

The Relationship Between Basic Communications (BCO) Officer On-The-Job Training and
Role Ambiguity: An Application of Kirkpatrick's 4-level Evaluation Model

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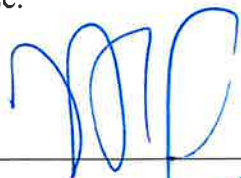
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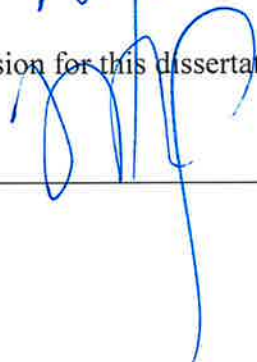
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ABSTRACT

Communications Officers, the core of law enforcement emergency centers, are the first point of contact in an emergency. It is imperative to provide effective training and support geared towards retention and success in a comfortable environment. The purpose of this study was to create a training program evaluation supportive of persistence, motivation, and retention for this group (Roumell, 2019). This was a mixed methods study grounded in an explanatory sequential design. Quantitative data was collected using the BCO pretest and posttest that were generated from an approved test bank. The BCO pretest and post- test was given to 16 participants that were employees at Gwinnett County Police Department E91 1. Qualitative data was collected through the Basic Communications Officer (BCO) course Instructor Evaluation and participant interviews. The results of both quantitative and qualitative analysis provided evidence that creating an effective training program with structured curriculum could be a useful strategy to support retention and reduce employee burnout and turnover. This information could be used by management as evidence to support the use of structured curriculum, and the importance of ensuring that Training Officers, and others who assist in the training program, are effectively trained to deliver instruction in a way supportive of the needs of the adult learner.

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This dissertation is dedicated to Gwinnett County Police E911, one of the three largest agencies in the state of Georgia. My seed was planted here 23 years ago, and this journey has been one that I will never forget. Effective training is the most critical component of any organization. It is the one thing that can assist any organization in growth or demise. I pray for an abundance of growth!

Chapter I

INTRODUCTION

Background

In the blog 9-1-1: Nearing 50 Years of Dependable Emergency Assistance, Carter (2017) pointed out that February 16, 2018, marked the 50th anniversary since the first 911 call was placed (para. 1). CJ Nash recalled his career as a 911 Dispatcher when he stated "I began my career in 1977. It was relatively primitive for several years. We had a six-line phone system: one primary dedicated line for emergencies with one rollover, the same for non-emergencies, one line for outgoing calls, and one in-house intercom line (Nash, 2021, p. 10). He further stated, "we had a floor console radio and a backup desktop radio, a 10½ inch reel-to-reel recording system or the primary radio channel and the emergency lines (p. 10).

Before the 1960s, Rybicki (2023) shared that there was no managed number, such as 911, to call in an emergency. Citizens who reported an incident had to dial a seven-digit number to reach the nearest station. In 1967, President Lyndon Johnson issued a report that "recommended a single number to call for emergency service and that eventually a single number should be used nationwide. At the time the largest phone company was ATT, and they suggested the number as 9-1-1" (p. 48). AT&T assigned 911 as the worldwide connection to emergency services. "The first 9-1-1 call was made on the circuitry implemented for 9-1-1; it was not a real emergency call but a test call. The call was made in Haleyville, Alabama, at 2 p.m., Friday, February 16, 1968. The technicians observed the mechanical relays correctly handle the 9-1-1 call. That was the beginning of using 9-1-1 for emergency service" (Rybicki, 2023, p. 48).

According to Berg (2021), over time “the job became harder and more complex, and needed people with an even greater skillset than it did previously (p. 32). In the article 9-1-1: Nearing 50 Years of Dependable Emergency Assistance, Carter (2017) shared that the 9-1-1 professionals who answered your calls, dispatched responders, and protected lives and property underwent extensive training and certification, worked 12-hour shifts or longer, and had to manage and process vast amounts of information to provide the level of service that communities and their citizens had come to expect. They finished one call, often without closure or knowledge of outcomes, and had to be ready to answer whatever the next call brought (para. 3).

Halstead and Koski (2021) pointed out how over time emergency telecommunications developed into a technology driven field that required Communications officers to learn a multitude of computer systems, to include Computer Aided Dispatch (CAD), the phone system, radio systems, and mapping software alongside learning call taking and dispatching duties. Advanced skillsets were required for Telecommunicators to adjust to a wide range of stress levels (p. 17). Additionally, Halstead and Koski (2021) emphasized that "a structured training program consists of new employee training and continuing education for all employees" (p. 18). Considering the difficulty of being a new employee, it was imperative that the training was practical. Further, it was imperative that training was uniform to ensure that new employees were adequately trained.

By and large, Gwinnett County Police Department (GCPD) E911 has been recognized as the second largest Public Safety Answering Point (PSAP) in Georgia. GCPD hired qualified applicants 18 years of age and older. Minimum standards required a high school diploma or GED equivalent. The E911 environment was diversely inclusive and promoted

the highest ethical and professional standards. The communications center consisted of employees of all races, colors, religions, genders, and sexual orientations. Once hired and before working solo, all employees entered a strenuous training program that included the Basic Communications Officer Course, where employees earned their Georgia POST Certification, followed by advanced weeks of classroom-based, then on- the-job training. Training program guidelines adhered to a policy requiring that employees reflected beliefs indicative of the highest level of established values and behavior while handling calls for service to individuals in need.

As the Training Coordinator, my goal was to have all new employees succeed as a result of the instruction provided through the Training Program. Successful training ensured maximal staffing and retention, increasing employee satisfaction, motivation, and performance. I participated in the training program as a Trainee and a Training Officer. I had personal experience as a student receiving training as well as a Training Officer delivering the training curriculum. I understood that the required learning was intense and stressful; we were the first line of communication for the public. In addition, Communications Officers were the keepers of responder safety. If Communications Officers made a mistake, it could result in injury or death to responding units and compromise citizen safety. Understanding liability, Training Officers had to utilize the training program in a manner that effectively trained and supported new hires so that they could effectively and competently assist the public.

As a personal goal, I wanted to see all training programs at police agencies succeed. Kirkpatrick and Kirkpatrick (2016) asserted that the four levels of training evaluation provided guidelines to evaluate outcomes of training. Hence, success in training programs

suggested exceptional service was delivered to individuals who dialed 911 during an emergency. Exceptional service ensured the safety of responders and callers in crisis. Given the evolution of 911 since the 1970s, the practical goal was getting stakeholders and administrators to recognize the impact of on-the-job training and effective support on retaining employees, maximal staffing, and increasing overall employee satisfaction in 911 centers. Giangreco, Sebastiano, and Peccei (2009) stated that:

"As a management practice, training is often viewed in very polarized terms by decision-makers in organizations. On the one hand, it is often seen as a panacea for all problems; on the other, it is viewed merely as a cost for the organization in terms of time and money. However, regardless of the importance attached to training, the evaluation of training is increasingly seen as crucial given the resources that are commonly invested in training programs by contemporary organizations" (p. 1).

Specifically, I was interested in knowing "How did Trainees experience their training?" and if there was a relationship between on-the-job training and role ambiguity. I was also interested in knowing whether role ambiguity affected motivation, staffing, retention, and overall employee satisfaction. Recognizing that students incorporated a broad spectrum of learning and abilities, providing an environment that encouraged new employees to persist while participating in intense and stressful training in emergency centers was imperative.

As a large organization, being empathetic and supportive of adult learners with various learning outcomes was imperative. From January 1, 2020, to November 1, 2020, Gwinnett County Police Department E911 hired 30 new employees, rehired two, and accepted 29 resignations. From January 2020 to October 2020, 37 trainees entered the

Basic Communications Officer Course (BCO) and participated in 200 hours of classroom-based training. This number included trainees who were also hired before the start of classroom-based training but were waiting to enter the classroom. Of 37, 31 students successfully graduated from the five-week classroom-based training yielding an 83.8% classroom-based retention rate. During the four-to-six-month on-the-job training of 31 students who entered field training, 18 were retained, yielding a 58% on-the-job retention rate. Positive experiences in the classroom and during on-the-job training were critical to the training program's success and overall employee retention and satisfaction (Priyana & Aseanty, 2020).

As an organization, we were responsible for making revisions, accommodations, and remediation supportive of employee success as they brought along varying life experiences that affected their ability to persist through training. Life experiences played a key role in student success. Lawrence (2021) stressed the importance of providing resources for employees who struggled to cope with emotional stress and strain. "The role of a PST is challenging- providing a comfortable and productive work environment is essential. Offer programs such as Employee Assistance Programs (EAP) and Critical Incident Stress Debriefing/Management (CISD/M) to help PSTs deal with stress" (p. 39). The training program's goal was to provide support in the classroom and during on-the-job training through effective training and remediation.

Students participated in performance evaluations and cognitive examinations throughout the six-week training period. Cognitive examinations required a minimum requirement of 80% accuracy, and performance evaluations were cumulative and rated as a

pass or fail. Upon graduation from BCO, students transitioned into the E911 center, where they were provided one-on-one training with a Certified Training Officer (CTO). Training Officers attended a one-week Certified Training Officer (CTO) course after promotion. Kirkpatrick and Kirkpatrick (2007) stressed the importance of selecting trainers with "desire and potential" (p. 19) who were provided "train the trainer" processes before the delivery of training (p. 19). Pairing Training Officers and Trainees allowed Trainees to establish a positive rapport with first-line supervisors and peers. The goal was to ensure a support system was in place for Trainees from all supervisory and management personnel. Continuous unbiased dialogue and open communication were encouraged between all training staff and Trainees during training. The objective was to supplement learning, create a positive learning environment, and ensure positive outcomes from training.

Employee retention was a problem in E911 centers around the country; therefore, this research was critical. In support of this, Baseman, Revere, Painter, Stangenes, Lilly, Beaton, Calhoun, and Meischke (2018) explained that according to a 2012 survey, 63% of E911 center managers identified job stress as a contributing factor to Communications Officer turnover. Further, a retention study identified that 83% of communications centers reported increased dispatched calls while struggling with 19% turnover (p. 2). The Center for Social Science Studies (CSSR) at George Mason University researched understaffing and excessive turnover in 911 centers (Roumell, 2019). Staffing issues, situations that affected Communications Officers in terms of retention, and mental anguish regarding the organization's vision were addressed in 2005 and 2009 studies. The Job-Demands-Resources (JDR) Model explored employee commitment to their job. It was

linked to supervisory support and demands of the job, which, when cumulative, could affect attrition and burnout (Baseman et al., 2018).

In efforts supportive of retention, I, along with Certified Training Officers, sought to present all new employees with a structured training program curriculum. Despite this, Gwinnett County E911 still needed to retain new hires after years of having a well-established training program. One issue was the current lack of consistent and efficient solutions which were supportive of trainees to guarantee the successful completion of the E911 training program. According to Kirkpatrick and Kirkpatrick (2016), the absence of a link between training and performance as a necessary component left training in a position of compromise. To maximize training program effectiveness, they further stated that three phases of a training program were necessary. Planning, the first phase, occurred when the specifications of the training program were defined and linked to the results supportive of the organization's vision. During phase two, the execution phase, participants were prepared for training and introduced to training material. The demonstration of value phase was the final phase, during which collected data were evaluated and presented to determine if outcomes supported training program goals.

Given that knowledge related to the training program outcomes, there had to be a way to break down the retention barrier. As the Training Coordinator and person facilitating the training program, I had to figure it out. It was assumed that this should not have required minimizing standards but working to establish a mutual place suitable for everyone. If we could develop effective training evaluation strategies, we would probably have been able to retain trainees long-term because of our flexible learning environment.

