a three phase approach (Emerson, Fretz, & Shaw, 1995; Rubin & Rubin, 1995):

1) Initial coding (i.e., open coding) was used to analyze the responses by reading the statements and creating overarching categories. When statements did not fit into one of the previously created categories, the researcher added a new category or placed it in a separate column for review later.
2) Once the initial themes were made, the researcher completed focused coding allowing the level of analysis to shift from a general theme to independent ideas and concepts.
3) The final phase of coding was confirmatory where the researcher reviewed all the statements by theme and subtheme to ensure proper fit.

This form of coding allows the researchers to identify important concepts to described training effectiveness and provide recommendations. Qualitative comments have been reworded to correct grammar and/or spelling errors.

Results

Results are divided into five sections *Academy Training, The Field Training Program and the OJTI Experience, Workload, Stress Management, and Interpersonal Dynamics*. Each section is grouped by concepts and themes generated from participants' answers to the survey,

not necessarily the section where the questions appeared on the survey. Tables, graphs, and open-ended comments are included in the appropriate sections to support the results.

Academy Training

Participants were asked questions related to their experience in FAA Academy training, prior to being assigned to a field location. The Academy experience is important as it teaches trainees a foundational understanding of the ATC position, as well as the uniqueness of each job option. Academy utilizes a generic airspace to teach ATC concepts and reinforces learning through practical application. Trainees must pass multiple hurdles during Academy, before moving onto the next section of training. Upon completion of the academy program, trainees are sent to the field location where they will complete field training and OJT leading to ATC certification. Questions in this section focused on the confidence gained during Academy and the preparation for field training provided by Academy training.

Confidence after Academy Training

Academy training is designed to increase knowledge, present opportunities to practice, and incorporate the concepts required of ATCs for practical application of principles, skills, and techniques when working on position. The level of confidence trainees have in each of these areas may impact their success in field training. A 5-point Likert confidence scale (*Extremely Confident* – 5 to *Not At All Confident* -- 1) was used to collect ratings. However, for simplification of data presentation the scale was aggregated into two categories, Most Confident (*Extremely Confident* and *Very Confident*) and Least Confident (*Somewhat Confident* and *Not At All Confident*).

Participants were asked to provide confidence ratings in their Knowledge, Skills, and Abilities (KSAs) at the conclusion of Academy training. Trainees were asked their confidence level in the knowledge learned, skills practiced, and concepts applied in order to be successful in field training. CPCs and OJTIs were asked their confidence in the trainee's ability to use the knowledge, skills, and concepts learned at Academy during field training. Table 2 shows agreement percentages of respondents. The additional percentages are calculated from neutral response selection.

Confidence in knowledge learned at the Academy resulted in an even split in the confidence ratings by Developmentals (*Most confident, Least confident*) while CPC-ITs selected *Most Confident*. Experienced controllers (CPCs and OJTIs) selected *Least Confident* when asked about the knowledge learned by trainees during Academy. The confidence ratings for the skills learned while at the Academy were rated *Least Confident* for Developmentals, CPCs, and OJTIs while CPC-ITs ratings selected *Most Confident*. For the application of concepts, almost half of the Developmentals (48%) and over half of the CPC-ITs (61%) selected *Most Confident*. In contrast, almost half of CPCs (48%) and over half of OJTIs (55%) rated this as *Least Confident*. These discrepancies suggest trainees and field ATC personnel differ in their confidence in trainee KSAs following Academy training with trainee's generally expressing confidence in their KSAs and field ATC personnel generally expressing less confidence in the KSAs of trainees.

Table 2.
Response Rates of Confidence in Trainees KSAs after Academy Training

		DEV	CPC-ITs	CPC	OJTI
Knowledge Learned	Most Confident	**33%**	**43%**	30%	22%
	Least Confident	**33%**	26%	**39%**	**43%**
Skills Learned	Most Confident	31%	**52%**	37%	5%
	Least Confident	**46%**	22%	**38%**	**43%**
Concepts Applied	Most Confident	**48%**	**61%**	37%	21%
	Least Confident	25%	13%	**48%**	**55%**

Note: Bolded number is highest agreement percentage for each response by position type.

Preparation after Academy

Respondents were asked to rate the extent Academy prepares trainees for field training. Questions in this category asked respondents to use a 5-point Likert scale (*Great Extent – 5* to *Not At All – 1*) for these items.

Similar to the confidence questions, trainees and ATC personnel disagreed regarding the extent Academy prepares Developmentals for field training (see Figure 1). The most frequent ratings for Developmentals (43%) and CPC-ITs (41%) was *Considerable Extent*, while CPCs (38%) was *Moderate Extent* and OJTIs (43%) was *Limited Extent*. The ratings suggest trainees believe Academy provides a considerable amount of preparation while field personnel disagree, rating the Academy as limited.
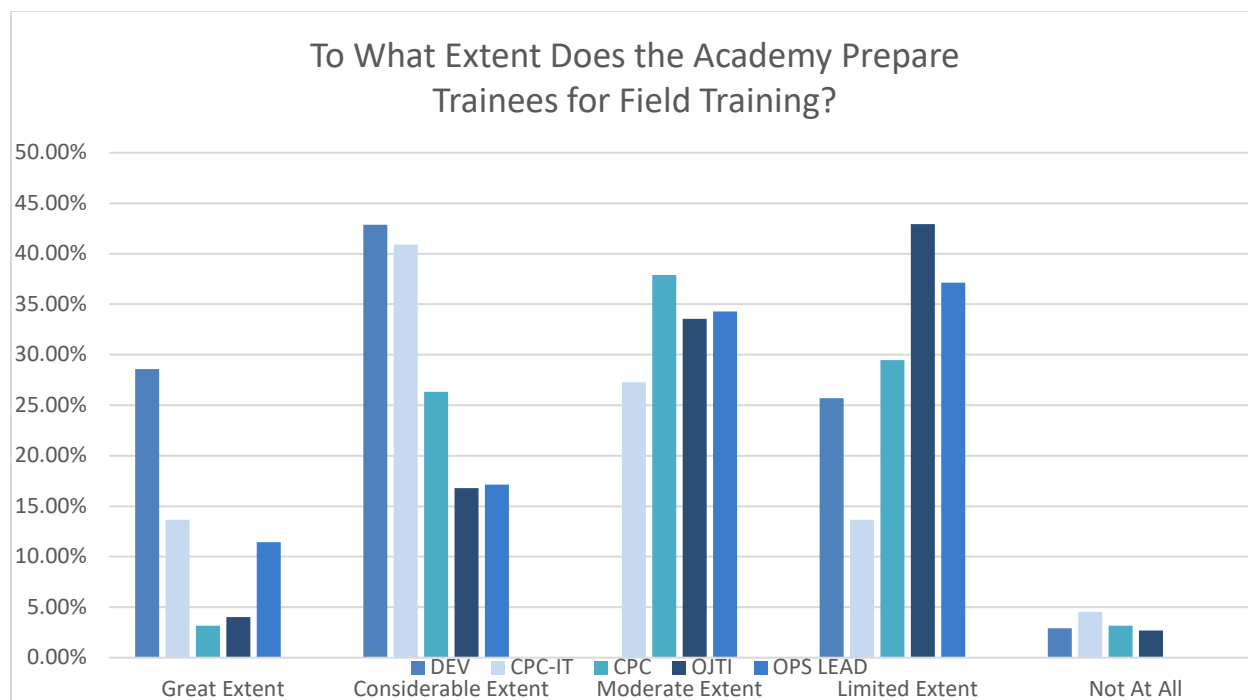
Figure 1.
Agreement Rates to Academy Preparation by Job Role

Field Training Program and the OJTI

The field training program allows trainees the opportunity to participate in classrooms, laboratory, computer-based instruction, simulation exercises, and on-the-job training controlling live traffic. A set number of hours are afforded to trainees based on the position and sector for certification. A training schedule is provided to trainees and OJTIs. Trainees and OJTIs may have some input in the training schedule, pace of the training, and order of training completed, but it is often dictated by the requirements of the position and the national training order. Training teams are assigned to each trainee consisting of a primary OJTI, at least one additional OJTI, CPCs, supervisors, and other staff as appropriate.

Training progress is monitored and documented by OJTIs. The documentation is used to provide feedback, either formally (using FAA Form 3120-25) or informally in order to identify strengths and weaknesses of the trainee. The quality of the training program and training standards are established nationally through the training order.

As trainees progress through the training program, OJTIs have the ability to request additional training hours (up to a 20% increase) or recommend the suspension of field training to OPS SUP/OPS MGR when warranted. The training team is also consulted and all relevant information is considered. The final determination for each trainee is made by the operations leadership team.

The OJTI experience is used to describe the effectiveness of the OJTI as a trainer and as a coach, the resources provided, and OJTI support from management and trainees. During formal instructor training, OJTIs learn to identify different needs of learners and adapt different training

styles. Being trained to provide quality training and support is a critical component in the field training program.

Prior Controller Experience

Trainees with prior controller experience are often "off-the-street" hires who have worked as military ATCs, contract ATC, or in other countries. Additionally, CPCs who have moved from one sector or job role, CPC-ITs, and have experience controlling traffic at the FAA may be considered prior controllers. Participants were asked the importance of previous controller experience on field training success. A 5-point Likert scale (*Always Important – 5* to *Never Important – 1*) was used for this question.

Over one-third of Developmentals (35%) and CPC-ITs (34%) indicated previous controller experience was *Sometimes Important* while almost half of CPCs (45%) selected the same response. However, Developmentals, CPC-ITs, and CPCs reported previous experience *Rarely Important* approximately 30% of the time. OJTIs were split equally across three categories, *Often Important*, *Sometimes Important*, and *Rarely Important*. *Always Important* had the lowest response rates for all participants.

Field Training Methods

Classroom training, computer-based instruction, simulation exercises, and on-the-job training are used to teach ATC concepts and skills during the field training program. The extent each methodology helped trainees prepare to work live traffic was asked of Developmentals and CPC-ITs. OJTIs were asked different questions relating to how each of the training methods supported learning prior to simulation, OJT, and controlling live traffic. Three different rating scales (*Great Extent – 5* to *Not At All – 1*; *Always – 5* to *Never – 1*; *Always Important -- 5* to *Never Important -- 1*) were used for these questions. Additional ratings for simulations included the percent of trainees who completed simulation exercises, as well as those who completed the exercises with their primary OJTI.

Classroom

Trainees were asked to provide a rating on the extent classroom training prepared them to control live traffic. One-third of Developmentals responded field classroom training prepared them for the job a *limited extent* while an additional 23% responded selecting a *Moderate Extent*. Over half of the CPC-ITs (57%) believed classroom training prepared them for the job to a *Moderate Extent*.

Laboratory

Trainees were asked the extent field laboratory training prepared them to control live traffic. Seventy percent of Developmentals stated laboratory training prepared them a *Great* to *Considerable Extent* while 82% of CPC-ITs agreed with the Developmentals' ratings.

Computer-Based Instruction

Three-fourths of Developmentals (75%) stated computer-based training prepared them for the job a *Limited Extent* to *Not At All*. Over two-thirds (68%) of CPC-ITs agreed with the developmental ratings.

Simulation Exercises

Developmentals and CPC-ITs were asked whether they were trained using simulation exercises, if the training was provided by their primary OJTI, and the extent working with an OJTI during simulation was helpful prior to controlling live traffic.

Almost three-fourths of Developmentals (73%) and CPC-ITs (70%) reported completing simulation exercises during field training. The simulation exercises were rarely completed with their primary OJTI as only 7% of Developmentals and 13% of CPC-ITs reported conducting simulation exercises with their primary OJTI. Over half of Developmentals (53%) and CPC-ITs (51%) believed completing simulation exercises helped them a *Considerable Extent* while an additional 23% of Developmentals and 19% of CPC-ITs selected a *Great Extent*.

Three questions were asked of OJTIs pertaining to simulation training. First, OJTIs were asked how often they complete simulation exercises with trainees as the primary OJTI. Second, OJTIs were asked how often they complete simulation with a trainee not assigned to their training team. Finally, OJTIs were asked to rate the extent simulation exercises prepared trainees to control live traffic.

The first question mirrored the trainees' response with almost three-fourths of OJTIs (71%) stating they *Rarely* or *Never* completed simulation exercises with their primary trainee. Additionally, a higher percentage of OJTIs (85%) responded they *Rarely* or *Never* complete simulation exercises with a trainee not assigned to their training time. For the final question, OJTIs were evenly split across two categories with almost two-thirds of the OJTIs (62%) stating simulation exercises prepared trainees to control live traffic a *Great Extent* or *Considerable Extent*.

On-the-Job Training

Success in OJT was measured by asking questions about the design of the OJT program for the trainees, the implementation of supervisors/managers policies to support training standards during OJT, and the training culture at the facility. Over half (54%) of the Developmentals and CPC-ITs and almost half of the CPCs and OJTIs (43%) indicated the design of the OJT program including duration, quality, and facility space used for training is *Always Important*. Additionally, 91% stated the OJTIs approach to training is *Always* to *Often Important* for training success. Supervisor and managerial policies affecting training, such as staffing support, schedules, and the ratio of OJTIs to trainees was listed as *Always* to *Often Important* according to 55% of all participants. Finally, having a supportive training environment at the facility was listed as *Always* to *Often Important* for trainee success according to 84% of all participants.

The field training methods generated comments from participants regarding classroom, laboratory, and simulation training, as well as issues with the type of instructor. Field training challenges were discussed by 14 respondents, but is best summarized by one participant who stated, "Most trainees who do make it to the floor are woefully unprepared. Book knowledge and laboratory training are lacking. The things that are taught are not how it is done on the floor." Additionally simulations were a point of contention by nine participants who stated, "Simulations in a lab are not realistic. They can't create a real environment in a training mode," was a common concern by participants as well. Finally, the quality of instructor was discussed by 19 participants. One participant stated, "Contract instructors teach off PowerPoint slides, however there is a lot of information that is skipped. Being a new trainee you miss out on a lot of important information." Another participant stated "Some contract instructors have previous experience [which is] good. However, those who are retired are not up-to-date on current operations. They provide the experience aspect but not the details of the procedures used in the current environment. This may mean there is a gap in real-life [application] and the training [we receive]."

Training Standards

Trainees' success depends on the pace of the training and the quality of the training which is set forth by the national training standards defined to ensure the appropriate number of hours are allotted for each trainee. This standard ensures all trainees receive the same amount of instruction during field training. Two 5-point Likert scales were used in this section (*Extremely Satisfied – 5* to *Extremely Dissatisfied – 1; Great Extent – 5* to *Not At All – 1*).

Allotted Hours. Half of the Developmentals and CPC-ITs believed the number of training hours allotted were appropriate for field training while 45% of CPCs and OJTIs agreed the number of training hours were appropriate.

Pace and Schedule of Training. Almost two-thirds of Developmentals and CPC-ITs (62%) were *Satisfied* to *Extremely Satisfied* with the pace of instruction and 78% were *Satisfied* to *Extremely Satisfied* with the training schedule.

Completeness and Quality of Training. Over two-thirds (69%) of the Developmentals and CPC-ITs trainees were Satisfied with the completeness and quality of the training program.

Training Standards. Forty-seven percent of experienced controllers (CPCs and OJTIs) believed training standards were followed a *Considerable* amount of the time compared to the majority of Developmentals and CPC-ITs (40%) who reported training standards were followed a Moderate amount of the time. Thus, Developmentals and CPC-ITs are less likely to believe the training standards are followed than the CPCs and OJTIs.

Participants provided several comments regarding the allotted hours, quality of the training, and length of time people remain in field training without progressing. 19 participant comments stated the training policy was problematic. One participant noted that, "Mandating a specific amount of training hours without considering external factors has made training

difficult. The priority is no longer on setting up trainees for success but rather training until you get 12-15 hours per week." The efficiency of training was also problematic where at least 6 participants indicated most trainees had been at their facility almost 2 years without actually controlling traffic. An additional 4 participants agreed. One participant summarized their thoughts stating, "The new initiative has made training more stressful and morale has taken a hit."

Decision-Making

Decisions regarding training, number of training hours, and number of trainees assigned to an OJTI were also considered possible factors affecting field training. Two 5-point Likert rating scales were used (*Strongly Agree – 5* to *Strongly Disagree – 1*; Great *Extent – 5* to *Not At All – 1*) for these questions.

Training Decisions. Three-fourths of Developmentals (75%) and over half of CPC-ITs (57%) *Agreed* they were able to contribute to the decision making process for training while less than half of OJTIs (44%) *Agreed* they had input in the trainees plan.

Training Hours. Over half of Developmentals (64%) and almost half of CPC-ITs (47%) reported they had *Limited* to *No* input in the training hours received during field training. Over two-thirds of OJTIs (63%) agreed they had Limited to no input as well.

Assigned Trainees. OJTIs were asked if they had any control over the total number of trainees assigned to them at a given time. Almost half of the OJTIs (49%) stated they had *Limited* to *No* input in determining the trainee-to-trainer ratio at their facility.