In E911, calls varied from non-emergency calls regarding a cat in a tree to emergency calls related to persons shot, stabbed, and aggravated domestic situations. Given this, it was imperative that we effectively and without exception taught trainees by providing them with agreed-upon tools that were necessary to succeed. The lack of accountability and lack of motivation of Training Officers combined with the inability to be effective trainers allowed Training Officers to decide how they would work to help the Trainees to which they were assigned. These concerns were explored through a quantitative and qualitative evaluation of the Training Program for Gwinnett County Police E911.

Statement of the Research Problem

Despite having had a well-organized training program, Gwinnett County E911 continued to need help retaining new hires. One issue was the current need for consistent training and remediation, which was supportive of Trainees, to guarantee the successful completion of the E911 training program. Inconsistent and ineffective delivery of the training program curriculum during on-the-job training were the specific issues that led to ambiguous application of correct procedure and policy among trainees. Anecdotal and published research evidence suggested that post-training role ambiguity was a key contributor to employee turnover.

Purpose of the Study

Recognizing adult learners' needs was important to improve staffing and retention. This study aimed to create a training evaluation supportive of persistence, motivation, and retention for this group (Roumell, 2019). The study provided effective training strategies supportive of retention, thus decreasing turnover rates. In addition, the study explored the relationships between Training Officers and Trainees participating in the training

program. There was a need for this study because ineffective training strategies were not supportive of employee motivation, reduced role ambiguity, and subsequently, retention.

This study has goals:

- (1) To explore Trainees experiences while participating in training;
- (2) To determine the impact of training program implementation on Trainee persistence and motivation;
- (3) To determine the level of trainee satisfaction with aspects of the training content, delivery, and usefulness in the workplace;
- (4) To determine the level of trainees' cognitive mastery of training content and ability to perform trained tasks;
- (5) To determine the level of trained skills application on the job following training and any existing barriers that prevent implementation of trained behaviors;
- (6) To measure the impact of training on trainees' perception of role ambiguity.

Significance of the Study

As evidenced by the 58% on-the-job retention rate in 2020, even with a structured training curriculum centered on Association of Public Safety Communications Officials (APCO) and Commission on Accreditation of Law Enforcement Agencies, INC. (CALEA) accreditation, Gwinnett County E911 failed to show substantial retention of employees who participated in and/or completed the training program. Due to variations in the size and location of E911 centers, training program curricula, delivery of instruction, and level

of coworker support varied amongst E911 centers (Baseman et al., 2018). This Dissertation Prospectus explored the E911 training program's system of evaluation and trainees' experiences while participating in the training program. The study could benefit other agencies of comparable size by exploring obstacles and efforts to overcome challenges with retaining new hires. Communications Officers, the core of law enforcement emergency centers, were the first point of contact in an emergency. Providing practical training and support geared towards retention and success in a comfortable environment was imperative. Adequate training and support ensured that the best services were being provided to the public. Trainees were given our best efforts to assist them in succeeding; hence, understanding their life experiences was essential. Given the circumstances at that time, understanding the needs of Trainees could assist them in persisting through training, beginning to close the retention gap, and increasing overall employee satisfaction.

Conceptual Framework

The Kirkpatrick Model was a well-known method for evaluating the efficacy of education and training. For workplace learning to remain relevant, Kirkpatrick and Kirkpatrick (2010) identified strategic business and learning partners. The strategic business partner recognized the organizational impact and worth determined by the consequences of the work, which was supported. The strategic learning partner recognized the "learning professionals" role in accomplishing critical outcomes. For training programs to be effective, both sides needed to work synonymously. To accomplish this, the Kirkpatrick Business Partnership model (KBPM), consisting of seven steps, worked to establish a dialogue regarding "how well your business and

learning functions are working together" (p. 35).

Kirkpatrick and Kirkpatrick (2010) identified seven business partnership steps that organizational leaders and training teams should discuss when deciding whether business and learning functions are in alliance (p. 35). Step 1, pledged to work together, required that someone solicited help for an identified problem. Stated explicitly, the request would state the problem clearly, absent of ambiguity. As an example, Kirkpatrick and Kirkpatrick (2010) shared that "We needed to increase our sales in the southwest region by about 15 per cent in the next six months. Did you (Training and Development) think you could help us with that?" was often stated as "we need new sales training. Do you have anything?". In this case, the pledge to collaborate preceded requesting assistance (p. 36).

In step 2 Kirkpatrick and Kirkpatrick (2010) addressed important jury issues, which required that help was solicited based on the identified goal. The goal determined what person(s) would judge the outcome from a business perspective. It was also important to determine the expectations of each stakeholder, as they could differ based on their role and position in the business (p. 38).

Step 3, according to Kirkpatrick and Kirkpatrick (2010), refined expectations to define the outcome, delivered "targeted, observable, measurable level 4 outcomes". This step required an understanding of expectations to deliver the expected results. Kirkpatrick and Kirkpatrick (2010) exerted that it would be unrealistic to assume that an unclarified understanding of expectations would be acceptable and that a clear understanding allowed targeted attention to efforts supportive of stakeholder expectations (p. 38).

Kirkpatrick and Kirkpatrick (2010) stated that step 4, targeted critical behaviors and required drivers, was a step that needed to be addressed (p. 40). This step could be

accomplished by collaborating with managers and supervisors to determine critical behaviors and required drivers, both of which were necessary for a successful outcome. Critical behaviors determined what behaviors would be expected of employees to meet expected outcomes. Required drivers monitored the process's steps and components that supported critical behaviors. To accomplish expected outcomes, critical behaviors had to be reliable over time.

Step 5, according to Kirkpatrick and Kirkpatrick (2010) identified necessities for success, required that unfavorable behaviors were kept to a minimum. It was important to identify problems and control or eliminate them before they developed into a problem, therefore impacting the outcome of the intended goal. One way to maintain leverage may have been to communicate the intended goal to the organization while identifying the necessary support system to reinforce the goal (p. 41).

In step 6, Kirkpatrick and Kirkpatrick (2010) emphasized execution of the initiative, incorporated the D, D, and I from the ADDIE model. During this step, several things were considered, including learning objectives, learning environment, training program and evaluation implementation, training delivery, Kirkpatrick's four levels of evaluation, continuous observing and support, and analyzing results and adjusting.

In the final step, step 7, Kirkpatrick and Kirkpatrick (2010) discussed the imperativeness of return on expectations, required that findings be compiled and presented to stakeholders. Each of the four levels of the Kirkpatrick model was presented. Step 7 was critical, and it was important to go above and beyond to present the impact of the findings on the organization. Information needed to be presented in a way that stakeholders were able to relate to. During this step, they also stressed that "becoming a valued business partner is

walking in their shoes, gathering data, and presenting it professionally" (p. 45).

In addition to evaluating training program effectiveness, the Kirkpatrick Model evaluated both formal and informal training approaches on four levels: reaction, learning, behavior, and results (See Figure 1).

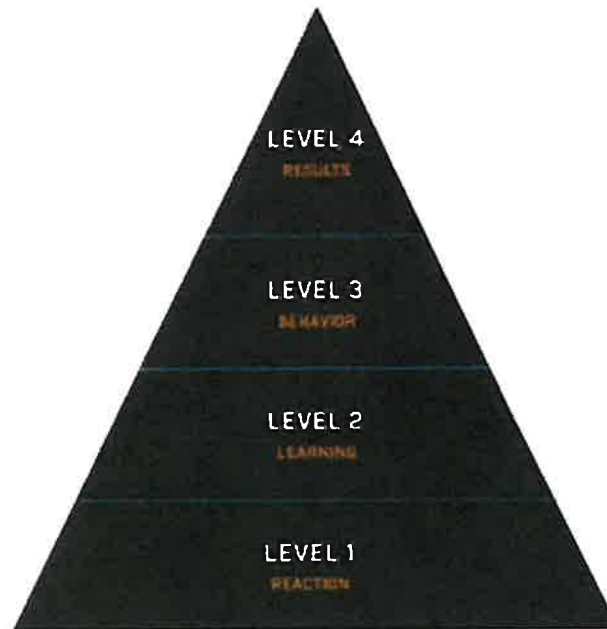


Figure 1 Kirkpatrick Model 4 Levels

Level 1: Reaction

The first criterion examined whether learners found the training interesting, helpful, and relevant to their employment. The most common method of determining this level was conducting an after-training survey (often known as a "smile sheet") that asked students to rate their experience. The importance of focusing on the learner rather than the trainer was emphasized in Level 1 analysis. Rather than focusing on the training outcome (such as content or learning environment), the Kirkpatrick Model chose survey questions that focused on the learner's takeaways. Kirkpatrick and Kirkpatrick (2016) stated simply that level 1 evaluated the degree to which participants found training favorable, engaging, and

relevant to the job (p. 40).

A significant link between emotions and learning had been found in numerous research studies. The next chapter examined 12 research studies that supported this association, including two meta-analyses. Six of the studies were carried out in a virtual classroom setting. To explore the relationships between the levels, Saxon et al. (2015) recruited first-level supervisors from a state government agency who were engaged in a supervisory skills training course. Regression analysis was used to look at the relationship between student reactions to the course and a post-training measure of declarative knowledge.

Level 2: Learning

Level 2 evaluated each trainee's progress by assessing if they had gained the necessary knowledge, competence, skills, perspective, and commitment to the course. Learning was evaluated in a variety of methods, both formally and informally. According to Kirkpatrick and Kirkpatrick (2016), level 2 evaluated the degree to which participants acquired the intended knowledge, skills, attitude, confidence, and commitment based on their participation in training. Exams and assessments in the form of interviews were examples of assessment techniques. A specific, unambiguous scoring procedure had to be developed ahead of time to avoid confusion.

Level 3: Behavior

Kirkpatrick and Kirkpatrick (2016) stated that "The degree to which participants apply what they learned during training when they are back on the job" (p. 10) was evaluated in level 3. Level 3 examined if the knowledge influenced participants and if they applied what they had learned. Assessing behavioral changes helped determine if the skills were learned and if they were logically feasible to utilize on the job. Examining workplace conduct

frequently revealed problems. A lack of behavior interventions was likely related to the organization's current processes and culture rather than insufficient training.

Level 4: Results

The fourth level was concerned with determining results. Kirkpatrick and Kirkpatrick (2016) stated that level 4 evaluated the degree to which targeted outcomes occurred as a result of training and the support and accountability package. The support and accountability package considered profit based on the delivery of training. This measure compared performance against the organization's goals prior to the commencement of the learning process specified Key Performance Indicators (KPIs). Common KPIs included a greater return on investment, fewer workplace risks, and a larger volume of sales. This method could be used to create a practical measuring plan that specified goals, measured outcomes, and pinpointed key influencers. Organizations could analyze correlations between levels by examining data at each of the four levels of evaluations, allowing them to better understand training results, adjust strategies, and correct courses throughout the learning process.

Research Questions

The following research questions were explored in the current research study:

Q1: What was the level of trainee satisfaction after completing the training with aspects of the training content, delivery, and applicability in the workplace?

Q2: What was the level of performance mastery of the training content?

Q3: To what degree did trainees apply the skills learned in training back on the job?

Q4: To what extent did training affect trainees' perception of role ambiguity?

Limitations and Delimitations

As the organization utilized agency-approved course evaluations, it's important to note that any information and data collected by the organization prior to IRB approval of this research was not incorporated into this dissertation. Ethical concerns and risks related to this research were minimal (Roumell, 2019). One identified concern was the impact that interviews could have on participants' concerns about whether they had done something wrong and whether involvement would have a detrimental impact. As a researcher, I recognized that confidentiality could be a concern for participants. To alleviate this, all participants were advised on the purpose of the study and were told that participation was voluntary. All participants voluntarily gave consent to interviews and were free to decline participation. Participants were encouraged to speak freely and were free to leave the study if they chose to do so. To encourage comfort, I elicited non-verbal empathy throughout the entirety of the interview. The threat to validity included my perspective relative to Training Officers and trainees. Understanding researcher responsibilities, it was imperative to minimize bias and remain aware of potential Trainee reactivity towards the researcher. Although it was impossible to avoid all validity threats, the use of triangulation through multiple sets of data served to control threats to validity. In this case study, the researcher was a participant in the program that was being studied. The researcher understood that this was a tremendous concern. The role of the researcher was to ask in-depth, rich questions in Q4 that dug deeper and attempted to establish a picture of the ideas being developed. In addition, since I was a member of management involved in the training process, the personal interest that I had in our training program could interfere if not carefully

controlled. I also had to remain aware of how Trainees might respond to me as the researcher. As the Training Coordinator in a supervisory role, participants could view me as an authority figure. Also, having been a student and having shared this experience previously left me open to sometimes judging those that I felt were not persisting through the process, as well as those ineffectively delivering training. To deal with these and other concerns, I felt that it was imperative to maintain transparency. I shared my vision and hoped for buy-in from participants in the training program. While going through the process, I let all participants know that they were valued and that their input was important. Maxwell (2012) stated that "The selection of data that matches the researcher's current theory, aims, or assumptions, as well as the selection of facts that "stand out" to the researcher, are two major challenges to the validity of qualitative results" (p. 124).

Throughout this process, there were several serious validity threats that I needed to be concerned with. One of the greatest concerns involved me researching an environment that I oversaw. As a part of this, I had to remain aware that participants may respond in a manner that they feel is expected of them as opposed to how they truly feel. Another concern was that I had to be aware of my perception of the training program as compared to those involved in the process. Having known the Training Officers for years, I had formed a working relationship with all of them. I could see their motivation, or lack thereof, daily. Since I trained new employees for years, I had shared experience with the Training Officers; however, my view of the process today was different as the Training Coordinator. I had to be aware that my perception could not play a role as a researcher. I understood that I could be mistaken about what was going on because, although I was a participant in the training program, I did not personally deliver training daily. I believed

that these might be serious threats given the ability to provide information to affect true understanding. In other words, what participants might think they should say versus stating feelings truthfully. If participants were not honest and forthcoming in their experiences, improvements to the training program, retention, and employee satisfaction could be hindered.

Maxwell (2013) stated that "A second issue that is frequently mentioned regarding qualitative studies is the impact of the researcher or persons investigated, which is known as "reactivity." (p. 124). By utilizing open-ended questions as part of the research design, I felt that participants were more likely to communicate their true feelings. Asking open-ended questions allowed me to collect rich data that contained extensive details that painted an absolute picture of our training program. Although it was impossible to avoid all validity threats, I felt that this was an honest effort towards eliminating bias.

Smith and Felix (2019) explained the importance of the applicability and relevancy of tools, such as surveys, utilized in research studies. One limitation of the current study was the use of a survey instrument. Each instrument was evaluated for content validity by distributing the instrument to 10 fully released employees for feedback on the feasibility and usability of questions.

Delimitations existed in the current study due to the absence of generalizability. Although the current study could not be generalized to the broader population, future research could expand to a broader audience.

Definition of Terms

APCO- Association of Public Safety Communications Officials

CAD- Computer Aided Dispatch

CALEA- Commission on Accreditation of Law Enforcement Agencies, INC.

CSSR- Center for Social Science Research

CTO- Certified Training Officer

DOR- Daily Observation Reports, which contain supportive documentation regarding daily training

ECC- Emergency Communications Center

EMD- Emergency Medical Dispatch

GCPD- Gwinnett County Police Department

NRT- Not responding to training ratings are received once Trainees reach the 75% mark of their training hours. A rating of 1 is replaced with a rating of NRT

PSAP- Public Safety Answering Point

PST- Public Safety Telecommunicator

SCO- Senior Communications Officer (supervisor)

SEG-Standard Evaluation Guidelines

Trainee- New hire employees that enter the training program

Training Coordinator- Employee that facilitates the training program curriculum that is provided to new hire employees

Training Officer- Employees that are responsible for training new hire employees

Chapter II

Review of Literature

Introduction

Doody, Rupp, and Witte (2018) stated that law enforcement was the most widely provided service, with a large majority of agencies providing call-taking and dispatch services (p. 11). Lawrence (2021) stated that when emergency center directors evaluated staffing levels, more than 70% reported understaffed centers. Because of this, emergency communications centers (ECCs) continued to struggle with employee retention. Center directors further felt that there were few qualified candidates to bridge staffing shortages. "The emotional distress of employees is important to consider for both the effect of the wellbeing of employees and to workplace consequences" (p. 37).

This chapter explored existing literature-based theory as related to adult learners' motivation and persistence, staffing and retention, training, and effective practice as related to Public Safety Answering Points (PSAPs). In a supplemental study exploring staffing and retention in Public Safety Answering Points (PSAPs), Doody et al. (2018) stated that PSAPs, consisting of three primary groups, were categorized according to Commission on Accreditation of Law Enforcement Agencies (CALEA) standards. "Small PSAPs were defined as consisting of one to 15 employees, medium PSAPs as 16 to 75 employees, and large PSAPs as 76 or more employees. In our final sample of 455 PSAPs, just over half (50.8%) were small PSAPs, 42.6 per cent were medium PSAPs, and 6.6 per cent were large PSAPs" (p. 8). Characteristics varied between agencies based on population, with reported authorized positions varying from one to 190. Fewer than 30 per cent of agencies reported that they met authorized strength (Staffing and Retention in Public Safety Answering Points

(PSAPs: A Supplemental Study, p. 8). "Successful training of PSTs is critically important for PSAPs due to the high-stress, fast-paced, and high-stakes work involved in managing and dispatching calls, especially for emergencies, but also for non-emergency situations. In total, directors from PSAPs of all sizes reported an average training period of 16.5 weeks for their employees. PSAP size significantly affects this average" (p. 17).

Kirkpatrick's 4-Level Evaluation Model

To evaluate training outcomes in ECCs, the evaluation model for this research was the Kirkpatrick Model. Smidt, Balandin, Sigafoos, and Reed (2009) pointed out that "the need for clinician appraisal is equally relevant when considering staff training programs" (p. 266). Critical appraisal involved the evaluation of validity, outcomes, and relevance. The research explored collaboration between staff and intellectually challenged people. It was identified that the comfort level of residents was affected by relationships with staff (p. 267). Smidt et al. (2009) stated that "when considering the impact of any particular study or training program, it is necessary to evaluate the evidence presented in support of the program" (p. 267). One way of identifying the impact of training is known as the 4-level model that was created by Donald Kirkpatrick. The components of the model were reaction, learning, behavior, and results. The reaction occurred when participants completed an evaluation following instruction, during which time they expressed their opinion of the instruction as opposed to what was learned in the course. Learning identified skills that were learned by participants during training. Evaluation could be cognitive or psychomotor (p. 267). Behavior involved transitioning what was learned during training into the workplace while evaluating whether the knowledge that was gained is useful in the workplace. Finally, results evaluated the overall effect of the training process. For example, positive results were cost-effective and illustrated positive retention, therefore positively

impacting the organization. As related to Gwinnett County E911, this was illustrated during six weeks of classroom-based training for those who, following successful completion of training and receiving a POST certification, transitioned to the E911 center for on-the-job training. During the first week of classroom-based training, students first received a pre-test, then received instruction delivered by state-certified instructors, and finally took a post-test to receive their POST certification. Each instructor was evaluated by students regarding their delivery of instruction and the instruction's impact on learning. The post-test contained cognitive and psychomotor components, which determined whether learning took place during instruction. Upon graduation, students transitioned into the E911 center and began on-the-job, hands-on training in a real environment with a certified Training Officer. The hope was that students could apply the skills learned during classroom-based training in the real-time environment, in turn supporting retention.

Trainee Reaction Research

Kirkpatrick and Kirkpatrick (2010) stated that "once a learning event of any kind has been delivered, Level 1 comes into play. Identified as a reaction, I defined Level I as a 'customer service' assessment of how participants reacted to the training program. This included querying such matters as the delivery of the program, training materials, the training facility, and the perceived usefulness of the content" (p. viii). Prilyana and Aseanty (2020) pointed out that turnover intention was impacted by job satisfaction, and job satisfaction was the most important influence that affected turnover. Employees who received training satisfaction were better able to improve service delivery and on-the-job performance, therefore positively impacting the quality of business provided by the company (p. 3). Further, "the emergence of a positive reaction had a good effect on the high level of job satisfaction because employees

were always positive towards the organization, and this greatly influenced the sustainability of company productivity. While negative reactions had an impact on decreasing job satisfaction, so that employees avoided work situations that were considered monotonous and unattractive to do, it was indicated to have a bad influence on employees to do turnover intention" (Merriam & Brockett, 1997).

Trainee and Training Officer Relationship

Training Officers were the first level of supervision and the ones who delivered on-the-job training and then made a recommendation for release to solo capacity or not. New employees viewed Training Officers as leaders who controlled the outcome of their training process. While in a leadership and training role, it was important for Training Officers to tailor their methods of teaching to meet the needs of the student. Further, to complement training effectiveness and learner motivation, it was important for Training Officers to understand their assigned Trainees' life experiences and backgrounds. Termed situational leadership, coined by Paul Hersey and Kenneth Blanchard. English (2006) stated that this leadership style consisted of two key elements. The first element was the relationship between the leader and the person(s) under their authority. The second element focused on the structured roles of the instructor. This leadership style assumed that the leader would mold their leadership techniques appropriately and successfully while adapting to fit the student's needs. For example, instructions were given to the student, and then actions taken were based on the outcome the leader hoped to receive. Since this leadership style was also based on the needs of the student, understanding life experiences and backgrounds should have provided insight into the degree of motivation and willingness of the students to learn (English, 2006).

Learning Outcomes

The association between trainee reactions and learning outcomes was one way that research demonstrated the efficacy of the reaction measure. A link between positive reactions and better learning outcomes suggested that tracking training reactions was worthwhile. According to logic, there was a link between trainees' reactions to the course and their actual learning outcomes. During the training, reactions played a significant function in generating interest and attentiveness. A more positive reaction could have led to higher engagement, which could have resulted in more learning. According to the authors, learning may have depended on emotions since trainees had to respond positively to training for learning to occur (Passmore, 2016). People did not have to like the training for it to be effective, but their reaction should have been in line with established learning objectives. Prilyana and Aseanty (2020) stated that satisfaction regarding training was a result of motivation which could have reduced employees' intentions to leave the company (p. 4). Trainees should have at the very least, been eager to learn. On the other hand, Kirkpatrick's approach was frequently questioned since the supposed causal relationship between the four levels had yet to be proven in training assessment studies. The results of research into the relationship between reactions and learning had varied (Morgan & Casper, 2000). Although Kirkpatrick's approach had been questioned, Giangreco, Sebastiano, and Peccei (2009) stressed that reaction evaluation was imperative for two reasons. First, it would have been a clear dismissal of considerations to assume that positive training experiences did not benefit Trainees. Second, effective reaction evaluations would have allowed organizations to identify concerns and gaps in training and work on revising the training curriculum (p. 5).

Learning Research

Level 2 of the Kirkpatrick Model was used to assess how much participants in training programs enhanced their knowledge and abilities as a result of the training. At Level 2, establishing the effectiveness and usefulness of training and the acceptability of the evaluations and evaluation tools employed in the training was possible. Pre- and post- training assessments were commonly used in Level 2 evaluations; however, additional methods such as interviews, models, and on-the-job observations were also used. This level of evaluation was used to determine how far participants had progressed in terms of competence, knowledge, or mentality. In comparison to Level 1, exploration at this level was significantly more difficult and time-consuming. Tests could range from casual to formal, in addition to self-assessments and team evaluations. Individuals took the exam or assessment before the training (pre-test) and after the training (post-test), if at all feasible, to determine how much the participant understood.

In one example, training on new instructional practices significantly improved the satisfaction of healthcare staff with the workshop learning system, their knowledge of new teaching and learning methods, and their behavior in performing workshops for teaching people, according to Kirkpatrick's program evaluation model. This teaching and learning strategies workshop suggested inclusion in educational programs for healthcare professionals.