Positive ($n = 11$) and negative ($n = 35$) comments were made by participants about their facilities field training practices. The positive comments are best illustrated by the statement, "I have consistently received above the minimum weekly training time prescribed. I have consistent instructors and training that has been designed for me to be successful." Another positive comment stated, "We need to set the bar high. Train to succeed. Not everyone has what it takes." On the negative side, one participant stated, "The training program seems to have taken several steps backward. We should be training individuals to work on the floor and remove half of the simulation time." Additionally, CPCs ($n = 9$) responded they would like managers to allow trainers and OJTIs to make decisions on when to train rather than dictate training hours each week. This will allow the quality of training to be the focus not just the quantity of training hours received.

Training Team Experience

Developmentals and CPC-ITs are assigned to a training team once they begin the field training program. The training team is used as a support system for the trainee. The training team is responsible for attending meetings and providing feedback throughout the trainees' field training and OJT experiences. Participants were asked about their experience with the training team including the frequency of training team meetings, rapport with team members, feedback

received regarding trainee progress, confidence trainees had in the training team, and the confidence the training team had in the trainees as members of the team. A multiple choice item was used to measure the frequency of meetings attended (*Weekly, Bi-weekly, Monthly, Every Other Month, Every 6 Months,* and *Never*). In addition, two 5-point Likert scales were used for these items (*Always Important – 5* to *Never Important -1*; *Great Extent – 5* to *Not At All – 1*).

All participants were asked to select the frequency of training meeting attendance (Figure 2). Over half of the participants (62%) stated monthly meetings were most common. In terms of confidence in one's training team, over half of the Developmentals (56%) and CPC-ITs (59%) reported they had a *great* amount of confidence in the training team members. Over half of the OJTIs (52%) reported a *Considerable* amount of confidence in the trainees. The majority of OJTIs (89%) reported training teams were *Highly* confident in their ability as instructors. Rapport among training team members was listed as *Always Important* by approximately half of the Developmentals (45%) and two-thirds of the CPC-ITs (60%) while 42% of OJTIs believed it was *Often Important*.
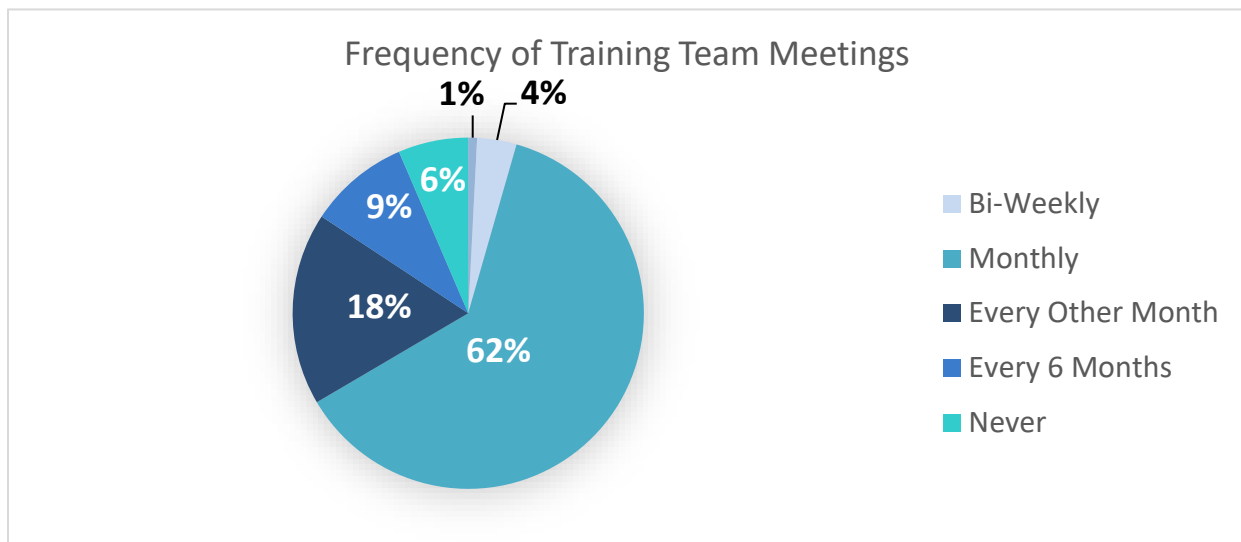
Figure 2.
Frequency of Training Team Meetings

Trainees who have confidence in training team members and have built rapport are likely to use feedback to judge their progress and make changes when necessary. One-third of Developmentals (38%) stated feedback received from training team members and during monthly meetings was used a *Considerable* amount of the time while almost one-half of CPC-ITs (48%) believed it was used a *Great* amount of the time. For experienced controllers, CPCs (38%) and OJTIs (43%), training team feedback was taken into account a *Considerable* amount of the time when making decisions regarding training progress.

Training Progress

Training progress is monitored and documented through OJT sessions, monthly skills checks, and total hours expended in training. FAA Form 3120-25 is used to document trainee's

progress. When a trainee is close to certifying on a sector, OJTIs have the ability to request up to 20% more training hours. The training team members are consulted and a decision to grant additional hours or to suspend OJT is made. OPS SUP/OPS MGR make the final determination regarding additional hours. Three 5-point Likert scale (*Great Extent – 5* to *Not At All – 1*; *Always – 5* to *Never – 1*; *Strongly Agree – 5* to *Strongly Disagree - 1*), as well as a dichotomous *Yes/No* response option were used for these questions.

OJT Sessions. Trainees meet with OJTIs in order to discuss the goal of each OJT session (Prebriefing), as well as provide feedback after the session (Debriefing). The OJTI is tasked with taking notes during the session to provide specific feedback used to assist the trainee.

Prebriefing discussions are *Rarely* or *Never* conducted most often, while debriefing sessions are *Always* or *Often* convened most often according to participants (Table 3). The biggest challenge with attending prebriefing sessions is the *Lack of Time* available according to approximately two-thirds of Developmentals (60%), CPC-ITs (65%), and OJTIs (67%). However, after the OJT sessions, debriefing is not a problem as *Time is Available* according to Developmentals (68%), CPC-ITs (57%), and OJTIs (63%).

Over one-third of Developmentals (37%) and almost half of the CPC-ITs (48%) stated notes were *Often* taken by the OJTI during OJT sessions. In addition, 40% of OJTIs stated they *Always* take notes during the sessions. Forty percent of Developmentals and 55% of CPC-ITs stated the notes are *Often* used to provide feedback after the sessions while 50% of OJTIs stated they are *Always* used for feedback. Half of the trainees and OJTIs stated the notes are *Often* used to provide improvement and clarify expectations before and after the OJT sessions.

Table 3.
Response Rates to Having OJT Briefing Sessions

		DEV	CPC-IT	CPC	OJTI
Prebriefing Discussions	Always	8%	0%	3%	3%
	Often	0%	5%	18%	32%
	Sometimes	13%	18%	9%	**40%**
	Rarely	**70%**	32%	**44%**	37%
	Never	4%	**45%**	40%	20%
Debriefing Discussions	Always	**63%**	**64%**	**41%**	**70%**
	Often	33%	23%	40%	23%
	Sometimes	4%	9%	17%	7%
	Rarely	0%	4%	2%	0%

		DEV	CPC-IT	CPC	OJTI
	Never	0%	0%	0%	0%

Training Requirements and Expectations. Participants were asked if the training requirements and expectations were clearly communicated from OJTIs and OPS SUP/OPS MGR, as well as if they were following the requirements and expectations. The majority of trainees (94%) and OJTIs (93%) *Agreed* training requirements and expectations were communicated clearly. Additionally, 90% of trainees and 88% of OJTIs *Agreed* the training requirements and expectations were followed by OJTIs and management. Three fourths of the Developmentals and CPC-ITs and the majority of OJTIs (82%) *Agreed,* Form 3120-25 was being used 56% of the time to track developmental and CPC-IT progress.

Skills Checks. Performance and certification skills checks are completed frequently in order to document trainees' progress. Performance skills checks provide feedback to the trainee throughout the training program. Certification skills checks are used to qualify a trainee on a sector. Respondents were asked the extent skills check are used to judge performance during field training. Over one-third (35%) of Developmentals, 35% of CPC-ITs, and 35% of OJTIs stated monthly skills checks were *Rarely* or *Never* used to document performance during OJT, while an additional 28% stated they are *Sometimes* used.

Training Hours. Training hours are designated by the national training order, although OJTIs have an opportunity to ask for up to an additional 20% of hours for a trainee. OPS SUP/OPS MGR award additional hours based on feedback from the OJTI and/or training team. Training hours are used to judge training progress as well. According to almost half of the trainees (48%) and OJTIs (47%), the total hours spent in training is used to evaluate trainee progress a *Significant* amount of the time. Additionally, more than half of OJTIs (61%) reported they had recommended additional training hours for trainees. The most common reasons for granting these hours based on participant comments are included in Table 4.

Table 4.
Common Reasons for Requesting 20% Increase in Training Hours by OJTI

Reason	Total
Trainee Needs Few More Hours to Certify	30
Trainee Not Ready for Performance Check	24
Assigned/Reassigned New OJTIs/Training Teams	16
Unrealistic Traffic Patterns (Weather, Holiday, etc.)	12
Believe Certify with More Training Time	6
Not Progressing as Expected	4
Not Able to Perform Job	3

The OJTI Experience

Researching the effectiveness of the OJTI as a coach, the instructor training provided to OJTIs, the materials and resources provided to use in training, as well as the support received from operations leadership is key to understanding the OJTI experience. Questions were posed to OJTIs regarding their desire to be an OJTI and to document the usefulness of training, materials, and resources. Understanding the most commonly used training styles was also collected. Dichotomous, *Yes/No* response items, two 5-point Likert scales (*Always Important – 5* to *Never Important – 1*; *Extremely Influential – 5* to *Not Influential – 1*), and multiple choice items were used to answer these questions.

OJTI Motivation. Experienced controllers were asked if they were motivated to become an OJTI prior to the assignment. Almost half of the respondents (48%) answered *Affirmatively*. OJTIs who responded affirmatively were asked the most *Influential* reasons they chose to be an OJTI (Figure 3). The most influential reasons for becoming an OJTI were helping the trainee succeed and the belief they would be a good trainer. A pay increase and a requirement by management were the least influential reasons selected by participants.
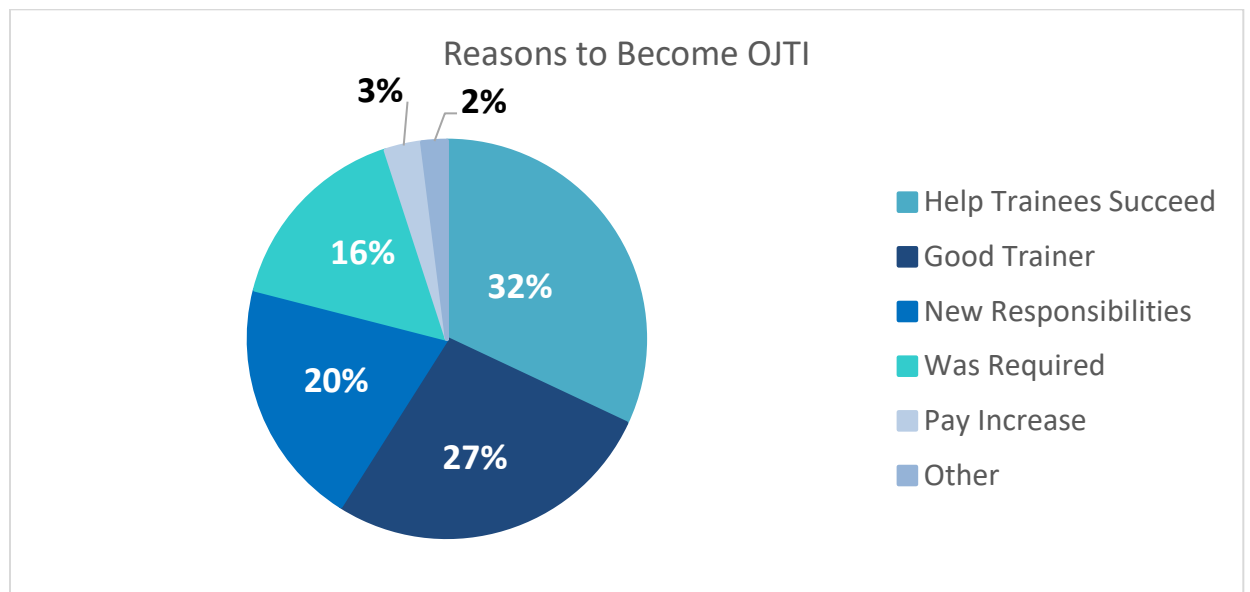
Figure 3.
Reasons to Become an OJTI

Note: Other category included believing they could help increase certification rates, others instructors were not good instructors, they wanted to share the workload, and the belief they would become better controllers by training others.

OJTI as Coach. Participants were asked if they viewed OJTIs as effective coaches. The majority of Developmentals (83%) and almost three-fourths of CPC-ITs (74%) responded OJTIs

were *Effective* coaches. Additionally, two-thirds (67%) of OJTIs affirmed OJTIs were *Effective* coaches overall.

        Formal OJTI Training. A formal training program is available to support OJTIs in their role as coach. Resources are provided to OJTIs during training such as materials and tools. Participants were almost equally split when asked if the formal OJTI training was useful. Approximately one-fourth of the OJTIs (22%) responded the training was *Significantly* useful, 25% selected *Considerably* useful, 25% selected *Moderately* useful, and 24% selected *Marginally* useful. The perceived usefulness of the OJTI training resources and materials was similarly split among OJTIs. Approximately one-fourth of the OJTIs (22%) considered them *Significantly* useful, 26% selected *Considerably* useful, 26% selected *Moderately* useful, and 22% selected *Marginally* useful. One reason the materials may not be viewed as useful is because over half of the OJTIs (62%) responded the materials were *Marginally* appropriate for a coach/instructor. Again, OJTIs were split regarding the utilization of the training materials and resources while working with trainees. Approximately one-fourth of the OJTIs (24%) stated they used the materials and resources a *Significant* amount of the time, 26% selected a *Considerable* amount of the time, 24% selected a *Moderate* amount of time, and 21% selected a *Marginal* amount of the time during training.

        OJTI Training Styles. Participants were asked to select the training style used by their primary OJTI (Figure 4). The most common training style selected by participants was O*bserves Performance and Provides Verbal and/or Written Feedback at the Appropriate Time*, chosen by 55% of the Developmentals and 69% of OJTIs. CPC-ITs selected *Observes Performance and Provides Verbal and/or Written Feedback at the Appropriate Time* 39% of the time, but also listed *Observes Performance and Intervenes to Provide Feedback if Absolutely Necessary* as a common style used (34%).

        CPCs were the only group to have a different training style as the most common. *Tells Me What to Do* was selected by 59% of the CPCs. *Pushes Me To The Near Breaking Point To See What I Can Handle* was the least selected training style by all participants. Less than 5% of CPCs (4%) and CPC-ITs (3%), and 0% of Developmentals or OJTIs selected this style. The *Other* category referred to a combination of training styles being used most often. The OJTIs training style attributed a *Minimal* to *No* impact on trainee success according to 49% of trainees.

        Participants commented on the training styles and personality of the OJTIs with the trainees. Specifically, 12 participants stated the training style of the OJTI did not always "mesh" with the trainee. Participants stated they would like it to be "easier to request a new OJTI if the current one wasn't working out" as they stated this often hindered their progress or caused some trainees to wash-out or move from facilities.
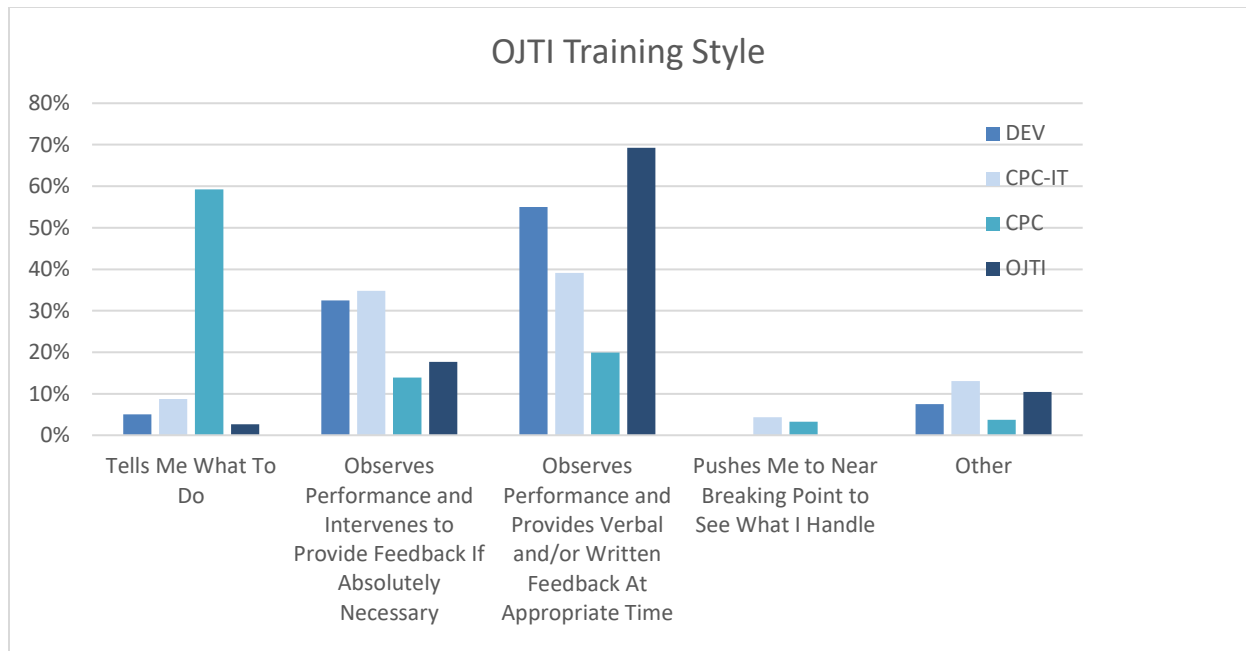
Figure 4.
Response Rates to OJTI Training Styles

Field Training Satisfaction

Participants were asked to provide a satisfaction rating for the current field training program and if the field training process could be improved. Figure 5 provides the distribution of field training satisfaction ratings by job role. Neutral responses have been eliminated. Trainees (Developmentals and CPC-ITs) were the most satisfied while experienced controllers (CPCs and OJTIs) were the least satisfied with field training according to participants. Participants were asked if the training process could be improved. Over two-thirds of Developmentals (68%) and the majority of CPC-ITs (96%), OJTIs (89%), and CPCs (82%) responded the field training process needed improvement.