Staffing and Retention

In '9-1-1, What Is Your Emergency?' Staffing, Kirkland (2021) stressed that Emergency Communications Centers (ECCs) could have taken measures to "improve recruiting, hiring, and retention" (p. 30). Areas of focus centered around recruiting, training, retention, and compensation. The idea that only 2% of the population was able to do the job, training was

difficult, and center culture and staffing would continue to be a concern in 911 centers were only a few of the challenges that leadership had been left to explain to stakeholders (p. 30).

Recruiting

Since employees in 911 centers operated behind the scenes, children did not typically grow up with a desire to become Communications officers. To combat this, Kirkland (2021) communicated the need for community outreach in schools where students were taught specifics of the job, such as life-saving CPR and 911 as the first point of contact during an emergency. Further, modern technology such as text-to-911 and how to dial 911 could serve as inlets of discussion with school career counselors and elementary and middle school students (p. 30). The Office of Professional Standards (OPS) for the Gwinnett County Police Department conducted internal and external employee investigations. This office was also responsible for recruiting, community outreach, and college and high school career fairs. Oftentimes, employees from the E911 center were invited to accompany sworn officers so that they could explain the job functions of a Communications Officer. Gwinnett County Police also hosted hiring events for sworn officers and E911, where the public was encouraged to apply in person. All agencies were responsible for determining recruiting and outreach policies and procedures specific to the needs of their organization.

Training

Kirkland (2021) encouraged a "phased approach" for long-term training programs (p. 30). In the phased approach, employees were trained on Calltaking and released to receive calls solo while other trainees were trained. In E911, there were three phases of training (Calltaking, Police, and Fire). All trainees completed Calltaking as the first phase of training. Adding more Training Officers to streamline training or train more than one trainee was another suggestion

that agencies were encouraged to explore. In addition, the ability to think of creative ways to decrease the amount of time needed to train trainees would have allowed training programs to maximize available time.

Retention

"A center's culture played a major part in whether employees stay or go" (Kirkland, 2021, p. 31). Negative attitudes of coworkers, shift work, difficult callers, and non-supportive field units led some to question whether working in E911 centers was worth it. Further, redundancy and complacency in work with limited growth affected job satisfaction. To prevent these concerns, fostering a positive work environment and eliminating barriers to maximal employee performance was imperative. To enhance job satisfaction and retention, organizations were encouraged to identify the strengths of employees and provide opportunities for employees to utilize their strengths (p. 31).

Compensation

Regarding pay, Kirkland (2021) stated that compensation was not the only reason employees left organizations but could be a contributing factor. Recognition of 911 employees as first responders and requiring specialized skills and training could assist with increases in compensation. Further, understanding the duty of Communications Officers to handle calls involving life-or-death situations could inform stakeholders of the correlation between pay and employee turnover.

"The most effective leadership development programs for law enforcement agencies enhanced the individual leader's abilities in two areas: (1) achieving organizational goals that serve the public and (2) developing individuals, teams, and the organization for the future" (Orrick, 2008, p. 173). Centrally as important, it was important for hiring

processes to hire qualified applicants who met organizational staffing needs. To combat retention, it was necessary to understand why employees were leaving. One way to understand was to ask employees why they were leaving as well as what was important to them. Surveys, interviews, and focus groups were one way to gather information (Karpinska, Henkens & Schippers, 2013).

Behavioral Research

Training Transfer and Behavioral Development

Bhatti, Kaur, and Battour (2013) explored training transfer through employee training and development (TAD). "TAD referred to a systematic process of learning and development to upgrade the effectiveness of a single worker, a group, or an organization", and activities were designed to positively influence workplace behaviors and performance (p. 1). Focus centered on developing employees by providing structured and relevant learning, which would assist human resources and the organization in maximizing their training investment. The idea was that if Trainees were aware that training programs were designed to increase their ability to transfer learning into the workplace, training transfer would improve. The effects of transfer design could enhance employee efficiency and motivation while improving the training program. Transfer design allowed trainers to explore training designs and delivery. "When it came to training design, the trainer should clearly understand how the trainee would use the acquired skills on the job. Furthermore, the trainer's understanding of the subject matter would inspire the confidence that the trainee would need to transfer the learned skills to the job" (Bhatti, Kaur, & Battour, 2013, p. 41).

Kirkpatrick and Kirkpatrick (2016) identified the behavior as the "degree to which participants applied what they had learned during training when they were back on the job"

(p. 10). Dai and Sternberg (2004) stated that the transfer of training was a necessary component of intelligence and creativity. In a study involving high school science students presented with a challenging task, students were assessed to determine whether they had learning or performance goals. Students who identified performance goals were concerned with appearing smart and avoiding errors. Students who identified learning goals were concerned with learning new things as opposed to looking smarter and avoiding mistakes. Students were presented with a problem and then evaluated on their ability to apply learned principles to another problem (Howell, 2002). The training curriculum was always developing because it was closely linked to responder safety and community requirements. The training program's curriculum was created with the goal of reducing the company's liability, which required applying learned principles to multiple problems. Training Officers were certified to teach trainees the training program's standards of applying learned principles across multiple complex problems (Kettanurak, Rammurthy & Haseman, 2001).

To track behaviors, Training Officers were required to fill out daily observation reports (DORs), which were used to track Trainee performance. The DOR's main goal was to capture the learning standards that were evaluated on a daily basis. Performance was graded as exceeding expectations, meeting expectations, unsatisfactory, and not responding to training (NRT). These requirements necessitated an objective recording of both acceptable and unsatisfactory performance. Acceptable performance guaranteed that workers had the fundamental abilities they needed to work alone, boosting employee motivation and happiness. Unacceptable performance indicated that workers had not gained the fundamental ability to work alone, therefore requiring remediation and sometimes employee separation.

Transfer of Learning

Giangreco, Sebastiano, and Peccei (2009) pointed out that each level of the Kirkpatrick model transitioned into the next in that the satisfaction level of Trainees correlated with their inclination to study, which, once translated into "real learning," could change behaviors and improve employee and organizational results around quantity and quality (p. 2). Mason, Auerbach, Zeitlin, and LaPorte (2015) affirmed this when they stated that Faerman and Ban (1993) "reported that when participants' initial reactions to a training session were positive, and they perceived the training as affirming their current work practices, learning was connected to behavioral change". As cited in Mason et al. (2015), they further expressed that increased levels of satisfaction should not predict learning transfer without also considering workplace environments.

Communication and Training Barriers

Vella (2002) asserted that there was a communication gap between the student and the teacher. Dai and Sternberg (2004) further stated that communication was an imperative component of learning, which involved oral and written discussions and information sharing supportive of a better understanding of subject matters. Given this, the difficulty was that, although adult learners used reinforcement, the educator's instructional design also had to reinforce to facilitate learning (Vella, 2002). She went on to say that unless this barrier was removed, issues would persist. As a Training Coordinator for one of three of the largest agencies in the state of Georgia, I believed that there was much to be gained from understanding Trainees' training needs. Addressing their needs while implementing a training curriculum would provide a foundation on which we could build to ensure the successful release of Trainees. One of the problems we currently encountered involved Training Officers

implementing instruction delivery or utilizing teaching methods that did not support the learner's needs. In other words, some Training Officers created their own way of teaching, which could be ineffective, therefore negatively impacting the trainee's ability to successfully release. These behaviors were sometimes difficult to track as the root of the problem because what was documented was not necessarily what took place. For example, Trainees reported being told, "Forget what you have learned. I am going to teach you my way of doing things." It was not likely that a Trainee would voice a concern regarding their training until they had resigned or received notification of separation, if then.

For positive outcomes, training material and fundamentals of training had to be adhered to by Training Officers and communicated in a way that the Trainee easily understood. This guaranteed that the on-the-job training included basic concepts and examples of how learned ideas were applied in the real environment and also allowed classroom-based training to transition into on-the-job training. In this way, Trainees were able to clearly see their learning process come to fruition, free of ambiguity.

In support of this, Roumell (2019) stated that, in addition to recognizing or describing an idea or task, learners also had to possess the ability to apply the information in real-world situations (p. 15). She further stated that oftentimes focus was placed on content design and implementation, with little focus on what took place during the learning event (p. 16). Simply stated, "we did little to prepare learners to actively engage in 'far transfer' of the knowledge and skills after the planned 'learning event' (p. 16). The far transfer would require learning that allowed the learner to apply understanding to everyday experiences. When an individual was required to apply their acquired knowledge and abilities in a context other than the one in which they were learned, this was known as far transfer. Learning about new information and ideas may have been

exciting and inspiring but putting that knowledge and ability into practice in an appropriate environment was a whole other learning experience" (p. 16).

Once hired, Communications Officers were required to attend a total of six weeks of classroom-based learning before transitioning into the E911 center. During weeks two through six, training consisted of fundamentals of on-the-job ideation and simulations of real-life events resulting from 911 calls into the communications center. The purpose of weeks two through six was to provide students with the fundamentals and understanding of on-the-job training and what would be expected once they transitioned into the communications center. To eliminate confusion, it was imperative that on-the-job training aligned with the basic fundamentals taught during classroom-based training.

Further understanding of this importance was provided by Roumell (2019). According to Roumell, recent reviews of the literature suggested the absence of learning transfer among adult learners (p. 17). Patton (2015) stated, "Learning transfer and application is not so much about the material or how it is delivered in a learning event as they are about how educators assist learners in relating to the content and seeing how they could effectively apply new concepts in meaningful ways" (p. 18). In this case, while transitioning from the classroom into the on-the-job training, Training Officers had to help Trainees connect the relationship between their learned skills and the real-life calls received.

Results Research

Alliger et al. (1997) conducted a meta-analysis of 34 training trials, resulting in 115 correlations among the four levels of training evaluation. The researchers supplemented Kirkpatrick's taxonomy, who divided reactions into affective reactions and utility judgments. The learners' affective replies indicated how much they liked or loved the session. The

perceived usefulness of the training was reflected in utility judgments. Learning and utility reactions revealed a connection ($r = .26$). Learning was also linked with reaction measures that comprised affective and utilitarian indicators ($r = .14$).

In another study, Warr et al. (1999) looked at the reactions and learning gains of 123 technicians in a diagnostic equipment training course at a car dealership. The authors looked at four aspects of how people felt about the training course: enjoyment, perceived utility, perceived difficulty, and incentive to transfer. Enjoyment, perceived usefulness, and motivation to transfer were all linked to positive learning outcomes ($r = .30, .49, \text{ and } .45$, respectively, $p < .001$), while greater perceived difficulty was linked to poorer learning outcomes ($r = -.43$, $p < .001$). Because of the diverse markers of reactions, the authors speculated that the relationships between reactions and learning were stronger than in the previous study.

In a final study, Tracey et al. (2001) investigated the relationship between trainee reactions and learning in a model of training efficacy. A total of 420 hotel managers participated in the study, including a basic managerial skills training course. The affective and utilitarian reactions to the training course were examined in a two-dimensional meta-analysis. A post-training test was used to assess declarative knowledge as well as the trainee's ability to apply course content to real-world scenarios (application-based). According to a correlation study ($-.15$ effective and $.09$ utility), there was no significant association between reactions and declarative knowledge. However, effective and utilitarian reactions were both linked with application-based knowledge ($.40, .44$, $p < .05$). LISREL was used to evaluate the authors' overall model. Only the association between utilitarian reactions and declarative knowledge was investigated in the model, and it was found to have moderate support ($.19$, $p < .10$).

Evaluation of Training

Given simplicity and practicality, the Kirkpatrick Model has been utilized by sales trainers for more than 40 years as an evaluation tool. In fact, in one study, life insurance underwriters were chosen to examine the perception of effectiveness in training. A sample of 2,000 participants, with an average of 14 years of experience, from the previous year's training program were randomly selected. Of those selected, 445 usable responses were returned, and 61 responses returned undeliverable, yielding a 23% response rate. Leach and Liu (2003) looked at the links between Kirkpatrick's levels of appraisal. They discovered a link between learner reactions to the training and perceived levels of information acquisition ($H_1: y = .42, p < .01$), among other things.