Figure 5.
Response Rates to Field Training Satisfaction Ratings

Workload

Workload is influenced by the number of aircraft, number of scheduled CPCs and trainees, as well as other external factors such as holidays, special events, or weather. When trainees are working live traffic, the OJTIs and other controllers have to remain more diligent to ensure safe and smooth operations. For OJTIs, the number of hours worked, number of trainees, and number of extra shifts can impact their effectiveness as a trainer.

Questions were asked of CPC-ITs, CPCs, and OJTIs pertaining their effectiveness as a trainer when workload changes. All participants were asked questions regarding OJTI performance and energy. Dichotomous, yes/no questions, and two 5-point Likert rating scales (*Always – 5* to *Never – 1*; *Great Extent – 5* to *Not At All – 1*) were used for these items.

Management Expectations

Some managers require controllers with experience, including CPC-ITs and CPCs, to work as OJTIs, while other managers request volunteers. CPC-ITs and CPCs were asked if they had ever worked as an OJTI. Almost three fourths of CPC-ITs (74%) and the majority of CPCs (87%) responded *Affirmatively* to this question with 6% of CPC-ITs stating they were *Required* to work as an OJTI while in training. In addition, 67% of the CPCs and 45% of OJTIs stated they were *Required* to work as an OJTI at their facility.

OJTIs are often required to work extra hours. Additional hours may be due to increased trainee to OJTI ratios, changes in training schedule, and current schedule. Approximately one-third of CPC-ITs (32%), 34% of CPCs, and 30% of OJTIs stated they *Always* work more hours as an OJTI than as an ATC.

OJTI Performance

Participants responded to questions related to how schedules and workload impacts performance of the OJTIs. *High* workload was often rated as *Sometimes* impacting performance of OJTIs by Developmentals, CPC-ITs, and OJTIs, and *Rarely* impacting performance of OJTIs by CPCs. Working overtime was rated as *Rarely* impacting performance of OJTIs according to Developmentals, and *Never* impacting performance of the OJTIs according to the majority CPC-ITs, CPCs, and OJTIs. Finally, extra shifts was rated as *Rarely* impacting performance of OJTIs by Developmentals, *Sometimes* impacting performance of OJTIs, and *Never* impacting performance of OJTIs by CPCs and OJTIs (Table 5).

Table 5.
Agreement Rates of OJTI Performance

		DEV	CPC-IT	CPC	OJTI
High Workload	Always	0%	6%	6%	10%
	Often	17%	17%	7%	8%
	Sometimes	**61%**	**47%**	34%	**45%**
	Rarely	22%	25%	**44%**	41%
	Never	0%	5%	9%	5%
Overtime	Always	6%	8%	6%	3%
	Often	9%	18%	6%	8%
	Sometimes	33%	24%	8%	18%
	Rarely	**39%**	23%	23%	21%
	Never	13%	**27%**	**57%**	**50%**
Extra Shifts	Always	6%	10%	8%	4%
	Often	12%	15%	4%	7%
	Sometimes	27%	**26%**	8%	16%
	Rarely	**42%**	25%	15%	21%
	Never	13%	24%	**65%**	**52%**

Note: Bolded number is highest agreement percentage for each response by position type.

OJTI Energy

Participants were asked about the energy, alertness, and engagement the OJTIs have when conducting training. Approximately half of the trainees (48%) agreed *Sometimes* OJTIs had plenty of energy when conducting training while 46% agreed OJTIs *Often* have plenty of energy to conduct the training. Additionally, 54% of all respondents agreed OJTIs were *Often*

quite alert during OJT. Over half of Developmentals and CPC-ITs (56%) and OJTIs (51%) stated OJTIs were *Sometimes* drained, while 54% of CPCs responded OJTIs were *Rarely* drained when conducting training. Approximately half (49%) of all respondents stated OJTIs were *Rarely* tired when working as a trainer. Finally, 60% of trainees and 55% of CPCs and OJTIs believed OJTIs were *Often* engaged with trainees during OJT. Very few respondents (less than 5% for each question) responded that OJTIs were *Never* energetic, alert, or engaging during OJTI.

Open-ended comments received discussed the workload of OJTIs. Ten participants responded that, "OJTIs are overworked and exhausted." Additionally, one OJTI simply stated, "I just don't want to train people anymore. I've being doing it for way too long. I'm getting older and don't have the patience to train someone."

Stress Management

Stress management is an important component of working as an ATC as the position requires controllers to control the flow of air traffic in the NAS and ensure the airspace remains safe for all aircraft (Torrence et al., 2020). There is evidence to suggest trainees find the FAA Academy training process to be stressful because of the performance evaluations and possibility of failure (Barrett et al., 2018). These stressors are also likely prevalent in field training as well and could potentially prevent qualified individuals from passing field training at their first facility. There is need to understand how stress affects the field training process, such as the performance of trainees and experienced controllers, and identify potential remedies for ATC stress. Additionally, if a trainee fails to certify on position, they are at risk of being dismissed from the position and losing their employment with the FAA. The use of this multi-hurdle approach to employment, along with the safety requirements of maintaining the NAS (i.e., high traffic, time pressure, weather systems, etc.), can increase the stress levels of trainees and CPCs (Torrence et al., 2020). Thus, understanding the impact of stress on their cognitive, emotional, physical, and social interactions can be a critical skill for ATCs when managing their career.

Questions in this section asked participants to identify the extent stress affects job performance, the impact of stress on the trainee's ability to successfully complete field training, and the challenges trainees have with stress based on seven external factors. Additionally, participants were asked the importance of managing stress during field training. An open-ended question asked participants to identify ways they manage stress in order to remain successful in training and on the job. Two 5-point Likert scales (*Great Extent – 5* to *Not At All – 1; Always – 5* to *Never – 1*) were used for these items.

Effect of Stress on Performance

Participants were asked to identify how stress affects job performance. Almost half (49%) of the participants stated trainees experience a *Great* to *Considerable* amount of stress during training. However, a large percentage of respondents (68%) stated the stress experienced *rarely* has a negative impact on performance. A follow-up question, asking what types of factors affect stress, was asked of respondents who indicated performance is impacted by stress. Accordingly, over half of the respondents (54%) stated, when performance is impacted by stress,

the stressors are *Always* or *Often* external factors, such as placement in an assigned facility, finances, and family, of which the individual has little control.

Factors Contributing to Stress

An overall breakdown of the factors contributing to stress of the ATC position was calculated and is listed by rank order in Table 6. Ranks were determined by calculating responses from highest response rates to lowest response rates for each stressor. The factor ranked as the greatest contributor to stress was *Training*. The factor with the lowest contributor to stress was attributed to *Cost of Living/Housing*.

Table 6.
Overall Rank Order of Factors Contributing to Stress

Factors	Rank
Feeling Stressed during Training	1
Poor Physical and/or Mental Health	2
Inability to Maintain a Better Quality of Life	3
Lack of Social Integration at Facility	4
Family Challenges (Spouse/Need for Childcare)	5
Lack of Social life	6
Cost of Living/Housing	7

An additional analysis of each stressor by job role was calculated (Figure 6). Developmentals and CPCs selected *feeling stressed* as the greatest factor contributing to stress. CPC-ITs attributed *Physical and/or Mental Health* as the greatest factor contributing to stress as an ATC, while OJTIs selected *Social Integration* most frequently.
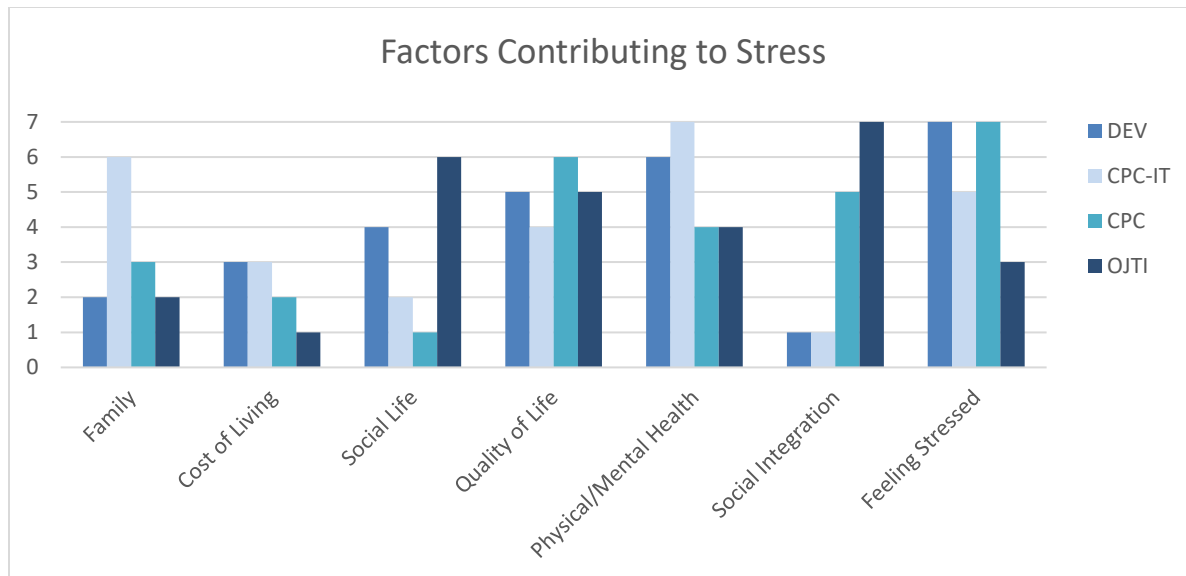
Figure 6.
Job Role Rank Order of Factors Contributing to Stress

   Quality of Life was also listed as a contributing factor by all respondents. The least impactful factor was *Social Integration* for trainees*, Social Life* for CPCs*,* and *Cost of Living* for OJTIs*.* A few trainees (*n* = 5) summarized this by saying that being in a new career field adds stress to one's job and family, and providing resources and opportunities for success helps them deal with stress.

Stress Management Techniques

   The majority of participants (84%) stated managing stress was *Always* to *Often Important* for success in training and while on-the-job. Participants reported the techniques they used to manage their stress which were coded and sorted into four categories: *Cognitive*, *Emotional*, *Physical*, and *Social*. A total of 343 responses were coded into four categories: cognitive, emotional, physical, and social. The team created definitions of each of these categories based on Liptak and Leutenberg (2014). *Cognitive* techniques allow individuals to engage in mental activities such as reading, hobbies, and meditation to manage work-related stress. *Emotional* techniques include activities that produce a calming effect, boost general well-being and/or positive energy as a way of reducing work-related stress. *Physical* techniques are behaviorally-based techniques aimed at reducing stress such as exercise, eating, and napping as a way of recovering from work-related stress. Finally, *Social* techniques are interpersonal relationships created to support, influence, and/or provide perspective to others who are, managing work-related stress.

   Cognitive techniques (*n* = 73) included reading, thoughtfulness (reframing or reappraising stressful situations), crafts/hobbies/art, games, and avoiding confrontations as ways to manage stress. Seventy-two responses were coded under *emotional* techniques including

watching movies and television, listening to music, using humor, and using personal time to deal with difficult feelings of stress. *Physical* techniques were used the most often by participants (n = 157). Deep breathing, eating, sleeping, and exercising were listed as most common responses in this category. Finally, *Social* techniques (n = 41) were used to manage stress. These techniques include going out with friends, family, and coworkers, traveling, and conducting volunteer work. In addition to the open-ended question, participants responded to the frequency of managing stress during training.

Interpersonal Dynamics

Interpersonal dynamics plays a vital role in a successful training experience for all trainees. Participants were asked questions regarding their occupational expectations, how the relationship as OJTIs to trainees impact success, and the perception relationships have on training success. Additional questions were used to understand training team feedback and peer comparisons for Developmentals and CPC-ITs. Six different 5-point Likert scales were used in this section (*Completely – 5* to *Not At All – 1*; *Extremely Likely -- 5* to *Extremely Unlikely -- 1*; Great *Importance – 5* to *Not At All – 1*; *Great Extent – 5* to *Not At All – 1*; *Always – 5* to *Never – 1*; *Definitely Yes – 5* to *Definitely No -- 1*).

Occupational Expectations

Over half (55%) of Developmentals CPC-IT, CPCs, and OJTIs responded the job was *Mostly* what they expected, followed by 19% who stated the job was *Somewhat* what they expected, and 15% who stated the job was *Completely* what they expected. Additionally, 73% of Developmentals, CPC-ITs, CPCs, and OJTIs responded they are *Likely* recommend the job to family and/or friends. Additionally, OJTIs were asked if they were satisfied working as an OJTI; 66% responded favorably.

Relationships

Eighty percent of trainees stated having a positive relationship with an OJTI was of *Great Importance* while 50% percent of OJTIs agreed it was of *Great Importance.* However, the effect of the relationship on trainee success was rated as having *Little* (30%) to *No* (40%) impact by trainees and *Little* (31%) to *No* (59%) impact by OJTIs.

Developmentals and CPC-ITs were asked to provide a rating on the impact of trainee individual differences (i.e., ability, personality, aptitude) on training success while CPCs were asked to make ratings about Developmentals' individual differences. OJTIs were asked the extent individual differences interfered with their ability to train. *Limited* impact was the most frequent response to this item with 44% of Developmentals, 36% of CPC-ITs, 35% of CPCs, and 30% of OJTIs choosing this response. *No* impact was second for Developmentals (36%) and CPCs (28%), third for CPC-ITs (18%), and last for OJTIs (5%). CPC-ITs selected *Great* impact second (23%), while this was second lowest response by OJTIs (14%) and lowest response by CPCs (6%) and Developmentals (5%). OJTIs selected *Moderate* (29%) impact second, while this was the response for 19% of CPCs, 14% of CPC-ITs, and 10% of Developmentals. A few

participants (*n* = 4) stated, training is rewarding when it is successful, but far too much depends on personalities and getting along with co-workers.

Feedback

      Trainees receive feedback from OJTIs, OPS SUP/OPS MGR, and the training team to judge training progress during the field training program (Table 7). Of all the comments received, training team comments were rated the highest quality of feedback received for all participants, except Developmentals who ranked the training team comments as second. Comments made by the training team were used to judge training progress a *Great* amount of the time according to 92% of CPC-ITs, 75% of CPCs, 73% of Developmentals, and 70% of OJTIs. Training team comments were used at least part of the time according to all respondents, as *Not At All* was not selected for this question.

      OJTI comments were ranked as the second most important type of training feedback received by all participants except Developmentals who ranked these comments first. Accordingly, OJTI feedback had a *Great* impact on training progress according to 83% of Developmentals, 79% of CPC-ITs, 74% of CPCs, 57% of CPC-ITs, and 36% of OJTIs. Interestingly, OJTIs stated their feedback was *Marginally* important according to 59% of respondents. Additionally, OJTIs were the only respondents who selected *Not At All* for this question. Finally, OPS SUP/OPS MGR comments were rated the lowest by all participants with 50% of Developmentals, 57% of CPC-ITs, 51% of CPCs, and 13% of OJTIs stating they are used a *Substantial* amount of the time. Equally as important is the responses by all participants who stated supervisor/manager comments were *Never* used to judge training progress.

Table 7.
Agreement Rates of Feedback of Training Progress from OJTIs and OPS SUPs/MGRs to DEVs, CPC-Its, CPCs, and OJTIs

		DEV	CPC-IT	CPC	OJTI
OJTI	Great	40%	**44%**	29%	7%
	Considerable	**43%**	35%	**45%**	29%
	Moderate	15%	9%	21%	**39%**
	Limited	2%	9%	5%	20%
	Not At All	0%	3%	0%	5%
OPS SUP/MGR	Great	15%	**35%**	24%	4%
	Considerable	**35%**	22%	**27%**	9%
	Moderate	25%	17%	19%	**39%**
	Limited	18%	17%	22%	33%
	Not At All	7%	9%	8%	15%

		DEV	CPC-IT	CPC	OJTI
Training Team	Great	35%	**48%**	37%	27%
	Considerable	**38%**	44%	**38%**	**43%**
	Moderate	20%	8%	19%	26%
	Limited	7%	0%	6%	4%
	Not At All	0%	0%	0%	0%

Note: Bolded number is highest agreement percentage for each response by position type.