Level 1, reactions, of the Kirkpatrick Model, was utilized as "the customer satisfaction measurement of training" (Kirkpatrick & Kirkpatrick, 2016, p. 17). This level evaluated how much participants found training favorable. Level 1 (reaction) components included customer satisfaction, engagement, relevance, monitoring, and adjustment. Taken separately, customer satisfaction had a positive correlation with learning. Like training in E911, it was identified that to understand customer satisfaction better, consideration should be given to eliminating learning barriers during the training process. During on-the-job training, Training Officers were expected to document performance deficiencies as well as any remediation provided to trainees to improve performance. Engagement evaluated trainee participation in their learning process. Kirkpatrick and Kirkpatrick (2016) stated that "program interest is most commonly the focus of participant engagement evaluation efforts; However, personal responsibility, or how present and attentive participants were during the training, is arguably a more important part of engagement" (p. 17). Trainees were evaluated on professionalism and attitude towards

the job as well as their acceptance of feedback. Training Officers were not evaluated on their ability to engage their assigned trainees. Relevance considered the application of learned skills into on-the-job training. During classroom-based training, trainees were presented scenarios based on real calls that have been received. Once trainees successfully completed classroom-based training, they entered the E911 center, where they applied learned skills to real calls (Kraiger, Ford & Salas, 1993). Finally, monitor and adjust encouraged evaluation of training implementation following the completion of training to determine if objectives were met. During the evaluation process, any needed adjustments would also be made. Kirkpatrick and Kirkpatrick (2016) emphasized that "the real power of any initiative is found in this section of the model" (Schunk, 1989). To date, monitoring and adjusting have not been implemented as a component of the training program.

Role Ambiguity

Role ambiguity occurred when an employee "did not feel she/he had the necessary information to perform her/his role adequately when she/he was uncertain about what the members of her/his role set expect of her/him" (Unguren & Arslan, 2021). In the absence of clear guidance and direction, they stated that the resulting uncertainty in how to perform tasks was one of the leading causes of workplace stress. In one study, Kahn, Wolfe, Quinn, Snoek, and Rosenthal, (1964) asserted that role ambiguity resulted from the size and complexity of organizations which outweighed a person's level of comprehension. Fast-paced organizational overhauls, excessive personnel changes, environmental changes which placed new responsibilities on employees, and restricted access to information were also sources of role ambiguity. The study concluded that 35 per cent of the sample population "were disturbed by lack of a clear idea of the scope and responsibilities of their jobs. The interviews indicated that

high degrees of role ambiguity were associated with increased tension, anxiety, fear, and hostility, decreased job satisfaction, and loss of self-confidence, often with lower productivity" (p. 154).

Implications on Job Performance and Satisfaction

Like Gwinnett County E911, Rizzo, House, and Lirtzman (1970) emphasized that employees in the large and complex hospitality industry were faced with an abundance of customer contact. Increased levels of customer interactions created the need for employees to successfully deal with incompatible demands from customers (p. 45). Organizational studies examined many negative outcomes, both direct and indirect. A meta-analysis of 43 research studies identified that role ambiguity produced "negative effects on commitment, engagement, job satisfaction, and employee turnover" (p. 46). Another meta-analysis of almost 200 studies indicated that role ambiguity resulted in diminished job satisfaction and commitment, workplace stress, absences, intention to leave, and work performance (p. 46). To understand the reciprocal role of communication, Unguren and Arslan (2021) identified the role set model. The role set was the person who determined role requirements while the role owner received and mentally processed the expectations and determined an appropriate response. After performing the role and receiving feedback, the role owner reevaluated their actions. During the interaction, it was possible that the role owner experienced conflict in what behaviors to perform and how to perform them. During the interaction between the role set and the role owner, the role owner had to understand the requirements. It was equally important that a mutual agreement be established between the role set and the role owner (p.46).

This study utilized an explanatory research design to explore the causal effect of job satisfaction as related to the independent variable role ambiguity. Research participants were

selected through purposive sampling. Of 900 questionnaires shared at 28 hotels, 534 were collected and utilized as a part of the study. A widely used questionnaire developed by Rizzo et al. (1970) was used to measure the perceptions of employees as related to role ambiguity. Results showed that role ambiguity negatively influenced job performance and satisfaction of hotel workers. Findings also suggested mindful training for employees, which included such training as managing difficult feelings, improving relationships, and improving job satisfaction (p. 53).

Similarly, Rizzo, House, and Lirtzman (1970) pointed out that role ambiguity assumed that a person would become dissatisfied in their role, become uneasy, and contort reality resulting in ineffective performance. One study of 140 college students examined problem-solving ability through different amounts of role ambiguity. Results showed that groups asked to solve problems without clarification performed with diminished efficiency compared to those with clear roles. Also, role ambiguity decreased satisfaction among group members. Finally, hostility was greater for groups with role ambiguity as compared to the control group. Overall, it was determined that role ambiguity resulted in less-than-ideal outcomes for employees within and the organization's performance.

Similar findings by King, Ryan, Wood, Tod, and Robertson (2020) discussed an initiative in England where trainee Nursing Associates (TNA) were introduced as a layer between healthcare assistants and registered nurses. During the training evaluation, 39 Nursing Associate trainees presented concerns about role ambiguity. A qualitative exploratory research study was performed to gather research data by examining trainee motivation, experiences, and career goals. Of 70 trainees, 15 agreed to participate in focus groups. During the study, trainees experienced role ambiguity and lack of role clarity. Identified challenges included the

absence of mentorship, academic stress, and uncertain career paths (Noe & Schmitt, 1986). As an example, it was suggested that trainees could participate in an 18-month program to become registered nurses. Trainees, however, were unclear on how to apply for the program.

The outcomes of the study suggested that TNAs "experienced widespread role ambiguity, both personally and within their organizations" (King, Ryan, Wood, Tod, and Robertson, 2020). During training, they were unable to explain their roles, possibly due to the delayed introduction of the scope of practice. They worked as HCAs (Healthcare Assistants) at their manager's discretion during clinical. In addition to the absence of experienced mentors, this resulted in conflict between the TNA's roles as trainees yet be expected to provide healthcare (Gwinnett County Police Department Job Opportunities, 2021). Despite obstacles associated with role ambiguity, TNA participants considered the role an asset to their career progression.

Grace, Mejia, Inhofe Rapert, and Thyroff (2021) formulated two hypotheses to research factors impacting student satisfaction with transitioning from in-person to online learning. The first hypothesis was "past experience with online courses will increase student satisfaction with their transition", and the second hypothesis was "past experience with online courses will increase student satisfaction with their performance" (p. 230). Data was collected from 44 seniors in a marketing class at a large university. Of forty- four participants, forty-three completed the second survey phase.

Ambiguity in Call Center Environments

Assumptions and beliefs regarding call center environments had long centered around "being a stressful job which made it a significant challenge to retain employees at call centers" (Ro & Lee, 2017). Although research related to job perceptions and the intent to resign was limited, primary reasons for increased turnover included work stress, tedious repetition, and

burnout. Other reasons included salary, lack of training, and lack of opportunity for professional development. Global call center reports stated that the average turnover rate in United States call centers was approximately 33%. As compared to other occupations, approximately one in three employees in call centers resigned from their jobs (Merriam, 2001). Additionally, role theory established that employees who assist customers possessed a strong desire to understand their work roles and performance expectations.

For this study, two hypotheses were developed. The first hypothesis implied that workplace engagement had a negative correlation with the intent to resign. The second hypothesis implied that a negative correlation existed between role clarity and the intent to resign. For this research study, data was collected from a call center at a large resort hotel which spanned over 12 locations. Over a two-week period, an online survey was given to 66 of 99 employees, mainly female participants between 19 and 34 years of age. Approximately 17% of participants had worked in a call center for three to four years, 40% for one to two years, and 34% of participants in the study had worked in a call center environment for less than one year.

In addition to demographics, the self-administered survey measured five categories which included job engagement, role clarity, organizational support, job satisfaction and the intent to resign. A five-point Likert scale was utilized to measure five areas related to job engagement, four areas related to role clarity, three areas related to intent to resign and job satisfaction, and six areas related to organizational support. While controlling job satisfaction and organizational support, the effects of job engagement and role clarity as related to intent to resign were analyzed via hierarchical regression analysis. At a .10 level, results indicated significance in job satisfaction $W = -.586$, $t = -4.787$, $p < .001$), and marginal significance in

organizational support ($= -.157, t = -1.702, p = .094$). There was a negative correlation between job engagement and intent to resign ($= -.274, t = -3.089, p < .01$). A lack of significance existed between role clarity and the intent to resign ($= .066, t = -.619, n.s.$). Cronbach's alpha ranged from .83 to .93.

Ro and Lee (2017) further stated that psychological factors, meaningfulness, safety, and availability provided implications for management to work to improve employee engagement. To increase morale, meaningfulness would recognize and reward employee performance and encourage the sharing of ideas among employees. Safety would encourage open dialogue between management and employees by building trust and displaying consistency. Recognizing the seriousness of the stressful call center environment, availability would provide emotional guidance to employees.

Overall, it was determined that job satisfaction significantly decreased employees' intent to resign, thus identifying the need to ensure employee engagement. Limitations of the study included a small population from one call center, which impacted the ability to generalize results to all call centers. For future research, a larger population over multiple call centers could present a clear impact between role clarity and the intent to resign (Ro & Lee, 2017, p. 537).

Ambiguity in Team Environments

Given the team environment in many call centers, Ziegert and Dust (2021) highlighted that high-performing teams shared leadership roles. Furthermore, they stated that shared leadership, based on team members' skills and abilities, enhanced innovation. Ideally, the presence of a formal leader identified a person in charge and discouraged competitive disparities from gaining status. In a team environment, when role ambiguity was low, the presence of a formal leader could create dissent. When high role ambiguity existed, the presence of a formal leader could create structure by

providing focus and clarity (p. 973).

Given the likelihood that conflict could result from the implementation of a formal leader, Ziegert and Dust (2020) formed three hypotheses. The first hypothesis stated that "role ambiguity moderated the effect of designated formal leadership on the amount of shared leadership, such that the effect would be positive when role ambiguity was high (H1A) and negative when role ambiguity was low (H1B)" (p. 973). The second hypothesis stated that "the amount of shared leadership was positively related to team innovation" (p. 974). Finally, the third hypothesis stated that "role ambiguity conditionally moderated the indirect effect of designated formal leadership on team innovation via shared leadership; the indirect effect was positive when role ambiguity was high (H3A) and negative when it was low (H3B)" (p. 974). The sample population for the research study consisted of engineering students from a large university who worked together, over a 10-week period, as a team to develop a solution to a problem. Of 828 enrolled students, 480 participated on 120 teams. Participants were primarily white males (56.7%), average age 18.73. Measures included designated leaders, role ambiguity, shared leadership, team innovation, and team size.

Apart from the instructor's motivation ratings, Ziegert and Dust (2020) utilized a seven-point Likert scale, ranging from strongly agree to strongly disagree. Instructors' motivation ratings utilized a five-point Likert scale. Results for teams with designated leaders (mean = 2.65) and without designated leaders (mean = 2.72) indicated that there was not a significant difference in the mean levels of role ambiguity (difference = .07, $p = .452$) (p. 976).

Additionally, Ziegert and Dust (2020) found that the correlation between the designated formal leader and shared leadership, hypothesis 1, was significant ($b = .10$, $p = .004$).

Hypothesis 1a indicated a positive correlation to shared leadership when high ambiguity was

present. Hypothesis 1 did not indicate a relationship between low ambiguity and a negative relationship but instead created an ineffective correlation between designated and shared leadership. Hypothesis 2 indicated significant variance between shared leadership and team innovation internally ($b = 2.96, p < .001$) and externally ($b = 2.44, p = .001$). Hypothesis 3 indicated an indirect correlation between designated leadership and innovation, with greater effects remaining significant with increased role ambiguity (p. 976).

Some implications of the study identified by Ziegert and Dust (2020) were that while formal leadership should foster clear understanding in team environments, it can also create conflict, hence the implementation of shared leadership when role ambiguity is presented. Findings identified the importance of role clarity amongst team members as it could potentially impact all members of the team, not just management. Practical implications stressed the need to determine the objectives and dynamics of the team environment (p. 977).

In another study, Li, Lin, Xu, Huang, and Xi (2020) explained that lack of laws and regulations may have caused Chinese clinical pharmacists to experience role ambiguity. The purpose of the study was to analyze the degree of role ambiguity among clinical pharmacists while performing work and responsibilities. Role ambiguity was thought to occur when pharmacists struggled with the lack of defined roles, requirements, and standards for performance. Due to this, "medical staff and patients lacked confidence in the competence of clinical pharmacists" (p. 880).

Convenience sampling was implemented for 31 provinces, which were included in the sample. Thirteen hundred clinical pharmacists took part in a survey, which yielded 1288 validated questionnaires. Each participant, an average of 35.68 years old with 9.9 work years, agreed to sign an informed consent. Between July and August 2019, questionnaires were

administered through software which explained requirements, read questions, and recorded participants' answers. Questionnaires consisted of socio- demographic information, a role ambiguity scale, and a responsibility scale. Statistical Package for the Social Sciences (SPSS) and Stata 14.0 were used to analyze collected data, and descriptive statistics were used to evaluate role ambiguity. A logit model was utilized to analyze the relationship between clinical pharmacist's role ambiguity and responsibilities.

Considering three regions (eastern, western, and western) of China, findings indicated that clinical pharmacists in the eastern region experienced lower role ambiguity than those in the central and western regions. Role ambiguity varied depending on the region and hospital grades. Clinical pharmacists who worked in hospitals where training programs were available experienced lower role ambiguity than clinical pharmacists who worked in hospitals which lacked training programs. Under logit models, role ambiguity positively correlated with responsibility fulfillment. Even with attempts to conform to traditional roles, clinical pharmacists still had trouble due to role variations, lack of policy, differing work environments, and lack of knowledge. Hence, "the higher the role ambiguity scores, the more likely clinical pharmacists were to undertake their responsibilities" (Li, Lin, Xu, Huang, & Xi, 2020).

Ambiguity and Burnout

Burnout was another factor that had been connected to role conflict as well as role ambiguity. Employees who had put in a lot of effort on a project they believed was important, only to have it shelved or pushed to the side, as well as staff members who didn't understand the scope and parameters of their job, the goals they should be pursuing, and what their priorities should be, were more likely to experience role ambiguity. Role conflict, on the other hand, occurred when an employee was faced with competing and incompatible demands (Harima et

al., 2021). This might have included the sometimes-conflicting needs of being a boss and a friend, the inextricable demands of delivering good service while attempting to cut costs, or the difficulty of doing work that contradicted one's own ideals. Burnout was common in situations where there was a lot of role conflict and uncertainty.

Ambiguity and Employee Motivation

Most of the past research indicated that role ambiguity had a detrimental impact on employees' motivational processes. As a result, job uncertainty was seen as a major obstacle to demand in the workplace, which had a detrimental impact on the motivating process of the Job Demands Resources (JD-R) model. According to recent beliefs, job expectations might have been viewed as a challenge rather than a disadvantage by employees. Little research had been done to determine which aspects of the organizational setting influenced this perspective. The goal of that study was to see if performance acknowledgement from the team leader had an impact on employees' perceptions of role ambiguity as a barrier or a challenge (Ahmad, Zahid, Wahid, & Ali, 2021).

The information was gathered from 706 employees of a multinational corporation based in Almera, Spain. Findings revealed that performance recognition moderated the effects of role ambiguity: it shifted the negative effect of role ambiguity on engagement to a positive one and lessened the negative impact of role ambiguity on extra-role actions.

There was little indication of how job demands impacted the motivational process. Most research on demands focused on their role in the process of health deterioration (e.g., broken psychological contracts, sick leave), but there was little evidence on how job demands influenced the motivational process. Job pressures, according to experts, could also be inspiring. They discriminated between hindrance and challenge requests in this way. Demands

that were viewed as a challenge had a favorable impact on motivation. However, no studies had looked at the possibility of reinterpreting a hindrance need as a challenging demand. When an employee accomplished positive achievements in the face of substantial job ambiguity, it could be seen as a sign of great engagement and drive (Pandey, 2020).

Ambiguity as Factors of Engagement and Effort

The goal of this study was to investigate the circumstances in which job ambiguity impacted employees' extra-role actions through engagement and how the connection between role ambiguity and engagement was modified by team leader performance recognition. Simply stated, the goal was to identify if workers who lacked role clarity would become more engaged if the team leader acknowledged their success. Transformational leadership had been studied for its favorable impact on developing employees' resources and, therefore, favorably affecting the JD-R motivating process (Kalaivaani, 2019). In this regard, the authors discovered that training in and use of transformational leadership abilities by Norwegian army cadets led to the creation of plentiful resources (e.g., autonomy, decision-making) as well as higher levels of (self-reported) employee satisfaction. This increased the participants' ability to deal effectively with the issues they faced on a regular basis at work. Previous research using more traditional samples found similar findings, with more job resources leading to improved levels of involvement (Lin & Ling, 2018).

Sport event volunteers had a plethora of responsibilities during sporting events. In that, "their clear understanding of their roles—for example, what one was expected to do at the event's welcome center, how to process sales or stock merchandise at a retail booth, or what difference it made if one showed up late for a shift, or not at all—was expected to shape their contribution to the event" (Rogalsky & Paradis, 2016). Further, they stated that understanding

what was expected could be challenging during events where things happened quickly and over short periods of time. During sporting events, volunteers could be presented with new tasks that varied in complexity. To effectively handle volunteer events, it was important to ensure that volunteers were clear on their roles. Role ambiguity might have had a critical impact on volunteers' effort, performance, satisfaction, and intent to continue in their roles (Saldana, 2016). Confusion about what was expected, how participants would be evaluated, and whose expectations to consider during multiple demands could result in diminished effort and performance, hence less satisfaction for employees.

The purpose of this study was to investigate role ambiguity among volunteers during the 2012 Ontario Summer Games and the associated perceptions of volunteers regarding role difficulty, training and supervision, role performance, role effort, and role satisfaction. Rogalsky and Paradis (2016) stated that role ambiguity was "an individual's perceived clarity regarding his or her job duties" (p. 454). Also, they asserted that role ambiguity was more likely to occur during events that were highly complex in nature. To link role ambiguity and training, they explored a study by Costa et al. (2006). In that study, volunteers at the Sunbelt Indy Carnival were examined regarding their experience with pre-event training and satisfaction, along with role ambiguity, performance, and satisfaction. During the study, volunteers evaluated their training in clarity and whether the training was interesting, convenient, important, useful, and relevant. Findings in this study suggested that volunteers were more satisfied when they contributed during training. A negative association was found between role ambiguity and performance. There was also a negative relationship between job attachment and role ambiguity, and overall satisfaction as related to things that were directly controlled by event planners.

Of 1,000 volunteers, 328 volunteers completed a post-event survey following the Ontario Summer Games events. Forty per cent of responders, mostly between 25-49 years of age, were male. Sixty per cent of responders were female. Over 50% of the participants had a college education. As a suggestion, participants attended one of five in- person orientations lasting three hours.

Rogalsky and Paradis (2016) derived 10 hypotheses for this study:

- (1) High perceived role difficulty would predict high role ambiguity
- (2) Perceived effective event volunteer supervision would predict low role ambiguity
- (3) Perceived effective event volunteer training would predict low role ambiguity
- (4) High role ambiguity would predict low perceived effort
- (5) High role ambiguity would predict low perceived role performance
- (6) High role ambiguity would predict low role satisfaction
- (7) High perceived role effort would predict high overall satisfaction with the volunteer experience
- (8) High perceived role performance would predict high overall satisfaction with the volunteer experience
- (9) High role satisfaction would predict high overall satisfaction with the volunteer experience
- (10) High overall satisfaction would predict high future intentions to volunteer

Utilizing a multi-dimensional model for role ambiguity, findings suggested that effective supervision affected ambiguity, role performance, and satisfaction and distinctly predicted overall satisfaction with the Ontario Summer Games event. Contrary to the suggestion of hypothesis 1, role complexity was not discovered to be significantly correlated

with role ambiguity. Hypothesis 2 supported effective supervision as a predictor of decreased role ambiguity. Model 2 identified that role satisfaction was indicative of overall satisfaction, which was indicative of future intentions.

Ambiguity in Virtual Versus Real Environments

Mantovani, Gamberini, Martinelli, and Varotto (2001) stated that virtual environments had increasingly gained ground as competent training tools. One advantage of virtual environments was the stimulation they offered compared to traditional classroom settings. Another advantage identified by Mantovani et al. (2001) was the ability to train, co-work, and communicate in such environments. The goal of this study was to explore the suitability of virtual environments for safety training. The study, which followed a 2x3 experimental model, separated participants into groups of ten and took place in a virtual library environment similar to typical universities. Prior to the study, participants had limited familiarity with the real Metelli Library setting.

Sixty participants between the ages of 18 and 30 years old were recruited from the University of Padova. Participants were randomly assigned to six experimental groups. With limited familiarity of the real library setting, participants were initially instructed to explore the virtual setting for 300 seconds with no indication of what the emergency exits were. Once they reached the emergency exits and rested for one minute, they were assigned to an experimental condition. Tasks were assigned to participants based on complexity, ranging from easy to difficult. When participants reached their targets, a siren was activated. From one of three target places, a siren was triggered, and participants were tasked with reaching the emergency exit at the library.

Findings suggested that, according to Mantovani et al. (2001), "uncertainty as to

exactly what to do in the situation in question reflects its effective ambiguity from the normative viewpoint" (p. 39). In other words, the situation's ambiguity pertained to what rules existed, what was allowed and forbidden. Findings also supported the importance of social rules and the definitive meaning of what is acceptable (McCullough-Brabson, 1995). It was discovered that in both the real and virtual environments, rules created ambiguity when they conflicted. In safety training environments involving real situations, however, ambiguity was not something that should be completely absent. The idea was to maintain some degree of ambiguity while assisting trainees in their ability to deal with it. For example, it was stressed that the tendency for emergencies to present created the need for people to acclimate when faced with ambiguous situations (Umam & Saripah, 2018).

Summary

In Chapter Two, the literature was reviewed to provide support for the research involving training, staffing, and retention in Emergency Communications Centers (ECCs). Studies about training and effective practice were reviewed to support the use of the Kirkpatrick Model. Kirkpatrick's four-level evaluation model, relative to formal and informal training, explained the stages of reaction (level 1), learning (level 2), behavior (level 3), and results (level 4).

Trainee reaction research explored the relationship between trainees' reactions and learning and included considerations such as the delivery of the program, course materials, the facility, and perceived usefulness of the course content. Learning research explored level 2 to assess how much participants in training programs enhanced their knowledge and abilities because of the training. Behavioral research explained the transfer of learning, which was designed to change behaviors, therefore improving

employee and organizational results. Results research included training research relative to the impacts of training evaluation and outcomes.

Finally, role ambiguity explored research relative to trainees and whether they felt they were provided the necessary information to perform their job roles adequately. Role ambiguity explored the impact of trainees' uncertainty about what the members of their role set expected of them while performing their duties. Direct and indirect outcomes related to role ambiguity and its impact on organizational entities were also explored.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this chapter was to explain the research design, research questions, research setting, research participants, interventions, instrumentation, validity, reliability, and analysis utilized in this research study. Results were expected to contribute to already existing research regarding the training programs, staffing, and retention in ECC's. Further, the current research study aimed to assist in bridging the gap in the facilitation of the training programs for adult learners in ECC's.