Peer Comparison

Peer comparison is one way progress in training is judged. Participants stated they *Rarely* used peer comparisons to judge their own training progress according to 61% of CPC-ITs, 50% of Developmentals, and 48% of CPCs. In addition, 20% of CPCs, 18% of Developmentals, and 13% of CPC-ITs stated they *Never* use peer comparisons. OJTIs responded similarly with 60% stating they *Rarely* judge trainees' progress using peer comparisons and 36% stating they *Never* use peer comparisons.

Certification

Trainees were asked to rate their agreement in whether they believe that they will certify and their peers would certify. Additionally, trainees were asked if they thought their OJTIs, OPS SUPs, and OPS MGRs believed they would certify (Table 8). Over half of Developmentals stated their OJTIs (51%), OPS SUPs (53%), and OPS MGRs (53%) believed they would definitely certify while a larger percentage reported the same for self (73%) and peers (54%). Even higher agreement was noted by CPC-ITs who believe 78% of OPS SUPs, and OPS MGRs, and 65% of OJTIs believe they will definitely certify. CPC-ITs reported they were more likely to certify (70%) than their peers rated them (63%).

Table 8.
Agreement Rates for Believe Trainee Will Certify

		SELF	PEERS	OJTIs	OPS SUPS	OPS MGRS
Developmentals	Definitely Yes	**73%**	**54%**	**51%**	**53%**	**53%**
	Probably Yes	24%	26%	36%	34%	17%
	Neutral	3%	20%	10%	13%	30%
	Probably Not	0%	0%	3%	0%	0%
	Definitely Not	0%	0%	0%	0%	0%
CPC-ITs	Definitely Yes	**70%**	**63%**	**65%**	**78%**	**78%**
	Probably Yes	26%	32%	35%	17%	11%
	Neutral	4%	5%	0%	5%	11%
	Probably Not	0%	0%	0%	0%	0%
	Definitely Not	0%	0%	0%	0%	0%

Note: Bolded number is highest agreement percentage for each response by position type.

CPCs and OJTIs were asked if they believed most trainees would certify at their facility (Figure 7). Over half OJTIs (51%) believed trainees would *Definitely* certify while 36% reported they would *Probably* certify. CPCs rated this question lower with 18% believing they would *Definitely* certify and an additional 48% reporting they would *Probably* certify. Open-ended comments also supported this notion with 21 participants stating they believed trainees would certify with adequate time and training.
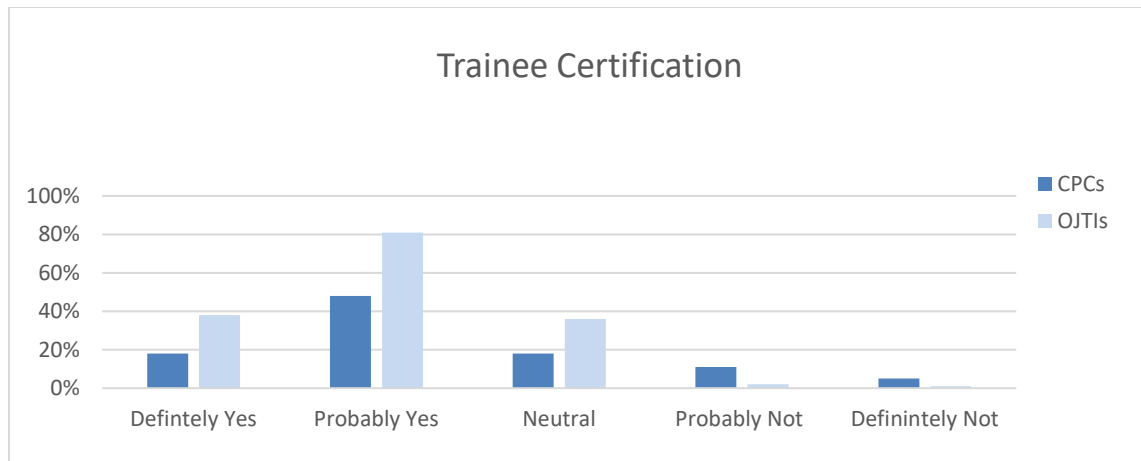
Figure 7.
Response Rates for Belief Trainees will Certify

Discussion

The ATCS position is demanding. Controllers must maintain a high standard of performance during training, as well as when performing the job, to ensure the safety of air traffic. As such, a multi-hurdle standardized training and certification program has been designed and implemented to ensure trainees become equipped with the proper knowledge and skills to become CPCs. Although many potential controllers make it through the selection process and Academy training, some trainees fail to certify at their first facility and are either transferred to a lower facility or not retained (FAA, 2019a). Although prior research has generated insight on reasons for field training failures (Buck & Pierce, 2018; Pierce & Bryne, 2015), these studies were limited in scope and not inclusive of all ATC personnel. As a result, the current study was designed to gain a more holistic understanding of the factors influencing field training success.

Five surveys were developed and disseminated at six field locations. Each survey was created to focus on a specific position in the ATC workforce. The surveys were divided into content areas, identified by the previous studies, to capture a comprehensive understanding of the perspectives of different ATC personnel who work with field training. The content areas differed depending on job role, however, each survey included sections such as background, preparation, process, workload, training feedback, and interpersonal dynamics.

The goal of the research was to identify factors impacting three field training outcomes. First, researchers attempted to identify reasons trainees who demonstrated an aptitude for ATC positions at selection and successfully complete FAA Academy training still struggle with field training certification. Second, being able to ascertain the internal factors impacting certification rates at the first facility might bring to light opportunities for mitigating these challenges. Finally, the researchers attempted to identify external factors, which play a role in a trainee's ability to certify at the first facility. The external factors might guide policies and procedures best practices that could be implemented during field training.

Analyzing the data collected in these areas led to the generation of new themes: *Academy Training, The Field Training Program and the OJTI Experience, Workload, Stress Management,*

and Interpersonal Dynamics. Findings from these themes are summarized and recommendations are provided when appropriate.

Academy Training

The FAA Academy provides the first exposure to the ATC position for most trainees. As a result, trainees stated Academy provided them with a solid foundation of the knowledge and skills required to understand the position, as well as allowed them to practice what they learned using a generic airspace. In addition to the learning and practice, trainees were required to demonstrate their ability to integrate the concepts during performance assessments. If trainees were successful during the performance assessments, they qualified for a field assignment. If unsuccessful, they are terminated. As a result of this multi-hurdle qualification approach, trainees reported an increase in confidence following completion of the Academy. Trainees stated they were adequately prepared to attend field training. However, experienced controllers disagreed with this evaluation reporting the Academy provides trainees with a very limited understanding of the ATC position. Specifically, the complexity of air traffic and differences in airspaces at each facility are not explored at the Academy. CPCs and OJTIs believe this lack of exposure led to trainees developing overconfidence in their knowledge and skills. OJTIs also viewed the confidence displayed by Developmentals as a hindrance to success rather than a positive attribute, since the OJTIs would like the trainees to be open to learning. One OJTI summarized, "Students are less prepared and knowledgeable about ATC when they arrive [from the Academy]." Another agreed, stating, "I believe trainees are not equipped from the FAA Academy training."

In addition to the lack of preparedness of Academy graduates, participants stated trainees were delayed in starting field training once they arrived at a facility. Many respondents identified this delay stating trainees are in "self-study" mode lasting from 5 months to a year. Specifically, respondents stated Developmentals were not placed into a training program or assigned a training team, leaving many of them the "sit" and "waste hours". Participants stated whatever knowledge and skills trainees gained at the Academy were often lost before the field training program began. Primary reasons for these delays were listed as inadequate staffing, lack of resources, changes to the training program (mandated by the national training order), and unavailability of OJTIs. Delaying the start of training can cause trainees to become "complacent" and not take training "seriously" as they feel the facility is not interested in investing in them as an ATC according to participants. Thus, trainees may develop a negative view of the field training program.

Field Training Program and the OJT Experience

The field training program uses a blended learning approach to train FAA Academy graduates (Developmentals) and controllers with previous experience (military, contract, or previous FAA controllers) on the specific knowledge and skills required to work in the facility assigned. The blended learning approach uses a variety of training methods to support the trainee's learning experience. Various training staff were utilized to support the program.

Instructors, peers, supervisors/managers, and OJTIs were part of the training team assigned to a trainee. The knowledge, experience, and motivation of each training team member can be beneficial or hinder the experience. Respondents provided key insights into each of these components and how they affected their training progress.

According to respondents, prior experience did not have a positive impact on training success since the training is unique at each field location. Although some participants believed prior experience helped prepare a trainee for learning at the field facility, others disagreed saying the learning experience was dependent on the confidence the trainee had in the training team members. Thus, training team members had a greater impact on training success, than previous training or experience, according to participants.

Additionally, the type of instructor, current employee vs retired controller, caused participants angst as many respondents stated working with "retired controllers" who were not up-to-date on current technologies or operations caused them to learn things incorrectly. Participants stated they preferred to work with instructors and OJTIs who "knew the operation" and "problem areas" and could show them techniques to be used when controlling traffic. Thus, identifying appropriate instructors was also important for success.

Blended Learning Approach

The training method used was considered just as important to training success as the instructor, as some of the training methods were more beneficial than others. The training methods considered least beneficial were classroom and computer-based instruction (i.e., eLearning). Challenges noted by participants using these training methods included the "lack of up-to-date resources, books, and information specific to their facility". Respondents voiced concerns trainees were learning concepts not applicable to the current environment. Additionally, classroom training was noted as the most common place contract instructors were used. Trainees stated they were learning to do things the "wrong way," which wasted valuable training time. Experienced controllers agreed stating trainees had to be "re-taught" the information from the classroom or eLearning once they were one the floor.

Laboratory and simulation training were noted as better training methodologies as they provide a "more realistic" opportunity to practice concepts learned from the 'book' according to participants. Exercises created for these training methodologies allowed participants to "practice" in a risk-free environment without impacting the NAS or safety of any aircraft. Trainees stated they believed this form of training was more beneficial than classroom or eLearning, but insisted support from an instructor made the experience meaningful. The majority of trainees stated simulation exercises worked best when they worked with an OJTI who could provide the "real life experience, techniques, and solutions" to the computerized environment. Providing feedback during a simulation was key to the trainee assimilating the information learned. One participant summarized this by stating, "[Simulation] was helpful because it is impossible to recreate real life situations in a lab accurately, but the OJTI brought a real life perspective [to the training]. [He] questioned you on [the] what ifs, you may not have considered. [The OJTI] also provided techniques that only experience on the floor could relate."

One challenge noted during simulation training was the lack of ability to work with their primary or secondary OJTI. Participants stated they were often assigned a "random" OJTI for simulation training, and rarely worked with the same OJTI for all simulation exercises. This was noted as challenging by trainees who stated the expectations of their primary OJTI were often different than what they had "learned" or "practiced" with a different OJTI. Since the primary OJTI instructed them on the floor, trainees believed they should consistently work with the same OJTI to understand the performance expectations.

OJT was considered the best training method for learning according to all respondents. OJT allows trainees to observe OJTIs on position, practice with an OJTI monitoring and/or intercepting when appropriate, and providing guidance while controlling live traffic. Researching the effectiveness of the OJTI as a coach, the instructor training received, the materials and resources provided to use in training, as well as the support received from operations leadership, was key to understanding the OJTI experience. This interaction allows trainees to have a designated trainer who meets with them regularly and provide specific, targeted feedback for performance.

Performance Assessments and Feedback

The specific, targeted feedback occurs during the designed prebriefing and debriefing sessions. Additionally, monthly skills checks were established to provide feedback on sector progress during training. According to participants, prebriefing sessions and monthly skills checks rarely occur, while debriefing sessions are consistently held. Time constraints played the biggest role in the reduction of prebriefing sessions while no reason for the reduction of monthly skills checks was given by respondents. Debriefing sessions were useful as trainees stated OJTIs provided specific feedback related to performance during the training session. This feedback was used to make improvements in performance. Trainees stated the lack of monthly skills checks on a sector was problematic as a trainee is not able to track their progress or make improvements, when required, in order to be "checked out" on that sector. Instituting consistent monthly performance checks could provide targeted, specific feedback, which could be useful to trainees as they are progressing through the field training program.

The most common measure for training progress, noted by respondents, was the tracking of training hours documented using FAA Form 3120-25. However, training hours may be the "least useful" as the mandated hours do not equate to a quality training experience as noted by participants. Changes to the mandated training hours were cited by OJTIs as causing one of the biggest challenges to the field training program. According to respondents, the mandatory 12-15 hours-per-week requirement takes away the "flexibility" of providing training at opportune times, under typical conditions. Participants specified requiring mandated training hours to be the driver for training progress allows management and training teams to "check the box" instead of focus on training quality. Additionally, many OJTIs stated the training was occurring when traffic was slow or conditions were not ideal, which allows certification of inexperienced controllers to occur, simply due to the mandatory weekly requirements. One participant summarized this by stating, "Forcing nationally mandated training hours does not allow facilities

to focus on their uniqueness and airspace. We [OJTIs] are exhausting training hours without providing trainees quality instruction." Consequently, almost half of the OJTIs in this study stated they had requested the additional 20% allotted training hours due to the trainee needing more hours or not being ready for a performance check. This change could directly impact field certification rates.

In addition to the mandated hours, supervisor/managerial policies were noted as negatively impacting training success. OPS SUPs and OPS MGRs were viewed as impeding the training process instead of supporting it. OJTIs stated they would like management to allow them to provide more input in the decision-making process for their trainees, including the certification assessment on position and the feedback provided by the training team to the trainee. One of the primary reasons for this involvement, noted by OJTIs, is they stated operations supervisors or managers did not have enough experience or knowledge of the ATC position to be in charge of the certification assessments or lead the training team. Additionally, OJTIs did not believe managers should have the ultimate responsibility for making decisions about a trainee's future.

OJTIs stated some management are more interested in certifying 100% of the trainees without regarding the input from the OJTIs or the training team. This was viewed as problematic as it could affect the safety of the NAS by certifying controllers who were unable to perform on the job. OJTIs stated assigning cohesive training teams who provide consistent and specific feedback that could help trainees improve performance and build confidence; ultimately leading to better outcomes for trainees and the facility.

The OJTI Experience

Selecting, training, and supporting OJTIs was essential to supporting a successful field training program. Although some facilities required all CPCs to be OJTIs, approximately half of the respondents stated they became an instructor by choice. OJTIs who did not volunteer were often seen as "lacking in proper skills" or "uninterested". Statements such as, "There are good controllers that are just not good instructors [who are] forced to instruct. Causing bad habits to be passed down," and "I had two instructors who actively taught me wrong things," highlight this problem.

A formal OJTI training program would help ensure consistency in the training experience if OJTIs were provided with appropriate, up-to-date materials and current resources to support OJT. However, creating a formal training program is not enough, as OJTIs stated they would need to be afforded the opportunity to attend. A constant influx of trainees and changes in management could affect whether an OJTI could attend training. Additionally, participants stated the OJTI job had lost its importance. Participants noted the OJTI job was "exhausting", "overwhelming", and "unacceptable", and often led to OJTI "burn out" and feelings of "wanting to quit instructing."

Management was viewed as detrimental to OJT as they did not support OJTIs decisions about trainees, scheduling requests, or training team requirements. OJTIs stated their feedback on trainees who should not be certified was ignored where a "train until they succeed" or "certify

at all costs" mantra had been adopted. Respondents believed the driver behind this mentality was staffing shortages. OJTIs stated that leave requests were denied in order to meet the mandated training hours for each trainee. Safety risks were also being taken as trainees and OJTIs were forced to work for two hours on busy, high traffic sectors according to participants. Finally, respondents stated the implementation of training teams was inconsistent. OJTIs were asked to work with trainees not assigned to their training teams, without adequate time to review the trainees' progress. Additionally, training team meetings were not being held consistently and managers were making decisions as the "head" of the team without considering input from the OJTIs. All of these factors lead to poor support for OJT.

OJTI DiSC Style

Participants were asked to identify how differences in OJTIs impacted their ability to certify as a controller. Specifically, respondents were provided with four training styles used by OJTIs and were asked to identify the most common training styles used during field training. Prior research has shown that trainers may exhibit different training styles described with different methodology. For this research, the primary methodology used to describe the training style response indexes uses the Dominance, Influence, Steadiness, and Conscientiousness (DiSC) framework defined by Scullard and Baum (2015). Different scales have been developed to define various groups of people in business and education. Managers, leaders, and trainers have adapted the DiSC assessment to define styles used by trainers. Research on these styles indicate most people lean toward one or two styles, identified as a primary and shadow preference, although a combination of styles is often used. The natural style is usually on display when interacting with others, while the shadow preference may be displayed when required (Wiley, 2013). Trainers tend to use their primary style during training, but have access to other styles, and utilize them as appropriate. Respondents noted this occurring in their responses.

OJTIs who use the "tells me what to do" style can be described as the *Conscientious* trainer. *Conscientious* trainers are precise and diplomatic focusing on the "one correct" way to complete a task. These trainers minimize interactions and focus on the facts. The trainer who "observe performance and intervene to provide feedback if absolutely necessary" can be described as using *Steadiness*. *Steady* trainers are calm, supportive, and dependable. These trainers are personal and amiable but are not aggressive or confrontational. The *Conscientious* and *Steady* training styles are considered passive, but can be reactive when necessary (Scullard & Baum, 2015).

Trainers who are considered assertive and proactive are *Influencers* and *Dominant*. *Influencers'* style can be described as trainers who "observe performance and provide verbal and/or written feedback at appropriate times". Trainers who use the primary style of *Influence* are friendly, intuitive, and encouraging. They also value coaching. The *Dominant* training style is direct, strong-willed, determined, and task-oriented. They are often motivated by responsibility and the need for achievement. *Dominant* trainers value competency and results, often "pushing me to near the breaking point to see what I can handle" (Scullard, & Baum, 2015). OJTIs could benefit from learning about the various styles and identifying their primary and secondary style.

This could help improve the field training program as OJTIs and trainees could learn the impact the style has on the trainee and identifying when the correct style should be applied. This could also improve the relationship of the trainee and the OJTI, which has already been identified as having the largest impact on field training success.

Overall, participants were equally divided on their satisfaction with the field training program. Most trainees rated the field training program as satisfactory while experienced controllers identified opportunities for improvement. However, all participants noted investing in field training could impact certification rates, leading to greater success and retention of controllers.

Workload

A traditional definition of workload was not used in this study. Rather workload was used to describe the working conditions related to work hours of OJTIs and the impact this has on training success. Approximately one-third of OJTIs stated they were required to work extra hours, extra shifts, and overtime while performing as an OJTI at their facility. Working an abundant amount of hours may affect engagement, energy, and performance of the OJTI.

Although most participants responded engagement, energy, and alertness were rarely affected by extra hours, comments were captured disagreeing with these findings. Specifically, trainees noted OJTI engagement was affected as those who were overworked tended to become "complacent", leaving trainees "signed in" without actively training them. Additionally, respondents noted OJTIs focused on "teaching techniques" as shortcuts instead of allowing the trainee to assimilate the required information on their own. Rushing through sections of training to meet the certification requirements caused trainees to "miss good training opportunities". Energy was also noted as decreasing as OJTIs were forced to train "on their last stint of the day, running up to the end of their shift" as well as "train for longer hours." OJTIs were often "skipped for breaks" in order to get the training accomplished. Respondents stated these changes not only impacted the energy OJTIs demonstrated during training but also affected OJTI accountability. Participants stated OJTIs were "given a pass" on accountability as the facility was short-staffed. In addition, experienced controllers noted some OJTIs did not have the "heart to wash someone out" or OJTIs were inappropriately "certifying [trainees] who did not have the skills" because the positions needed to be filled. Participants were concerned this mentality leads to "unsafe" practices.

Performance was impacted the most by high workload. OJTIs stated due to high workload and traffic demands, trainees are being "rushed through the program", "forced to focus on training hours versus training quality", and "asked to take short-cuts in training" in order to certify controllers quicker. This directly impacts their performance as an OJTI as they are not able to differentiate trainee abilities. Additionally, participants stated the FAA has "lowered the bar" requiring more trainees to be certified, causing OJTIs to rethink their performance standards. One OJTI stated, "Once you realize there isn't anything you can do about [certifying trainees] it becomes pointless to stress over it."

Stress Management

Participants noted the effects of stress during training as minimal in this study. However, when performance was impacted, the primary stressors were listed as internal for trainees and external for experienced controllers. Specifically, internal factors related to internal feelings of stress, physical/mental health, and quality of life impacted trainees more than external factors such as social integration and facility involvement. The least impact for all participants was cost of living.

Numerous research studies have identified employing stress management techniques during stressful events lead to better outcomes. As such, stress management techniques can be a factor contributing to training success (Barrett et al., 2018; Buck & Pierce, 2018; Torrence et al., 2020). In 2019, the FAA Academy added a validated workshop to teach stress management techniques to trainees as a way to cope with stress throughout training and employment. Although the participants in this study did not likely go through the stress management workshop, the researchers were interested in identifying common stress management techniques utilized on the job as participants identified stress management techniques they used in order to mitigate stressful situations.

In order to categorize the responses, the four prominent wellness dimensions identified by Liptak and Leutenberg (2014) were used: emotional, cognitive, physical, and social. Emotional wellness can be summarized as the ability to properly express feelings and adjust to changes in life. Cognitive wellness allows individuals to try new things, absorb new ideas, and understand how reactions to situations affect behavior. Physical wellness encompasses remaining active, eating and sleeping well, and restricting harmful substances to an individual's body. Finally, social wellness can be described as the ability to interact and relate to people, develop appropriate relationships, and maintain a level of empathy for people (Liptak & Leutenberg, 2014).

Physical stress management techniques were used most often to combat stress according to respondents. The majority of respondents practiced exercise, good nutrition, and sleep as a way to mitigate stressful events. Cognitive and emotional wellness measures were almost identical as far as frequency of responses by participants. Cognitive techniques used most often included finding ways to compartmentalize the stressor for accessing later, reading, or writing. Additionally, being mindful of when to "talk about work related stress" and when to "leave it at the facility" were techniques used by participants. Respondents stated they used humor as one form of emotional stress management. Listening to music or watching television/movies were also listed as emotional outlets. The least common technique used was listed as social involvement. Respondents stated spending time with friends and family helped them engage in constructive outlets for stress management. Respondents in this study agreed managing stress was important for training success.

Interpersonal Dynamics

Interpersonal dynamics can be described as the interactions between members in a group and how these members relate to each other. The groups establish norms or rules, which individuals are expected to follow (Griffith & Dunham, 2015). Interpersonal dynamics in the field training facilities can be described as the extent ATC personnel maintain a good relationship with coworkers and/or management (Townsend, 2008). This relationship is often strengthened when there is integrity, competency, consistency, loyalty, and openness in the work environment focused upward, downward, and laterally (Schindler & Thomas, 1993).

Respondents stated maintaining a positive relationship with the OJTI was important for training success, as OJTIs play a key role in the training received. OJTIs can provide "real life experiences" making the "training more meaningful because they know what is required." Additionally, OJTIs who "like training" and "seeing people progress" in training will be more beneficial to the field than those who are tired of training.

In addition, individual traits were viewed as important to trainee success by respondents. Three traits were viewed as important for certification by participants: motivation, confidence, and ability. Motivation was identified as the most important trait. Specifically, trainees who were viewed as motivated were more likely to succeed in field training, according to participants. Motivation also impacted to confidence according to participants. "When trainees are motivated to do the job, they are likely to work harder to succeed". Success leads to "confidence on the floor," which is demonstrated through their "ability to perform the job". The best way to ensure this happens it to "spend time providing extra training opportunities when a trainee demonstrates the ability to perform the job in order to build confidence".

Recommendations

Taking into consideration the findings in this study, in the training audit report, and similar findings in previous research, five areas of improvement are included 1) Updating Training Content and Implementing Proper Instructor Usage, 2) Assigning Training Teams upon Field Facility Placement, 3) Implementing and Adhering to Training Standards, 4) Providing OJTIs with Formal Training, and 5) Recognizing the Impact of OJTI Hours on Trainee Experience. Each area is briefly described below.

Updating Training Content and Implementing Proper Instructor Usage

The field training program needs to be revamped based on the responses collected. The classroom training and eLearning courses attended by trainees should be reviewed to ensure currency of content. Where content gaps are identified, changes should be implemented. A scheduled training refresh cycle should be instituted and implemented to ensure training is kept up-to-date and relevant to new practices. Simulation and laboratory exercises listed as out-of-date or unrealistic need a refresh or overhaul to ensure the complexities of the operations are replicated in these training environments, when possible. Additionally, instructor usage should be reviewed to employ as many current employees as possible, as this will be most beneficial to participants. When contract instructors are used, the instructor cadre should attend formal

training on new procedures and policies to ensure the correct training materials and processes are taught. Finally, the assigned primary OJTIs should work with trainees during simulation to help maintain a consistent learning experience. When this is not possible, the training OJTI should meet to debrief the primary OJTI of the experiences demonstrated by the trainee during the exercise.

Assigning Training Teams upon Field Facility Placement

This recommendation is included to assist in trainees being afforded the opportunity to begin training within 14 days of being assigned a field facility. When a training team is assigned, the training schedule should be established. This immediacy can ensure trainees are not losing the newly acquired knowledge and skills received at the Academy. Additionally, this should help the training team use the hours allocated appropriately. This recommendation could also help trainees navigate the field training program easier, identifying strengths and opportunities for development early on in the training assignment. Knowing the training team assignment can help with scheduling monthly meetings and skills checks required by the national training order.

Implementing and Adhering to Training Standards

Creating and adhering to a monthly schedule of skills checks for performance review could improve the field training experience, as well as ensure safety remains a primary goal of controller certification. Completing monthly skills checks provide an opportunity to share meaningful, actionable feedback with trainees during the field training program. Training hours should be documented and reviewed prior to conducting the monthly skills checks to provide management with information on employee progress. Training quality should be the focus of the assessment and feedback, relying less on total training hours than on the skills performed. The monthly skills checks will help trainees, OJTIs, and management adjust the trainee's schedule to focus on trainee strengths and identify opportunities for improvement throughout the training program. Creating and providing a trainee success guide to facility training departments focusing on Developmentals, CPC-ITs, and OJTIs knowledge and performance goals can help support the implementation of training standards. In addition, documenting the performance level of proficiency received upon completion of the Academy will assist field facilities with identifying Developmental training paths. Implementing and adhering to the changes provided in the training order makes the training action-oriented, leading to improvements in field certification rates.

Providing OJTIs with Formal Training

Creating a formal training program for OJTIs that focuses on training techniques, styles, communication skills, and techniques for providing effective feedback could improve the OJT experience for both trainees and OJTIs. OJTIs who receive formal training are less likely to become complacent during training and more likely to recognize the role as a professional impacting the position. Additionally, providing OJTIs with resources and support could lead to greater satisfaction of the field training program and impact field certification rates. The training

program should be designed to include initial certification as an OJTI with annual or biannual refresher training.

Recognizing the Impact of OJTI Hours on Trainee Experience

This recommendation pertains to the need for OPS SUPs and OPS MGRs to consider assignments and hours when scheduling OJTIs to trainees. Participants identified the impacts on energy, engagement, and performance when OJTIs are assigned too many hours, extra shifts, or too many trainees. Scheduling can be difficult when staffing shortages occur. However, OPS MGRs should work with OJTIs and staff to ensure the trainee experience is not negatively impacted due to operational shortfalls. In order to help with this challenge, OJTIs should be involved in the decision-making regarding the training schedule and workhours. OJTI input should be considered as this will help support the concept of one team for training success.

Limitations

Several limitations to this study must be noted. First, only six facilities were surveyed during this research study, restricting the sample. Although the initial plan was to research facilities with high certification rates versus lower certification rates, the six facilities selected did not differ significantly in certification rates. This led to the inability to compare more and less successful facilities and to identify best practices. Second, the total number of Developmentals was not evenly distributed across the facilities. Most Developmentals were located at two facilities while one facility had no Developmentals. This further restricted the developmental experience and feedback collected. Third, the design of the surveys limited the comparison of data across some of the categories. The survey questions and scales were not always equivalent. Additionally, follow-up questions should have been included and targeted when responses were positive or negative to garner a better understanding of the concept. Additionally, the use of 5-point Likert scales allowed participants to select a neutral category or not respond to questions when "forced choice" items could have provided greater insight into the content areas. Finally, the supervisor survey responses were not included in this study as the participant respondents varied considerably by job role. The respondents were forced to select this role if they did not fit into another job role, making the survey ineffective. Generalizing the findings across the NAS is cautioned due to these limitations.

Conclusion

The perceptions of the factors influencing field training certification were identified and recommendations were provided based on responses and feedback received from participants in this study. Overall, the factors identified are similar to previous research findings. Additional research should be considered to identify differences in field facilities where higher certification rates are achieved versus comparable facilities where lower certification rates are achieved. The OPS SUP, OPS MGR, training staff, and facility level manager input could also be beneficial as participants identified differences within the managerial roles. Finally, of note, immediately following the data collection for this study, the Coronavirus Disease of 2019 (COVID-19)

pandemic occurred. As a result, air traffic dramatically decreased quickly. This decrease in air traffic will impact the field training programs as "normal air traffic" has changed. A follow-up study on the impact of these changes on ATC and trainees should be considered as some of the factors noted in this research study may no longer be relevant or impacting trainees.

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Appendix A

ATC Training Effectiveness Assessment – Developmental Survey

Developmental - Background

1. How long have you been in training at your **current facility**?
   - ○ Less than 6 months
   - ○ 6-12 months
   - ○ 13-18 months
   - ○ 19-24 months
   - ○ More than 2 years, but less than 3 years
   - ○ More than 3 years

2. Is this your first facility?
   - ○ Yes
   - ○ No

2a. Have you been through the National Employee Services Team (NEST) process?
   - ○ Yes
   - ○ No
   - ○ Currently in the NEST process
   - ○ Don't know

3. When you **originally applied** for a job as an FAA air traffic controller, did you have an opportunity to indicate the position/option you preferred?
   - ○ Yes
   - ○ No
   - ○ I don't remember

4. When you originally applied for a job as an FAA air traffic controller, which controller position/option did you prefer?
   - ○ En route
   - ○ Tower
   - ○ TRACON
   - ○ No preference
   - ○ Don't remember

4a. When you were **originally hired**, were you assigned the position/option you preferred?
   - ○ Yes
   - ○ No

5. How satisfied are/were you with the controller position/option you were originally assigned?
   - ○ Extremely dissatisfied
   - ○ Dissatisfied
   - ○ Neither satisfied nor dissatisfied
   - ○ Satisfied
   - ○ Extremely satisfied

6. Is your current facility in a region (e.g., Northeast, Midwest, Western, etc.) of the country you wanted to live?
  o Yes
  o No

7. To what degree does the **geographic location** (e.g., city/state) of your facility influence your **motivation** to train?
  o Not at all influential
  o Slightly influential
  o Somewhat influential
  o Very influential
  o Extremely influential

8. How satisfied are you with the **training** at your current facility?

  o Extremely dissatisfied
  o Dissatisfied
  o Neither satisfied nor dissatisfied
  o Satisfied
  o Extremely satisfied

9. How long do you intend to stay at your current facility **after you certify**?
  o Less than 1 year
  o 1-5 years
  o More than 5 years

Developmental - Pre OJT Preparation

10. To what extent did the **FAA Academy** prepare you for field qualification training?
  o Not at all
  o Limited extent
  o Moderate extent
  o Considerable extent
  o Great extent
  o N/A

11. To what extent did each of the following **field training** opportunities prepare you to control air traffic at your current facility?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
Facility classroom training	o	o	o	o	o	o
Facility laboratory training	o	o	o	o	o	o
Facility CBI training	o	o	o	o	o	o
Facility simulation training	o	o	o	o	o	o

12. For each of the following, please rate your level of confidence before starting OJT:

	Not at all confident	Somewhat confident	Moderately confident	Very confident	Extremely confident
I had enough **knowledge** to be successful at my facility	○	○	○	○	○
I had enough **practice** to be successful at my facility	○	○	○	○	○
I could apply my **knowledge** to be successful at my facility	○	○	○	○

13. **Prior to controlling live traffic**, did you work with an OJTI in a simulation?
- ○ Yes
- ○ No

13a. When you worked with an OJTI in a simulation prior to controlling live traffic, was it with one of your primary OJTIs?
- ○ Yes
- ○ No

13b. **Prior to controlling live traffic**, to what extent did you find working with an OJTI in simulation helpful?
- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent

13b_txt. Please explain why you felt working with an OJTI in simulation prior to controlling live traffic was/was not helpful?

13c. **Prior to controlling live traffic**, to what extent would you have found working with an OJTI in simulation helpful?

- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent

13c_txt. Please explain why you would have found working with an OJTI simulation prior to controlling live traffic would have been helpful.

Developmental - OJT Process

14. Use the following to complete the sentence and rate the extent to which each may have **interfered with your training**.

During OJT, _____ interfered with my training.