Research Questions

The following research questions were explored in the current research study:

- Q1: What was the level of trainee satisfaction after completing the training with aspects of the training content, delivery, and applicability in the workplace?
- Q2: What was the level of performance mastery of the training content?
- Q3: To what degree did trainees apply the skills learned in training back on the job?
- Q4: To what extent did training affect trainees' perception of role ambiguity?

Research Design

To understand the experiences of adult learners in the training program, an explanatory sequential mixed methods design (Buckley, 2015) was employed. Yates and Leggett (2016) had suggested that quantitative research examines relationships between variables (p. 225). For this research, quantitative data was collected from a BCO pre and

post-test, pre- and post-BCO Course Evaluations, O-T-J Course Evaluation, DOR, and Release Test, as well as the Role Ambiguity instrument.

Subsequently, Yates and Leggett (2016) stated that qualitative research provides a richer, more in-depth description of research data (p. 225), and Maxwell (1996) explained that interpretive questions inquire about the meaning of things for those affected, as well as "their thoughts, feelings, and intentions" (p. 59). Qualitative data was collected via face-to-face interviews, while quantitative research was used to answer each research question. Qualitative research utilized open-ended interview questions that covered the how and why, providing a deeper, substantive explanation of quantitative findings. Both quantitative and qualitative approaches were used for the current study, as the mixed methods research design allowed exploration of training trends, strengths, and weaknesses of the current training program, and the relationship between training evaluation and role ambiguity (Gwinnett County Police Department Training Standard Evaluation Guidelines (2019, April 29). One set of study participants was utilized for each research topic. Following completion of the Basic Communications Officer (BCO) course, a BCO training curriculum course assessment was used to address research question one.

Research question one was answered by utilizing a BCO training curriculum course evaluation, Pre-BCO and Post-BCO Course Evaluation, following completion of the Basic Communications Officer course. Question two was answered via a pre-test prior to the delivery of the training curriculum and a post-test following the delivery of the training curriculum. Question three was answered via a Daily Observation Report (DOR) rating and post-training scores on a written examination at the completion of call-taking training. Finally, question four was answered by administering an instrument to measure role ambiguity. Face-to-face interviews with trainee participants were conducted to understand their perceptions of training relating to each of the

four research questions.

Research Setting and Participants

The research setting was the Gwinnett County Police Department E911 center at 800 Hi-Hope Road Lawrenceville, Georgia. The E911 Communications Center was located inside the Headquarters Annex, next to the Gwinnett County Police Department Headquarters building. Police, Fire, and Emergency Medical Services units were dispatched out of the E911 center. This facility housed E911, Emergency Management, the Technology Unit, and IT. The conference room, where interviews took place, sat adjacent to the administrative suite and directly off the E911 center (See Figure 2).

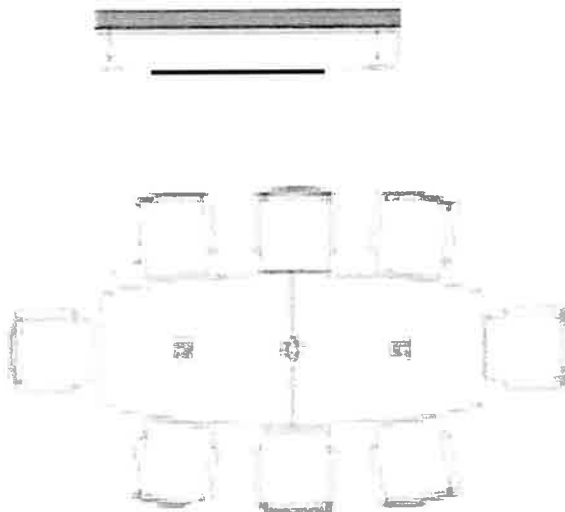


Figure 2 Layout of Conference Room for Interviews

This area was privately located behind closed doors, well-lit, and had comfortable seating. This setting was relevant for the study because it was the area where the E911 center was located, as well as the place where the on-the-job training program was delivered. The authorized strength for E911, including all employees, was 127. The Training Coordinator and Communications

Director were in this unit and were key members of the study. The Training Officers and Trainees worked inside the Communications Center.

In 2021, demographics inside the E911 center showed that 27 trainees were hired. Of these, 22 were female and five were male employees. Further demographics showed that 37% of the hired trainees were Caucasian, 55.6% were African American, 3.7% were Asian, and 3.7% were other.

The intervention for the present study was the Gwinnett County Police BCO course, specifically designed for new Communications Officers, and the E911 field training program administered to newly hired Communications Officers. The BCO course was a 40-hour training program mandated by all law enforcement agencies in the State of Georgia who received, processed, and transmitted information to law enforcement, firefighters, medical or emergency management staff. Certification was required within six months of hire. The BCO course curriculum included the following modules: Role of a Communications Officer (1 hour); Communications Officer Liability (2 hours); Telephone Techniques (4 hours); Communications Impaired Callers (4 hours); Crisis Intervention (4 hours); Radio Broadcast Techniques (4 hours); Law Enforcement Dispatch (4 hours); Fire and Hazardous Material Dispatch (3 hours); Medical Dispatch (2 hours); Terrorism and WMD (3 hours); Emergency Management (Independent Study); Stress Management (Independent Study); and Cognitive and Performance Testing (8 hours). The minimum requirements for certification as a Communications Officer were 70% on the written examination and PASS on the performance examination. The standards for the curriculum covered during the BCO course were the same across all law enforcement agencies in the State of Georgia (GPSTC, 2021). The BCO course was completed during week one of classroom-based training. Successful completion of week one was a prerequisite to progress to

advanced classroom-based training weeks two through six where participants received skills-based training and learned about department policy and procedure.

Description of

Intervention

Kirkpatrick and Kirkpatrick (2010) identified that 20% of training failures were caused by contributing events and circumstances that occurred prior to training. Ten percent of training failures were caused by below-average training programs, and 70% were attributed to application environments (p. 7). Kirkpatrick and Kirkpatrick (2016) identified the four levels of training. First, reaction determined the degree of favorability that participants assigned to training. Typically, trainees were given an instructor evaluation to complete following the delivery of each module of training during the BCO classroom-based course. Stage 2, learning, evaluated the degree to which intended knowledge was attained based on trainee participation. Learning was determined based on the trainee's score on a posttest following the delivery of the 40-hour BCO course curriculum. Behavior was evaluated when trainees transitioned learning into on-the-job performance. Once students entered on-the-job training, DORs were completed daily, and scores were assigned from 1-6 in each category based on performance during that day of training. Finally, results evaluated outcomes following the delivery of the training curriculum, both during classroom-based training and on-the-job training. At the completion of at least 240 hours of on-the-job training, trainees were required to pass a written examination and successfully complete a 30 calendar-day SCO observation.

Instrumentation

Quantitative Research

The quantitative instruments utilized for data collection for the first research question were the Pre-BCO Course and Post-BCO Course Evaluation (see Appendix A, Appendix B). The purpose of this instrument was to evaluate the level of confidence that Trainees would be able to perform the job following completion of training to solo release status. Questionnaires were self-developed and piloted to be given to Trainees prior to delivery of the BCO course curriculum and post-BCO course curriculum delivery. The pre-BCO course evaluation contained nine (9) Likert scale categories. The post-BCO course evaluation contained 24 Likert scale categories. Selections ranged from strongly agree to strongly disagree. Each instrument was evaluated for content validity by distributing the instrument to fifteen (15) fully released employees for feedback on the feasibility and usability of questions.

The quantitative instruments utilized for data collection for the second research question were the BCO Pre-Test (see Appendix C) and Post-Test (see Appendix D). The pre-test consisted of five multiple-choice questions designed to evaluate trainees' knowledge prior to the delivery of the course curriculum. Following the pre-test, certified POST Instructors approved by the State of Georgia taught each required unit for the pre-determined time allotment in the 40-hour certification curriculum. Course curriculum was presented via a PowerPoint presentation. The post-test was a cognitive examination which consisted of 50 multiple-choice and true/false questions pulled randomly from an approved test bank. Students were provided a scantron and a number two pencil with instructions to make the best

selection for each question. As a POST requirement, both the pre-test and post-test were administered at the Gwinnett County Police Department training center, which is an approved academy site.

The quantitative instrument utilized to collect data for the third research question was the DOR (see Appendix E) and Calltaking Release Test #1 (see Appendix F). Quantitative data was collected by the Training Coordinator Assistant and Training Officers at the Gwinnett County Police Department Headquarters Annex E911 center where on-the-job training was delivered. Also known as CTOs, Training Officers were responsible for completing DORs following each day of training. Calltaking DORs contained four sections which covered attitude (2 categories), CAD (3 categories), EMD (3 categories), and overall Calltaking knowledge and Performance (15 categories). Ratings in each section varied from one to six based on the Standard Evaluation Guideline (SEG) placement and were relative to the specified training date. The Calltaking Release Test #1 is a proctored exam which consisted of 80 multiple-choice questions, fill in the blank, and true/false questions along with four practical exercises. Students were allowed a maximum of two (2) hours to achieve a minimum passing score of 80%.

The quantitative instruments utilized to collect data for the fourth research question were the OTJ Training Course Evaluation and the Role Ambiguity instrument. The OTJ Training Course Evaluation consisted of 20 Likert scale categories with selections ranging from strongly agree to strongly disagree. Participants read numbered statements regarding their training experience then indicated to what extent they agreed or disagreed with each statement (Kippers &

Boden, 2012).

The Role Ambiguity instrument consisted of 8 Likert scale categories in which participants read each one and indicated to what extent they agreed or disagreed with each statement. Andrade (2021) defined role ambiguity as the absence of understandable instructions that aid in guiding behaviors meant to attain specified goals. He further stated that when employees were faced with uncertainty in their assigned roles, confusion led to role ambiguity. Rizzo et al. (1970) developed the instrument to measure role ambiguity, which consisted of a seven-point Likert scale with .81 reliability, with reactions which ranged from strongly agree to strongly disagree. Due to the negative nature associated with role ambiguity, items were reverse scored with higher scores indicating higher role ambiguity. For his study, Andrade (2021) used eight measurement items of role ambiguity which were (See Table 1):

Table 1

<i>Measurement Items of the Role <u>Ambiguity</u></i>	
<u>No.</u>	<u>Items</u>
1	The explanations I receive are not clear about what has to be done
2	I do not feel certain about how much authority I have.
3	I have no clear planned goals and objectives for my job.
4	I do not know exactly what is expected of me.
5	I do not know that how I divided my time properly.
6	I do not know what my responsibilities are
7	I do not know what are the SOPs at my workplace
8	I am not fully aware of appraisal criteria

Table 1

For the pilot study, he conducted factor analysis which revealed acceptable construct validity with factor loadings ranging from .659 to .767, and a Cronbach Alpha result of .832.

Qualitative Research

Face-to-face interviews consisted of 20 questions (see Appendix G) asked to each participant for response. Each interview lasted approximately 60 minutes for each trainee. The interview questions were created by me, the researcher, and reviewed by a veteran Training Officer prior to interviewing trainees. The purpose of face-to-face interviews was to determine trainee participants perceptions regarding the implementation of the GCPD training program. Figure 3 is an example of how the codes were organized by themes using MAXQDA for participant Eva.