	Not at all	Limited extent	Moderate extent	Consider extent	Great extent	NA/Don't know
a lack of resources (e.g., simulators)	O	O	O	O	O	O
availability of OJTIs	O	O	O	O	O	O
individual attributes of developmentals (i.e., ability, personality, aptitude)	O	O	O	O	O	O
there were facility specific reasons (e.g., being used for staffing instead of moving forward in training)	O	O	O	O	O	O
the lack of air traffic (e.g., time of year)	O	O	O	O	O	O
my relationships with OJTI(s)	O	O	O	O	O	O
the different training styles of OJTIs	O	O	O	O	O	O
the number of hours scheduled to train (i.e., too few/too many)	O	O	O	O	O	O
the number of developmentals expected to train (i.e., too many)	O	O	O	O	O	O

15. How satisfied are you with each of the following training factors?

	Extremely dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Extremely satisfied
Completeness/quality of training	O	O	O	O	O
Pace of OJT	O	O	O	O	O
Having the same OJTIs throughout training	O	O	O	O	O
Managerial/training policies	O	O	O	O	O

16. To what extent do you use the following criteria to **judge your progress in training**?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
Progress of my peers	○	○	○	○	○
OJTI comments	○	○	○	○	○
Ops Supervisor/Mgmt comments	○	○	○	○	○
Training team comments	○	○	○	○	○
Training team meetings	○	○	○	○	○
Monthly skills checks	○	○	○	○	○
Hours expended in training	○	○	○	○	○
Training standards/benchmarks	○	○	○	○	○
FAA form 3120-25	○	○	○	○	○

17. About how often do you participate in training team meetings?
- ○ Never
- ○ Every six months
- ○ Every other month
- ○ Once a month
- ○ Bi-weekly
- ○ Weekly
- ○ Daily

18. To what extent is there adequate time for:

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
Prebriefing before OJT sessions	○	○	○	○	○
Debriefing after OJT sessions	○	○	○	○	○

19. To what extent are your OJTIs **effective coaches**?
- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent

20. To what extent do your OJTIs provide you **<u>feedback</u>** about your training?

- o   Not at all
- o   Limited extent
- o   Moderate extent
- o   Considerable extent
- o   Great extent

21. How often do your OJTIs provide feedback that:

	Never	Rarely	Sometimes	Often	Always
is useful for improving your performance?	o	o	o	o	o
clarifies what is expected of you during training?	o	o	o	o	o

22. Please indicate your level of agreement with each statement.

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	NA/Don't know
OJTIs clearly communicate training requirements and expectations to me.	o	o	o	o	o	o
OJTIs follow requirements and expectations that were communicated to me.	o	o	o	o	o	o
Training requirements and expectations are the same for all developmentals.	o	o	o	o	o	o
Training requirements and expectations help me track my progress in training.	o	o	o	o	o	o
My training schedule allows adequate time for communication/feedback.	o	o	o	o	o	o

Developmental - Interpersonal Dynamics

23. Select the **training style** most often used in training by your primary OJTI.
    - ○ OJTI tells me what to do, and I do it.
    - ○ OJTI observes my performance controlling air traffic and intervenes or provides feedback only if absolutely necessary.
    - ○ OJTI observes my performance controlling air traffic and provides verbal and/or written feedback at the appropriate time.
    - ○ OJTI pushes me to near my breaking point to see how well I can do.
    - ○ Other (please list)

24. How often do your primary OJTI's do the following (i.e., using form 3120-25)?

	Never	Rarely	Sometimes	Often	Always
Provide a prebriefing before OJT sessions	○	○	○	○	○
Take notes during training sessions	○	○	○	○	○
Provide a debriefing after OJT sessions	○	○	○	○	○
Provide feedback on your progress	○	○	○	○	○
Discuss options for change/improvement	○	○	○	○	○
Use FAA form 3120-25 when providing feedback	○	○	○	○	○

25. To what extent do you believe having a **positive working relationship** with your OJTI is important to your **success** in training?
    - ○ Not at all important
    - ○ Limited importance
    - ○ Moderate importance
    - ○ Considerable importance
    - ○ Great importance

27. Please rate the following:

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
Are your **OJTIs** confident in you?	○	○	○	○	○

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
Are you confident in your **OJTIs**?	○	○	○	○	○

28. Please rate the following:

	Not at all	Probably not	Might or might not	Probably yes	Definitely yes	NA/Don't know
My OJTI(s) believe I will certify.	○	○	○	○	○	○
My Ops Supervisor believes I will certify.	○	○	○	○	○	○
My Ops Manager believes I will certify.	○	○	○	○	○	○
My peers (i.e., other developmentals or CPCs) believe I will certify.	○	○	○	○	○	○
I believe I will certify.	○	○	○	○	○	○

29. During training, to what extent have you experienced challenges with the following individuals at your **current facility?**

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Do not interact
Coworkers	○	○	○	○	○	○
Contract instructors	○	○	○	○	○	○
Training supervisors	○	○	○	○	○	○
OJTIs	○	○	○	○	○	○
Ops Supervisors	○	○	○	○	○	○
Ops Managers	○	○	○	○	○	○
CPCs	○	○	○	○	○	○
Other management	○	○	○	○	○	○

Developmental - OJTI Other Workload

30. In your observations at your facility, about how often does **high workload** negatively affect an OJTIs performance?
    - ○ Never
    - ○ Rarely
    - ○ Sometimes
    - ○ Often
    - ○ Always
    - ○ I don't know

31. In your observations at your facility, about how often does **working overtime** negatively affect an OJTIs performance?
    - ○ Never
    - ○ Rarely
    - ○ Sometimes
    - ○ Often
    - ○ Always
    - ○ I don't know

32. In your observations at your facility, about how often does working extra shifts negatively affect an OJTIs performance?
    - ○ Never
    - ○ Rarely
    - ○ Sometimes
    - ○ Often
    - ○ Always
    - ○ I don't know

33. Thinking about **<u>OJTIs at your facility</u>**, respond to the following statements.

	Never	Rarely	Sometimes	Often	Always
OJTIs have plenty of energy.	○	○	○	○	○
OJTIs seem quite drained.	○	○	○	○	○
OJTIs are generally engaged with the developmentals they train.	○	○	○	○	○
OJTIs generally seem quite alert.	○	○	○	○	○
OJTIs seem tired most of the time.	○	○	○	○	○

Developmental - Training Feedback

42. Is your job as a developmental controller what you expected it would be?
   - ○ Not at all
   - ○ A little bit
   - ○ Somewhat
   - ○ Mostly
   - ○ Completely

43. Does the field training process need to be improved?
   - ○ Yes
   - ○ No

44. How likely are you to recommend air traffic control as a career choice to your family and friends?
   - ○ Extremely unlikely
   - ○ Unlikely
   - ○ Neutral
   - ○ Likely
   - ○ Extremely likely

44_txt. Please provide any additional comments you may have about your satisfaction with the training at your current facility.

Appendix B

ATC Training Effectiveness Assessment – CPC-IT Survey

CPC-IT - Background

1. How long have you been in training at your **current facility**?
   - o Less than 6 months
   - o 6-12 months
   - o 13-18 months
   - o 19-24 months
   - o More than 2 years, but less than 3 years
   - o More than 3 years

2. Is this your first facility?
   - o Yes
   - o No

2a. Have you been through the National Employee Services Team (NEST) process?
   - o Yes
   - o No
   - o Currently in the NEST process
   - o Don't know

2b. During the NEST process, to what extent are you/were you treated fairly?
   - o Not at all
   - o Limited extent
   - o Moderate extent
   - o Considerable extent
   - o Great extent

3. When you **originally applied** for a job as an FAA air traffic controller, did you have an opportunity to indicate the position/option you preferred?
   - o Yes
   - o No
   - o I don't remember

4. When you **originally applied** for a job as an FAA air traffic controller, which controller position/option did you prefer?
   - o En route
   - o Tower
   - o TRACON
   - o No preference
   - o Don't remember

5. When you were **originally hired**, were you assigned the position/option you preferred?
   - o Yes
   - o No

6. How satisfied are/were you with the controller position/option you were originally assigned?
- o Extremely dissatisfied
- o Dissatisfied
- o Neither satisfied nor dissatisfied
- o Satisfied
- o Extremely satisfied

7. Is your current facility in a region (e.g., Northeast, Midwest, Western, etc.) of the country you wanted to live?
- o Yes
- o No

8. To what degree does the **geographic location** (e.g., city/state) of your facility influence your **motivation** to train?
- o Not at all influential
- o Slightly influential
- o Somewhat influential
- o Very influential
- o Extremely influential

9. How satisfied are you with the **training** at your current facility?
- o Extremely dissatisfied
- o Dissatisfied
- o Neither satisfied nor dissatisfied
- o Satisfied
- o Extremely satisfied

10. How long do you intend to stay at your current facility **after you certify**?
- o Less than 1 year
- o 1-5 years
- o More than 5 years

CPC-IT - Pre OJT Preparation

11. To what extent did the **FAA Academy** prepare you for field qualification training?
- o Not at all
- o Limited extent
- o Moderate extent
- o Considerable extent
- o Great extent
- o N/A

12. To what extent did each of the following **field training** opportunities **prepare** you to control air traffic at your facility?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
Facility classroom training	o	o	o	o	o	o
Facility laboratory training	o	o	o	o	o	o
Facility CBI training	o	o	o	o	o	o

13. For each of the following, please rate your level of **confidence before starting OJT**.

	Not at all confident	Somewhat confident	Moderately confident	Mostly Confident	Extremely confident
I had enough **knowledge** to be successful at my facility.	○	○	○	○	○
I had enough **practice** to be successful at my facility.	○	○	○	○	○
That I could apply my **knowledge** to be successful at my facility.	○	○	○	○	○

14. **Prior to controlling live traffic**, did you work with an OJTI in a simulation?
   - ○ Yes
   - ○ No

14a. When you worked with an OJTI in a simulation prior to controlling live traffic, was it with one of your primary OJTIs?
   - ○ Yes
   - ○ No

14b. **Prior to controlling live traffic**, to what extent did you find working with an OJTI in simulation helpful?
   - ○ Not at all
   - ○ Limited extent
   - ○ Moderate extent
   - ○ Considerable extent
   - ○ Great extent

14b_txt. Please explain why you felt working with an OJTI in simulation prior to controlling live traffic was/was not helpful?

14c. **Prior to controlling live traffic**, to what extent would you have found working with an OJTI in simulation helpful?
   - ○ Not at all
   - ○ Limited extent
   - ○ Moderate extent
   - ○ Considerable extent
   - ○ Great extent

14c_txt. Please explain why you felt working with an OJTI in simulation prior to controlling live traffic would/would not have been helpful.

CPC-IT - OJT Process

15. Use the following stems to complete the sentence and rate the extent to which each may have **interfered with your training at your current facility**.

During OJT, _____ interfered with my training.

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
a lack of resources (e.g., simulators)	○	○	○	○	○	○
the availability of OJTIs	○	○	○	○	○	○
individual attributes of CPC-ITs (i.e., ability, personality, aptitude)	○	○	○	○	○	○
facility specific reasons (e.g., being used for staffing instead of moving forward in training)	○	○	○	○	○	○
the lack of air traffic (e.g., time of year)	○	○	○	○	○	○
my relationship with OJTI(s)	○	○	○	○	○	○
the different training styles of OJTIs	○	○	○	○	○	○
the number of hours scheduled to train (i.e., too few/too many)	○	○	○	○	○	○
the number of CPC-ITs expected to train (i.e., too many)	○	○	○	○	○	○

16. How **satisfied** are you with each of the following training factors?

	Extremely dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Extremely satisfied
Completeness/quality of training	○	○	○	○	○
Pace of OJT	○	○	○	○	○
Having the same OJTIs throughout training	○	○	○	○	○
Managerial/training policies	○	○	○	○	○

17. To what extent do you use the following criteria to **judge your progress** in training?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
Progress of my peers	○	○	○	○	○
OJTI comments	○	○	○	○	○
Ops Supervisor/Mgmt comments	○	○	○	○	○
Training team comments	○	○	○	○	○
Training team meetings	○	○	○	○	○
Monthly skills checks	○	○	○	○	○
Hours expended in training	○	○	○	○	○
Training standards/benchmarks	○	○	○	○	○
FAA form 3120-25	○	○	○	○	○

18. About how often do you participate in **training team meetings**?

- ○ Never
- ○ Every six months
- ○ Every other month
- ○ Once a month
- ○ Bi-weekly
- ○ Weekly
- ○ Daily

19. To what extent is there **adequate time** for:.

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
prebriefing before OJT sessions?	○	○	○	○	○
debriefing after OJT sessions?	○	○	○	○	○

20. To what extent are your OJTIs **effective coaches**?

- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent

21. To what extent do your OJTIs provide you **feedback** about your training?

- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent

22. How often do your OJTIs provide feedback that:

	Never	Rarely	Sometimes	Often	Always
is useful for improving your performance?	○	○	○	○	○
clarifies what is expected of you during training?	○	○	○	○	○

23. Please indicate your level of agreement with each statement.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	NA/Don't know
OJTIs clearly communicate training requirements and expectations to me	○	○	○	○	○	○
OJTIs follow requirements and expectations that were communicated to me	○	○	○	○	○	○
Training requirements and expectations are the same for all CPC-ITs	○	○	○	○	○	○
Training requirements and expectations help me track my progress in training	○	○	○	○	○	○
My training schedule allows adequate time for communication/feedback	○	○	○	○	○	○

CPC-IT - Interpersonal Dynamics

24. Select the **training style** most often used in training by your primary OJTI.
- ○ OJTI tells me what to do, and I do it.
- ○ OJTI observes my performance controlling air traffic and intervenes or provides feedback only if absolutely necessary.
- ○ OJTI observes my performance controlling air traffic and provides verbal and/or written feedback at the appropriate time.
- ○ OJTI pushes me to near my breaking point to see how well I can do.
- ○ Other (please list) _____

25. How often do your primary OJTIs do the following (i.e., using form 3120-25)?

	Never	Rarely	Sometimes	Often	Always
Provide a prebriefing before OJT sessions	○	○	○	○	○
Take notes during training sessions	○	○	○	○	○
Provide a debriefing after OJT sessions	○	○	○	○	○
Provide feedback on your progress	○	○	○	○	○
Discuss options for change/improvement	○	○	○	○	○
Use FAA form 3120-25 when providing feedback	○	○	○	○	○

26. To what extent do you believe having a **positive working relationship** with your OJTI is important to your **success** in training?
- ○ Not at all important
- ○ Limited importance
- ○ Moderate importance
- ○ Considerable importance
- ○ Great importance

28. Please rate the following:

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
Are your **OJTIs** confident in you?	○	○	○	○	○	○
Are you confident in your **OJTIs**?	○	○	○	○	○	○

29. Please rate the following:

	Definitely not	Probably not	Might or might not	Probably yes	Definitely yes	NA/Don't know
My OJTI(s) believes I will certify.	○	○	○	○	○	○
My Ops Supervisor(s) believes I will certify.	○	○	○	○	○	○
My Ops Manager(s) believe I will certify	○	○	○	○	○	○
My peers (i.e., other CPCs or CPC-ITs) believe I will certify.	○	○	○	○	○	○

	Definitely not	Probably not	Might or might not	Probably yes	Definitely yes	NA/Don't know
I believe I will certify.	○	○	○	○	○	○

30. During training, to what extent have you experienced **challenges** in the following areas at your **current facility?**

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't interact
Coworkers	○	○	○	○	○	○
Contract instructor(s)	○	○	○	○	○	○
Training supervisors	○	○	○	○	○	○
OJTIs	○	○	○	○	○	○
Ops Supervisors	○	○	○	○	○	○
Ops Managers	○	○	○	○	○	○
Developmentals	○	○	○	○	○	○
Other management	○	○	○	○	○	○

CPC-IT - OJTI Workload

31. Have you ever worked **as an OJTI**?
   - ○ Yes
   - ○ No

32. Are you **required** to work as an OJTI at your facility while you are in training?

- o Yes
- o No

33. To what extent does performing the duties of an OJTI **increase your workload**?

- o Not at all
- o Limited extent
- o Moderate extent
- o Considerable extent
- o Great extent

34. About how often is your performance as an OJTI **negatively** affected by **workload**?

- o Never
- o Rarely
- o Sometimes
- o Often
- o Always
- o I don't know

35. To what extent does working as an OJTI require you to **work overtime**?

- o Not at all
- o Limited extent
- o Moderate extent
- o Considerable extent
- o Great extent

36. About how often is your performance as an OJTI **negatively** affected by **working overtime**?

- o Never
- o Rarely
- o Sometimes
- o Often
- o Always
- o I don't know

37. To what extent does working as an OJTI cause you to work **extra shifts**?

- o Not at all
- o Limited extent
- o Moderate extent
- o Considerable extent
- o Great extent

38. About how often is your performance as an OJTI **negatively** affected by working **extra shifts**?

- o Never
- o Rarely
- o Sometimes
- o Often
- o Always
- o I don't know

39. Do you **work more hours per day** when you are working as an OJTI compared to when you are working other positions?

o   Never
o   Rarely
o   Sometimes
o   Often
o   Always
o   I don't know

CPC-IT - OJTI Workload

40. In your observations at your facility, about how often does high workload negatively affect an OJTIs performance?
o   Never
o   Rarely
o   Sometimes
o   Often
o   Always
o   I don't know

41. In your observation at your facility, about how often does **working overtime negatively affect** an OJTIs performance?
o   Never
o   Rarely
o   Sometimes
o   Often
o   Always
o   I don't know

42. In your observations at your facility, about how often does **working extra shifts negatively affect** an OJTIs performance?
o   Never
o   Rarely
o   Sometimes
o   Often
o   Always
o   I don't know

43. Thinking about **your** experience as an OJTI respond to the following statements:

	Never	Rarely	Sometimes	Often	Always
I have plenty of energy.	○	○	○	○	○
I usually feel quite drained.	○	○	○	○	○
I am generally engaging with the developmentals I train.	○	○	○	○	○
I generally feel quite alert.	○	○	○	○	○
I feel tired most of the time.	○	○	○	○	○

44. Thinking about **OJTIs at your facility**, respond to the following statements.

	Never	Occasionally	Sometimes	Often	Always
OJTIs have plenty of energy.	○	○	○	○	○
OJTIs seem quite drained.	○	○	○	○	○
OJTIs are generally engaged with the developmentals they train.	○	○	○	○	○
OJTIs generally seem quite alert.	○	○	○	○	○
OJTIs seem tired most of the time.	○	○	○	○	○

CPC-IT - Training Feedback

53. To what extent is your job as a CPC-IT what you expected it would be?
   - ○ Not at all
   - ○ A little bit
   - ○ Somewhat
   - ○ Mostly
   - ○ Completely

54. Does the training process needs to be **improved**?
   - ○ Yes
   - ○ No

55. How likely are you to recommend air traffic control as a career choice to your family and friends?
   - ○ Extremely unlikely
   - ○ Unlikely
   - ○ Neutral
   - ○ Likely
   - ○ Extremely likely

56. Please provide any additional comments you may have about your satisfaction with the training at your current facility.

Appendix C

ATC Training Effectiveness Assessment – CPC Survey

CPC - Background

1. How long have you been at your **current facility**?
   - ○ Less than 6 months
   - ○ 6-12 months
   - ○ 13-18 months
   - ○ 19-24 months
   - ○ More than 2 years, but less than 3 years
   - ○ 3-5 years
   - ○ More than 5 years

2. Is this your first facility?
   - ○ Yes
   - ○ No

2a. If this is not your first facility, what was your status when you moved to this facility?
   - ○ Developmental Transfer
   - ○ Developmental Transfer Lower
   - ○ CPC Transfer
   - ○ Other (please specify) _____

2b. If this is not your first facility, in how many facilities have you been a developmental or CPC **before** assignment to your current facility?
   - ○ One
   - ○ Two
   - ○ Three
   - ○ Four or more

3. In your career, have you been through the National Employee Services Team (NEST) process?
   - ○ Yes
   - ○ No

3a. During the NEST process, to what extent are you/were you treated fairly?
   - ○ Not at all
   - ○ Limited extent
   - ○ Moderate extent
   - ○ Considerable extent
   - ○ Great extent

4. How long has it been since you completed field qualification training/certified as a CPC?
   - ○ Less than 6 months
   - ○ 6-12 months
   - ○ 13-18 months
   - ○ 19-24 months
   - ○ More than 2 years, but less than 3 years
   - ○ 3-5 years
   - ○ More than 5 years

5. How long have you been working as a CPC at your **current facility**?

- Less than 6 months
- 6-12 Months
- 13-18 Months
- 19-24 Months
- More than 2 years, but less than 3
- 3-5 Years
- More than 5 years

6. Is your current facility in a region (e.g., Northeast, Midwest, Western, etc.) of the country you want to live?
- Yes
- No

7. How satisfied are you with the **training** at your current facility?
- Extremely dissatisfied
- Dissatisfied
- Neither satisfied nor dissatisfied
- Satisfied
- Extremely satisfied

8. How long do you intend to stay at your current facility?
- Less than 1 year
- 1-5 years
- More than 5 years

CPC - OJTI Preparation

9. To what extent do you believe the **FAA's Air Traffic Academy** prepares developmentals to succeed in field qualification training?
- Not at all
- Limited extent
- Moderate extent
- Considerable extent
- Great extent
- N/A

10. **Before beginning to work as a CPC**, to what extent do you believe you were provided with the appropriate **training** to do your job effectively (i.e., field qualification training)?
- Not at all
- Limited extent
- Moderate extent
- Considerable extent
- Great extent

11. To what extent did you find the field qualification training you received **useful**?
- Not at all
- Limited extent
- Moderate extent
- Considerable extent
- Great extent

12. To what extent do you use the knowledge you gained in field qualification training **while working live traffic**?
   o   Not at all
   o   Limited extent
   o   Moderate extent
   o   Considerable extent
   o   Great extent

13. **Before beginning to work as a CPC**, to what extent do you believe you were provided with the **appropriate resources** to do your job effectively (i.e., training materials, mentoring, etc.)?
   o   Not at all
   o   Limited extent
   o   Moderate extent
   o   Considerable extent
   o   Great extent

14. To what extent did you find the resources provided to you during training to be **useful**?
   o   Not at all
   o   Limited extent
   o   Moderate extent
   o   Considerable extent
   o   Great extent

15. For each of the following, please rate your level of confidence.

	Not at all confident	Somewhat confident	Moderately confident	Confident	Extremely confident
Most developmentals have enough **knowledge** to be successful in OJT.	o	o	o	o	o
Most developmentals have had enough **practice** to be successful in OJT.	o	o	o	o	o
Most developmentals can **apply what they have learned prior to OJT** to be successful in OJT.	o	o	o	o	o

16. To what extent do you believe having OJTIs and developmentals **work together in simulation prior to OJT** is helpful in improving the performance of developmentals in controlling live traffic?
   o   Not at all
   o   Limited extent
   o   Moderate extent
   o   Considerable extent
   o   Great extent

CPC - OJT Process

17. Use the following to complete the sentence and rate the extent to which each may have **interfered with your training**.

During OJT, _____ interfered with my training.

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
a lack of resources (e.g., simulators)	○	○	○	○	○	○
availability of OJTIs	○	○	○	○	○	○
individual attributes of developmentals (i.e., ability, personality, aptitude)	○	○	○	○	○	○
facility specific reasons (e.g., being used for staffing instead of moving forward in training)	○	○	○	○	○	○
a lack of air traffic (e.g., time of year)	○	○	○	○	○	○
my relationships with OJTI(s)	○	○	○	○	○	○
the number of hours scheduled to train (i.e., too few/too many)	○	○	○	○	○	○
the number of developmentals/CPC-ITs expected to train (i.e., too many)	○	○	○	○	○	○

18. To what extent did you use the following criteria to judge **your progress** in training?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
Progress of my peers	○	○	○	○	○
OJTI comments	○	○	○	○	○
Ops Supervisor/Mgmt comments	○	○	○	○	○
Training team comments	○	○	○	○	○
Training team meetings	○	○	○	○	○
Monthly skills check	○	○	○	○	○
Hours expended in training	○	○	○	○	○
Training standards/benchmarks	○	○	○	○	○
FAA 3120-25 form	○	○	○	○	○

19. To what extent is there adequate time for:

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
prebriefing developmentals before OJT sessions?	○	○	○	○	○
debriefing developmentals after OJT sessions?	○	○	○	○	○

20. To what extent are OJTIs at your facility **effective coaches**?
   - ○ Not at all
   - ○ Limited extent
   - ○ Moderate extent
   - ○ Considerable extent
   - ○ Great extent

21. To what extent do the OJTIs at your **current facility** provide developmentals **feedback** about their training?

   - ○ Not at all
   - ○ Limited extent
   - ○ Moderate extent
   - ○ Considerable extent
   - ○ Great extent

22. From your own experience in training, or having watched others train in your **current facility**, about how often do OJTIs provide feedback that:

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
is useful for improving developmentals' performance?	○	○	○	○	○
most developmentals' view as **useful** for improving their performance?	○	○	○	○	○
most developmentals **utilize** to improve their performance?	○	○	○	○	○

23. From your own experience in training, or having watched others train in your **current facility**, please indicate your level of agreement with the following statements.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	NA/Don't know
At my facility, training requirements and expectations are clearly communicated to developmentals.	○	○	○	○	○	○
At my facility, OJTIs explain to the developmentals how to fulfill requirements and expectations that were communicated to them.	○	○	○	○	○	○
At my facility, OJTIs follow requirements and expectations that are communicated to developmentals.	○	○	○	○	○	○
At my facility, training requirements and expectations are the same for all developmentals.	○	○	○	○	○	○
At my facility, training requirements and expectations are used to track the progress of the developmentals.	○	○	○	○	○	○
At my facility, the training schedules allow adequate time for communication/feedback to developmentals.	○	○	○	○	○	○

CPC - Interpersonal Dynamics

24. Select the **training style** you believe you have seen or experienced most often in training at your **current facility**.

   ○ Tell the developmental what to do, and watch for them to do it correctly.
   ○ Observe the developmental's performance controlling air traffic and intervenes or provides feedback only if absolutely necessary.
   ○ Observe the developmental's performance controlling air traffic and provide verbal and/or written feedback at the appropriate time.
   ○ Push the developmental to their breaking point, and see how well they can do.
   ○ Other (please list) _____

25. From your own experience in training, or having watched others train at your **current facility**, how often are the following performed (i.e., using form 3120-25)?

	Never	Rarely	Sometimes	Often	Always	NA/I don't know
OJTIs provide a prebriefing before OJT sessions	○	○	○	○	○	○
OJTIs take notes during training sessions	○	○	○	○	○	○
OJTIs provide a debriefing after OJT sessions	○	○	○	○	○	○
OJTIs provide feedback on developmentals' progress	○	○	○	○	○	○
OJTIs discuss options for change/improvement	○	○	○	○	○	○
OJTIs use FAA form 3120-25 when providing feedback	○	○	○	○	○	○

26. To what extent do you believe having a positive working relationship between developmentals and their OJTIs is important to the developmental's **success** in training?
   - ○ Not at all important
   - ○ Limited importance
   - ○ Moderate importance
   - ○ Considerable importance
   - ○ Great importance

○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○

28. Please rate the following regarding your **current facility**:

	Not at all	Probably not	Might or might not	Probably yes	Definitely yes	NA/Don't know
Are you confident the **developmentals** at your facility will succeed in training?	○	○	○	○	○	○
Are you confident in the **OJTIs** at your facility?	○	○	○	○	○	○
Are you confident in your **Ops Supervisors**?	○	○	○	○	○	○
Are you confident in your **Ops Managers**?	○	○	○	○	○	○

29. Do you expect **most** of the **developmentals** at your facility to certify?
   - Definitely not
   - Probably not
   - Might or might not
   - Probably yes
   - Definitely yes

30. To what extent have you observed developmentals and/or CPC-ITs have **problems interacting** with the following individuals at your current facility.

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't interact
Your coworkers	○	○	○	○	○	○
Contract instructor(s)	○	○	○	○	○	○
OJTI(s)	○	○	○	○	○	○
Ops Supervisor(s)	○	○	○	○	○	○
Ops Managers	○	○	○	○	○	○
Developmentals	○	○	○	○	○	○
Other management	○	○	○	○	○	○

CPC - Workload

31. During your career, have you ever worked as an OJTI?
   - Yes
   - No

31_txt. Please provide additional comments regarding why you have not worked as an OJTI.

32. Have you worked as an OJTI in your **current facility**?
   - Yes
   - No

33. About how often did **high workload** negatively affect your performance as an OJTI?
   - Never
   - Rarely
   - Sometimes
   - Often
   - Always
   - I don't know

34. While working as an OJTI in your **current facility**, to what extent did performing the duties of being an OJTI require you to **work overtime**?
   - o Not at all
   - o Limited extent
   - o Moderate extent
   - o Considerable extent
   - o Great extent

35. About how often did working overtime negatively affect your performance as an OJTI?
   - o Never
   - o Rarely
   - o Sometimes
   - o Often
   - o Always
   - o I don't know

36. While working as an OJTI in your current facility, to what extent did performing the duties of being an OJTI require you to **work extra shifts**?
   - o Not at all
   - o Limited extent
   - o Moderate extent
   - o Considerable extent
   - o Great extent

37. About how often did working **extra shifts** negatively affect your performance as an OJTI?
   - o Never
   - o Rarely
   - o Sometimes
   - o Often
   - o Always
   - o I don't know

38. Did you work **more hours per day** when you were working as an OJTI compared to when you were working other positions?
   - o Never
   - o Rarely
   - o Sometimes
   - o Often
   - o Always
   - o I don't know

39. In your observations at your facility, about how often does **high workload** negatively affect an OJTIs performance?
   - o Never
   - o Rarely
   - o Sometimes
   - o Often
   - o Always
   - o I don't know

40. In your observations at your facility, about how often does **working overtime** negatively affect an OJTIs performance?

- Never
- Rarely
- Sometimes
- Often
- Always
- I don't know

41. In your observations at your facility, about how often does **working extra shifts** negatively affect an OJTIs performance?
- Never
- Rarely
- Sometimes
- Often
- Always
- I don't know

42. Thinking about **your** performance as an **OJTI** respond to the following statements:

	Never	Rarely	Sometimes	Often	Always
I have plenty of energy	○	○	○	○	○
I usually feel quite drained	○	○	○	○	○
I am generally engaging with the developmentals I train	○	○	○	○	○
I generally feel quite alert	○	○	○	○	○
I feel tired most of the time	○	○	○	○	○

CPC - Training Feedback

52. Is your job as a CPC what you expected it would be?
- Not at all
- A little bit
- Somewhat
- Mostly
- Completely

53. Does the training process need to be **improved**?
- Yes
- No

54. How likely are you to recommend air traffic control as a career choice to your family and friends?
   - o   Extremely unlikely
   - o   Unlikely
   - o   Neutral
   - o   Likely
   - o   Extremely likely

55. Please provide any additional comments you have about your satisfaction with the training at your current facility.

Appendix D

ATC Training Effectiveness Assessment – OJTI Survey

OJTI - Background

1. How long have you been at your **current facility**?
   - o   Less than 6 months
   - o   6-12 months
   - o   13-18 months
   - o   19-24 months
   - o   More than 2 years, but less than 3 years
   - o   3-5 years
   - o   More than 5 years

2. Is this your first facility?
   - o   Yes
   - o   No

2a. If this is not your first facility, what was your status when you moved to this facility?
   - o   Developmental Transfer
   - o   Developmental Transfer Lower
   - o   CPC Transfer
   - o   Other (please specify) _____

2b. If this is not your first facility, in how many facilities have you been a developmental or CPC **before** being assigned to your current facility?
   - o   One
   - o   Two
   - o   Three
   - o   Four or more

3. In your career, have you been through the National Employee Services Team (NEST) process?
   - o   Yes
   - o   No

3a. During the NEST process, to what extent are you/were you treated fairly?
   - o   Not at all
   - o   Limited extent
   - o   Moderate extent
   - o   Considerable extent
   - o   Great extent

4. How long has it been since you completed field qualification training/certified as a CPC?
   - o   Less than 6 months
   - o   6-12 months
   - o   13-18 months
   - o   19-24 months
   - o   More than 2 years but less than 3 years
   - o   3-5 years
   - o   More than 5 years

5. How long have you been working as an OJTI at your **current facility**?
- ○ Less than 6 months
- ○ 6-12 Months
- ○ 13-18 Months
- ○ 19-24 Months
- ○ More than 2 years but less than 3
- ○ 3-5 Years
- ○ More than 5 years

6. How influential were each of the following in your decision to become an OJTI?

	Not at all influential	Slightly influential	Somewhat influential	Very influential	Extremely influential
Didn't choose, was required	○	○	○	○	○
Increase in pay	○	○	○	○	○
Wanted to help developmentals succeed in training	○	○	○	○	○
Wanted to take on new responsibilities	○	○	○	○	○
Believed I would be a good trainer	○	○	○	○	○
Other (please specify)	○	○	○	○	○

7. To what extent did you want to become an OJTI?
- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent
- ○ NA/No preference

8. How satisfied are/were you working as an OJTI?
- ○ Extremely dissatisfied
- ○ Dissatisfied
- ○ Neither satisfied nor dissatisfied
- ○ Satisfied
- ○ Extremely satisfied

9. Is your current facility in a region (e.g., Northeast, Midwest, Western, etc.) of the country you want to live?
- ○ Yes
- ○ No

10. To what extent are you satisfied with the training at your current facility?
- o Extremely dissatisfied
- o Dissatisfied
- o Neither satisfied nor dissatisfied
- o Satisfied
- o Extremely satisfied

11. How long do you intend to stay at your current facility?
- o Less than 1 year
- o 1-5 years
- o More than 5 years

OJTI - OJTI Preparation

12. To what extent do you believe the **FAA Academy** prepares **developmentals** to succeed in field qualification training?
- o Not at all
- o Limited extent
- o Moderate extent
- o Considerable extent
- o Great extent
- o N/A

13. **Before beginning to work as an OJTI**, to what extent do you believe **you** were provided with the **appropriate training** to do your job effectively (i.e., OJTI training)?
- o Not at all
- o Limited extent
- o Moderate extent
- o Considerable extent
- o Great extent

14. To what extent did you find OJTI training you received **useful**?
- o Not at all
- o Limited extent
- o Moderate extent
- o Considerable extent
- o Great extent

15. To what extent do you use the knowledge you received in your **OJTI training** while working with **developmentals/CPC-ITs in OJT**?
- o Not at all
- o Limited extent
- o Moderate extent
- o Considerable extent
- o Great extent
- o NA/Don't know

16. **Before beginning to work as an OJTI**, to what extent do you feel you were provided with the **appropriate resources** (i.e., training materials, mentoring, etc.) to do your job effectively?

- Not at all
- Limited extent
- Moderate extent
- Considerable extent
- Great extent
- NA/Don't know

17. To what extent do you find these **resources** (i.e., training materials, mentoring, etc.) to be **useful**?

- Not at all
- Limited extent
- Moderate extent
- Considerable extent
- Great extent
- NA/Don't know

18. To what extent do you use these resources (i.e., training materials, mentoring, etc.) while working with **developmentals/CPC-ITs in OJT**?

- Not at all
- Limited extent
- Moderate extent
- Considerable extent
- Great extent
- NA/Don't know

19. For each of the following, please rate your level of confidence.

	Not at all confident	Somewhat confident	Moderately confident	Considerably Confident	Extremely confident
Most developmentals have enough **knowledge** to be successful in OJT.	○	○	○	○	○
Most developmentals have had enough **practice** to be successful in OJT.	○	○	○	○	○
Most developmentals can apply what they **have learned prior to OJT** to their performance in OJT.	○	○	○	○	○

20. How often do you work in simulation with a developmental as their **primary OJTI**?

- Never
- Rarely
- Sometimes
- Often
- Always
- NA/Don't know

21. How often do you work in simulation with a developmental **not on your training team**?

- Never

- o Rarely
- o Sometimes
- o Often
- o Always
- o NA/Don't know

22. To what extent do you believe having OJTIs and developmentals work together in simulation **prior to OJT** is helpful in **improving the performance** of developmentals in controlling live traffic?
- o Not at all
- o Limited extent
- o Moderate extent
- o Considerable extent
- o Great extent

OJTI - OJT Process

23. Use the following to complete the sentence and rate the extent to which each may have interfered with your ability to train developmentals/CPC-ITs.

During OJT, _____ interfered with my ability to train developmentals/CPC-ITs.

23	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
Lack of resources (e.g., simulators)	o	o	o	o	o	o
Availability of OJTIs	o	o	o	o	o	o
Individual attributes of developmentals/CPC-ITs (i.e., ability, personality, aptitude)	o	o	o	o	o	o
Facility specific reasons (e.g., being used for staffing instead of training)	o	o	o	o	o	o
Lack of air traffic (e.g., time of year)	o	o	o	o	o	o
My relationships with developmentals/CPC-ITs	o	o	o	o	o	o
Number of hours scheduled to train (e.g., too few/too many)	o	o	o	o	o	o
Number of developmentals/CPC-ITs expected to train (i.e., too many)	o	o	o	o	o	o

24. To what extent do you use the following to judge a developmental's **progress** in training?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
Progress of their peers	○	○	○	○	○	○
Other OJTIs comments	○	○	○	○	○	○
Ops Supervisor/Mgmt comments	○	○	○	○	○	○
Training team comments	○	○	○	○	○	○
Training team meetings	○	○	○	○	○	○
Monthly skills check	○	○	○	○	○	○
Hours expended in training	○	○	○	○	○	○
Training standards/benchmarks	○	○	○	○	○	○
FAA 3120-25 form	○	○	○	○	○	○

25. About how often do you participate in training team meetings with **most of your developmentals**?
- ○ Never
- ○ Every six months
- ○ Every other month
- ○ Once a month
- ○ Bi-weekly
- ○ Weekly
- ○ Daily

26. To what extent is there adequate time for:

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
Prebriefing developmentals before OJT sessions	○	○	○	○	○	○
Debriefing developmentals after OJT sessions	○	○	○	○	○	○

27. To what extent do you believe developmentals see you as an **effective coach**?
- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent
- ○ NA/Don't know

28. To what extent do you provide developmentals **feedback** about their training?
- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent
- ○ NA/Don't know

29. To what extent do you believe the following?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
Providing **feedback** is **useful** for improving developmentals' performance.	○	○	○	○	○	○
Developmentals' and CPC-ITs view the **feedback** I provide as **useful** for improving their performance?	○	○	○	○	○	○
My trainees **utilize** my **feedback** to improve their performance.	○	○	○	○	○	○

30. From your own experience as an OJTI at your **current facility**, please indicate your level of agreement with the following statements:

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree	NA/Don't know
I clearly communicate training requirements and expectations to the developmentals and CPC-ITs I train.	○	○	○	○	○	○
I explain to the developmentals and CPC-ITs I train how to fulfill requirements and expectations communicated to them.	○	○	○	○	○	○
I always adhere to the requirements and expectations communicated to developmentals and CPC-ITs.	○	○	○	○	○	○
I have the same training requirements and expectations for all developmentals and CPC-ITs	○	○	○	○	○	○
I use training requirements and expectations to track the progress of the developmentals and CPC-ITs I train.	○	○	○	○	○	○
My training schedule allows adequate time for communication/feedback to trainees	○	○	○	○	○	○

31. Have you ever recommended a developmental receive additional training hours (20% increase)?
- ○ Yes
- ○ No
- ○ I don't remember

31_txt. In general, what are the reasons you have recommended a developmental additional training hours (20% increase)?

OJTI - Interpersonal Dynamics

32. Select the **training style** you believe you use, or prefer to use, most often in training at your **current facility**.
- ○ Tell the trainee what to do, and watch for them to do it correctly.

- Observe the trainee's performance controlling air traffic and intervene or provide feedback only if absolutely necessary.
- Observe the trainee's performance controlling air traffic and provide verbal and/or written feedback at the appropriate time.
- Push the trainee to their breaking point, and see how well they can do.
- Other (please list) _____

33. How often do you perform the following with the trainees you train (i.e., using form 3120-25)?

	Never	Rarely	Sometimes	Often	Always
Provide a prebriefing before OJT sessions	○	○	○	○	○
Take notes during training sessions	○	○	○	○	○
Provide a debriefing after OJT sessions	○	○	○	○	○
Provide feedback on trainee's progress	○	○	○	○	○
Discuss options for change/improvement	○	○	○	○	○
Use FAA form 3120-25 when providing feedback	○	○	○	○	○

34. To what extent do you believe having a **positive working relationship** with a developmental you train is important for their **success in training**?
- Not at all important
- Limited importance
- Moderate importance
- Considerable importance
- Great importance

	o	o	o	o	o	o
	o	o	o	o	o	o
	o	o	o	o	o	o
	o	o	o	o	o	o
	o	o	o	o	o	o
	o	o	o	o	o	o

36. Please rate the following:

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
Do you believe the **trainees** on your training team are confident in the training you provide?	o	o	o	o	o
Are you confident the **trainees** you train will succeed in training?	o	o	o	o	o
Are you confident in your **Ops Supervisors**?	o	o	o	o	o
Are you confident in your **Ops Managers**?	o	o	o	o	o
Are you confident in the **OJTIs** at your facility?	o	o	o	o	o

37. Do you expect **most of the developmentals** on your training team to certify?
- o Definitely not
- o Probably not
- o Might or might not
- o Probably yes
- o Definitely yes

38. To what extent have you had problems **interacting** with any of the following people?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't interact
Your coworkers (other OJTIs)	o	o	o	o	o	o
Contract instructor(s)	o	o	o	o	o	o
CPCs	o	o	o	o	o	o
Your Ops Supervisor(s)	o	o	o	o	o	o
Your Ops Manager(s)	o	o	o	o	o	o
Developmentals/CPC-IT(s)	o	o	o	o	o	o
Other management	o	o	o	o	o	o

OJTI - Workload

39. Are you **required** to work as an OJTI at your facility?
- o Yes

o No

40. To what extent does performing the duties of an OJTI **increase your workload**?
    o Not at all
    o Limited extent
    o Moderate extent
    o Considerable extent
    o Great extent

41. About how often does high workload negatively affect your performance as an OJTI?
    o Never
    o Rarely
    o Sometimes
    o Often
    o Always
    o I don't know

42. To what extent does working as an OJTI require you to **work overtime**?
    o Not at all
    o Limited extent
    o Moderate extent
    o Considerable extent
    o Great extent

43. About how often does working overtime negatively affect your performance as an OJTI?
    o Never
    o Rarely
    o Sometimes
    o Often
    o Always
    o I don't know

44. To what extent does working as an OJTI cause you to **work extra shifts**?
    o Not at all
    o Limited extent
    o Moderate extent
    o Considerable extent
    o Great extent

45. About how often does working extra shifts negatively affect your performance as an OJTI?
    o Never
    o Rarely
    o Sometimes
    o Often
    o Always
    o I don't know

46. Do you **work more hours per day** when you are working as an OJTI compared to when you are working another position?
    o Never
    o Occasionally

○ Sometimes
○ Often
○ Always
○ I don't know

47. Thinking about your experience as an OJTI respond to the following statements:

	Never	Occasionally	Sometimes	Often	Always
I have plenty of energy.	○	○	○	○	○
I usually feel quite drained.	○	○	○	○	○
I am generally engaged with the trainees I train.	○	○	○	○	○
I generally feel quite alert.	○	○	○	○	○
I feel tired most of the time.	○	○	○	○	○

48. Thinking about OJTIs at your facility respond to the following statements:

	Never	Rarely	Sometimes	Often	Always	I don't know
OJTIs have plenty of energy.	○	○	○	○	○	○
OJTIs seem quite drained.	○	○	○	○	○	○
OJTIs are generally engaged with the trainees they train.	○	○	○	○	○	○
OJTIs are generally quite alert.	○	○	○	○	○	○
OJTIs seem tired most of the time.	○	○	○	○	○	○

OJTI - Training Feedback

59. Is your job as an OJTI what you expected it would be?
   - o Not at all
   - o A little bit
   - o Somewhat
   - o Mostly
   - o Completely

60. Does the training process need to be improved?
   - o Yes
   - o No

61. How likely are you to recommend air traffic control as a career choice to your family and friends?
   - o Extremely unlikely
   - o Unlikely
   - o Neutral
   - o Likely
   - o Extremely likely

62. Please provide any additional comments you have about your satisfaction with the training at your current facility.

Appendix E

ATC Training Effectiveness Assessment – Operations Leadership Survey

Operations Leadership - Background

1. How long have you been in training at your current facility?
   - Less than 6 months
   - 6-12 months
   - 13-18 months
   - 19-24 months
   - More than 2 years, but less than 3 years
   - 3-5 years
   - More than 5 years

2. How long have you been working as an Ops Supervisor/Manager at your **current facility**?
   - Less than 6 months
   - 6-12 months
   - 13-18 months
   - 19-24 months
   - More than 2 years, but less than 3 years
   - 3-5 years
   - More than 5 years

3. How satisfied are you working as an Ops Supervisor/Manager?
   - Extremely dissatisfied
   - Dissatisfied
   - Neither dissatisfied nor satisfied
   - Satisfied
   - Extremely satisfied

4. How satisfied are you with the **training** at your current facility?
   - Extremely dissatisfied
   - Dissatisfied
   - Neither dissatisfied nor satisfied
   - Satisfied
   - Extremely satisfied

5. How long do you intend to stay at your current facility?
   - Less than 1 year
   - 1-5 years
   - More than 5 years

Operations Leadership - Pre OJT Preparation

6. To what extent do you believe the **FAA Academy** prepares developmentals for field qualification training?

- o   Not at all
- o   Limited extent
- o   Moderate extent
- o   Considerable extent
- o   Great extent
- o   N/A

7. For each of the following, please rate your level of confidence.

	Not at all confident	Somewhat confident	Moderately confident	Confident	Extremely confident
Most developmentals have enough **knowledge** to be successful in OJT.	o	o	o	o	o
Most developmentals have had enough **practice** to be successful in OJT.	o	o	o	o	o
Most developmentals can apply what they **have learned prior to OJT** to their performance in OJT.	o	o	o	o	o

8. To what extent do you believe having OJTIs and developmentals work together in simulation **prior to OJT** is helpful in improving the performance of developmentals in controlling live traffic?

- o   Not at all
- o   Limited extent
- o   Moderate extent
- o   Considerable extent
- o   Great extent

Operations Leadership - OJT Process

9. Use the following to complete the sentence and rate the extent to which each may have <u>interfered with the training provided at your current facility</u>.

During OJT, _____ has/have interfered with the training provided at my current facility.

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
a lack of resources (e.g., simulators)	○	○	○	○	○	○
availability of OJTIs	○	○	○	○	○	○
individual attributes of developmentals (i.e., ability, personality, aptitude)	○	○	○	○	○	○
facility specific reasons (e.g., being used for staffing instead of training)	○	○	○	○	○	○
the lack of air traffic (e.g., time of year)	○	○	○	○	○	○
Professional relationships between trainers and trainees.	○	○	○	○	○	○
the number of hours scheduled to train (i.e., too few/too many)	○	○	○	○	○	○
the number of developmentals/CPC-ITs OJTIs are expected to train (i.e., too many)	○	○	○	○	○	○

10. To what extent do you use the following to judge the **progress** of developmentals in training?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
Progress of their peers	○	○	○	○	○
OJTI comments	○	○	○	○	○
Ops Supervisor/Mgmt comments	○	○	○	○	○
Training team comments	○	○	○	○	○
Training team meetings	○	○	○	○	○
Monthly skills check	○	○	○	○	○
Hours expended in training	○	○	○	○	○
Training standards/benchmarks	○	○	○	○	○
FAA 3120-25 form	○	○	○	○	○

11. About how often do you participate in training team meetings with most developmentals at your facility?

- ○ Never
- ○ Every six months
- ○ Every other month
- ○ Once a month
- ○ Bi-weekly
- ○ Weekly
- ○ Daily

12. To what extent do you believe the OJTIs at your facility are **effective coaches**?

- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent

13. To what extent do the OJTIs at your facility provide developmentals **feedback** about their training?

- ○ Not at all
- ○ Limited extent
- ○ Moderate extent
- ○ Considerable extent
- ○ Great extent

14. To what extent do you believe the following?

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent
Providing **feedback** is **useful** for improving developmentals' performance.	○	○	○	○	○
OJTIs at your facility are providing **feedback** to developmentals that is **useful** for improving their performance.	○	○	○	○	○
OJTIs at your facility provide **feedback** that **clarifies** what is expected from developmentals in training.	○	○	○	○	○

15. Please indicate your level of agreement with the following statements.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree	NA/Don't know
I clearly communicate training requirements and expectations to the developmentals entering training at my facility.	○	○	○	○	○	○
I explain to the developmentals how to fulfill the requirements and expectations that were communicated to them.	○	○	○	○	○	○
I always adhere to the requirements and expectations communicated to developmentals and CPC-ITs in my facility.	○	○	○	○	○	○
I have the same training requirements and expectations for all developmentals and CPC-ITs at my facility.	○	○	○	○	○	○
I use training requirements and expectations to track the progress of the developmentals at my facility.	○	○	○	○	○	○
The training schedule allows adequate time for communication/feedback to trainees at my facility.	○	○	○	○	○	○

16. Have you ever granted a developmental additional training hours (20% increase)?
- ○ Yes
- ○ No
- ○ Don't remember

16_txt. In general, what are the reasons you have granted a developmental additional training hours (20% increase)?

_____

Operations Leadership - Interpersonal Dynamics

17. Select the training style most often used in training by the OJTIs at your facility.
    - ○ Tell the trainee what to do, and watch for them to do it correctly.
    - ○ Observe the trainee's performance controlling air traffic and intervene or provide feedback only if absolutely necessary.
    - ○ Observe the trainee's performance controlling air traffic and provide verbal and/or written feedback at the appropriate time.
    - ○ Push the developmental to their breaking point, and see how well they can do.
    - ○ Other (please list) _____

18. How often do you believe the OJTIs at your facility do the following with the developmentals they train (i.e., using form 3120-25)?

	Never	Rarely	Sometimes	Often	Always
Provide a prebriefing before training session	○	○	○	○	○
Take notes during training sessions	○	○	○	○	○
Provide a debriefing after training sessions	○	○	○	○	○
Provide feedback on developmentals' progress	○	○	○	○	○
Discuss options for change/improvement	○	○	○	○	○
Use FAA form 3120-25 when providing feedback	○	○	○	○	○

19. To what extent do you believe a **positive OJTI/developmental working relationship** is important for a developmental's **success** in training?
    - ○ Not at all
    - ○ Limited extent
    - ○ Moderate extent
    - ○ Considerable extent
    - ○ Great extent

○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○

21. Please rate the following regarding your facility:

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't know
I am confident **developmentals** at my facility will succeed in training.	○	○	○	○	○	○
Developmentals at my facility are confident in my ability to manage effectively.	○	○	○	○	○	○
I am confident in the training provided by the **OJTIs** at my facility.	○	○	○	○	○	○

22. Do you expect *most* of the developmentals at your facility to certify?

- ○ Definitely not
- ○ Probably not
- ○ Might or might not
- ○ Probably yes
- ○ Definitely yes

23. To what extent have you had problems **interacting** with any of the following individuals at your facility:

	Not at all	Limited extent	Moderate extent	Considerable extent	Great extent	NA/Don't interact
Your coworkers	○	○	○	○	○	○
Contract instructors	○	○	○	○	○	○
CPCs	○	○	○	○	○	○
Ops Supervisors	○	○	○	○	○	○
Ops Managers	○	○	○	○	○	○
Developmentals/CPC-ITs	○	○	○	○	○	○
Other management	○	○	○	○	○	○

Operations Leadership - Training Feedback

33. Does the training process need to be improved?
- ○ Yes
- ○ No

34. Please provide any additional comments you have about your satisfaction with the training at your current facility.