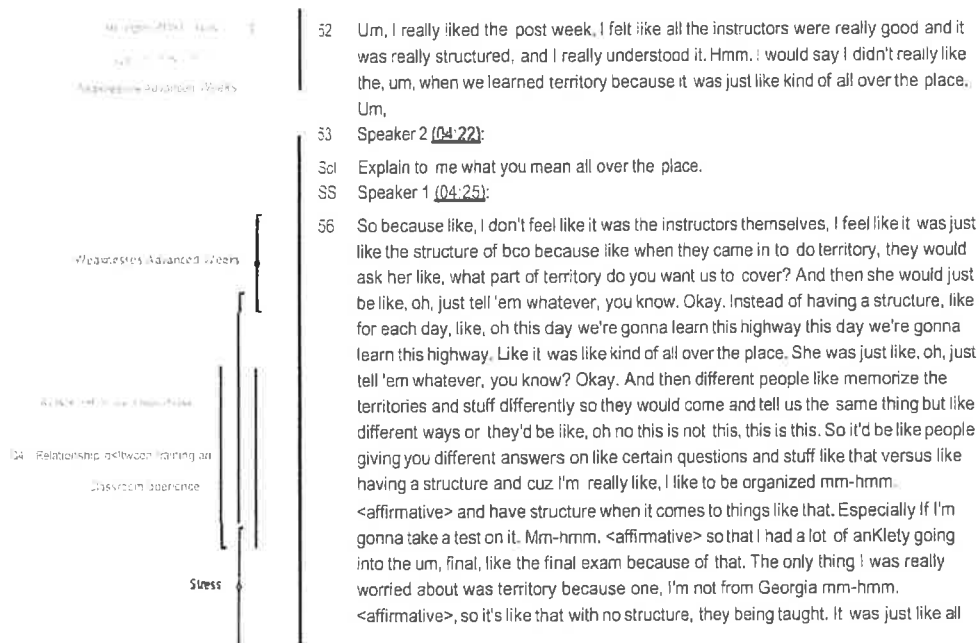


Figure 3 Participant Eva

Training gave chances for career advancement and work enrichment, which were both likely to boost employee motivation and satisfaction while lowering role ambiguity and turnover. The interview questions were open-ended, which allowed for rich, in-depth thoughts regarding a trainee's experiences while participating in the training program. As the researcher, I was considered an instrument in the study of the qualitative data.

Data Collection

"Two concerns of the researcher when collecting data by means of a measuring instrument were the validity and reliability of the instrument" (Ridenour & Newman, 2008, p. 44). Authors further stated that if an instrument lacked credibility, it could negatively impact participation from research volunteers (p. 44). Confirmed validity implied reliability, but it was possible to have reliability which lacked validity. The purpose of reliability, descriptive of consistency, was to improve validity. Validity estimated the degree to which the instrument measured what it claimed to measure (p. 45).

Quantitative Research

Quantitative data for the first research question was collected by the Training Coordinator. The pre-course evaluation was administered prior to the start of BCO and consisted of eight questions to which participants provided demographic information by filling in the blank box or selecting the appropriate answer. The pre-course evaluation also consisted of nine Likert scale categories in which participants read each one and indicated to what extent they agreed or disagreed with each statement. Statements were related to computer use, which included the software used to input information that was disseminated to responding units, and motivation to learn and participate in training.

Participant employee numbers were utilized for tracking purposes only, and all responses remained confidential. Once completed, the Training Coordinator collected all pre-course evaluations.

The post-BCO course evaluation data was administered at the conclusion of BCO POST week training following the comprehensive examination. The evaluation consisted of 24 Likert scale categories in which participants read each one and indicated to what extent they agreed or

disagreed with each statement. Statements were related to perceived effort, course content and format, ease of use, utilization, overall satisfaction, and future intent to train. Once completed, the Training Coordinator collected all post-BCO course evaluations.

The OTJ Course Evaluation was administered at the conclusion of on-the-job training in the E911 center. The evaluation consisted of 20 Likert scale categories in which participants read the numbered statements regarding their training experience and indicated to what extent they agreed or disagreed with each statement. Statements were related to perceived effort, course content and format, ease of use, utilization, and overall satisfaction. Once completed, the Training Coordinator collected all OTJ course evaluations.

Quantitative data for the second research question, BCO pre-test, which was not a mandatory pass, was collected by the Training Coordinator Assistant. Each participant was provided a five (5) question multiple-choice test. The pre-test did not require a scantron to complete. Once completed, the Training Coordinator Assistant collected all pre-tests, graded them utilizing an approved answer key, then distributed the pre-test scores along with the pre-test to the participants. Participants were asked if they had any questions regarding the pre-test or their scores. The graded pre-tests were given to the Administrative Assistant IV to archive in each student's file as an official record.

Quantitative data for the second research question, BCO post-test, was collected by the Administrative Assistant IV at the Gwinnett County Police Department training center. As a member of the training staff who oversaw the delivery of training curriculum, the Administrative Assistant was the primary point of contact for Georgia Post, who granted or denied POST certification to all training participants. All students were required to score a minimum of 70%.

Quantitative data for the third research question, DOR, and Release Test, were collected by the Training Officer and Training Coordinator Assistant. Training Officers utilized the DOR to collect quantitative data daily. The DOR consisted of 23 Likert scale categories which ranged from unacceptable to exceeds. No later than the day following the delivery of training, DORs were reviewed with trainees then signed as acknowledgment by the trainee, Training Officer, and supervisor. Minimum performance expectations for solo release ranged from 5 to 6. As a requirement for testing, Trainees were required to show progression on DORs that were completed by their assigned Training Officer. Ratings varied daily depending on call volume and content of calls received. All DORs were archived in the trainee's training manual, which was required to remain in a designated area inside the E911 center. At the completion of training, pass or fail, training records were archived in a locked cabinet for one calendar year. The Training Coordinator Assistant was responsible for administering the cognitive examination following completion of between 120-240 hours of training. The proctored cognitive examination was multiple choice, fill in the blank, and true/false questions that required a minimum passing score, per policy, of 80%.

Quantitative data collection for the fourth research question was collected by the Training Coordinator via the On-the-Job Training Course Evaluation and the Role Ambiguity instrument. Course evaluation questions were self-developed to be given to Trainees following completion of the call-taking release test. The On-the-Job Training Course Evaluation contained 20 Likert scale categories. Selections ranged from strongly agree to strongly disagree. Each rating category was analyzed on a scale based on Perceived Effort (PE), Content (CONTENT), Format (FORMAT), Ease of Use (EOU), Utility (UTILITY), and Overall Satisfaction (OVERALL) (see Appendix H). The On-the- Job Course Evaluation was evaluated for content validity by

distributing the instrument to five (5) fully released employees for feedback on the feasibility and usability of questions.

The Role Ambiguity instrument data was collected by the researcher following the On-the-Job Training Course Evaluation. The instrument consisted of 8 Likert scale categories in which participants read the numbered statements regarding their training experience and indicated to what extent they agreed or disagreed with each statement (see Appendix I). Once completed, the researcher collected all Role Ambiguity surveys.

Qualitative Research

Qualitative approaches to data collection via face-to-face interviews were used to supplement quantitative findings for research questions one through four. The researcher used the Interview Questions Guide to conduct 60-minute face-to-face interviews with 12 research participants within 1 week of the completion of training. Interviews consisted of questions to determine the trainees' perception of the overall impact of training and trainee attitudes towards training. All interviews were audio-recorded, and notes were taken and transcribed. Recordings were stored in a computer that was password-protected for three (3) years to be deleted thereafter. Participants' personal information remained confidential and was not included in the dissertation or publications.

I collected data and analyzed the quantitative and qualitative data. Since participation in the study was voluntary, ethical concerns and risks related to this research were expected to be minimal. Additionally, the privacy of participants was protected as the names and other identifying information were kept confidential. One concern that was identified was the impact that the interview could have on participants' concerns for whether they had done something wrong and whether participation would create a negative reflection on them as Trainees. As a

researcher, I recognized that confidentiality could be a concern for participants. To alleviate this, all participants were advised on the purpose of the study and were told that participation is voluntary. All participants gave consent (to interviews and were free to decline participation. Participants were encouraged to speak freely and were free to leave the study if they chose to do so. To encourage comfort, the researcher elicited acknowledgment and non-verbal empathy throughout the entirety of the interview. Threats to validity included my perspective relative to Training Officers and Trainees. Understanding researcher responsibilities, it was imperative to minimize bias and remain aware of potential Trainee reactivity towards the researcher. Potential conflicts of interest were presented due to the researcher also being a participant in the training process.

"No single method over adequately solves the problem of rival causal factors. Because each method reveals different aspects of empirical reality, multiple methods of observation must be employed. This is termed triangulation. I now offer as a final methodological the principle that multiple methods should be used in every investigation" (Patton, 2002, p. 247). Although it was impossible to avoid all validity threats, the use of triangulation was reasonable. Triangulation for validation served to strengthen the study by using combined research methods and data sources which served to control threats to validity.

Data Analysis

Quantitative Data Analysis

The quantitative data was analyzed for each of the research questions. Data collected that addressed research question one was analyzed using descriptive statistics (mean, median, mode, standard deviation). Data collected from a pre-test and post-test, research question two, was analyzed via a paired-sample t-test to determine the impact, if any, of training delivery on scores

by comparing the means of the pre-test and post-test scores. The mean, standard deviation, and significance levels were reported. Higher post- test scores would be indicative of a positive impact between BCO course curriculum and trainee satisfaction regarding course content, delivery, and usefulness in the workplace.

Pertaining to research questions three and four, the data collected was analyzed using descriptive statistics (mean, median, mode, standard deviation). Further, the role ambiguity findings were correlated with data collected from Kirkpatrick Level 1 through 3 assessments to determine degrees and statistical significance of relationships.

Qualitative Data Analysis

Saldana (2011) stated that the goal of data analysis was to reveal to others what they had "observed and discovered about the human condition" (p. 89). Saldana (2011) further stated that writing fieldnotes, transcribing interviews, analyzing memos, and incorporating other documentation methods allowed ownership of data and enabled the brain to identify patterns and make connections, thereby expanding into a broader view (Seidman, 2013). For Q4, scheduled interviews were conducted by a staff member who was trained to conduct qualitative interviews. The interviewer used open-ended questions to gain insight into the perspectives of trainees participating in the training program. Open-ended questions allowed participants to respond in their own words while describing their experiences. The same interview questions were utilized for each participant. Data from participant responses to interview questions was audio-recorded. Directly following interviews, details were documented regarding the interview setting and participant reactions so that this information could be reflected upon later while transcribing the interview. All data was housed in a secure location.

Patton (2002) stated that "content analysis, then, involves identifying, coding, categorizing, classifying, and labeling the primary patterns in the data" (p. 463). Relational analysis, one type

of content analysis, was used to identify meaning through similarities and differences in data (Ungvarsky, 2022, p. 1) and began once all contextual data was gathered.

Rev.com, an automated service utilized for voice-to-text transcription software, was used for content data analysis. I collaborated with another experienced researcher to establish inter-coder reliability, then proceeded with data analysis. All interview audio recordings and notes were reviewed multiple times prior to data analysis. As suggested by Patton (2002), I made sense of field notes and established a classification system during the first read. Once completed, formal systematic coding began over several readings to establish convergence and divergence.

Validity and Reliability

Quantitative Analysis

Andrade (2021) exerted that growth in higher education in Saudi Arabia over the last two decades created the need to investigate employee performance in the Kingdom of Saudi Arabia (KSA). In a quantitative research study, he investigated employee performance as related to job satisfaction, leadership, and training. The largest universities over five geographical regions yielded 39,154 employees. Six hundred questionnaires were distributed through systematic sampling. Of 600 questionnaires, 366 were returned and deemed usable. The four-page questionnaire contained a 5-point Likert scale with six sections with questions regarding employee performance, role ambiguity, job satisfaction, leadership, training, and background information. To minimize non-response bias, he monitored the impact of late responders and assumed them to be non-responders.

Andrade (2021) pointed out that "the existence of construct validity will give confidence that the item measures taken from a sample can stand for the actual true score of the entire

population" (p. 159). To ensure the validity of the questionnaire, the researcher had five academic and five non-academic staff members evaluate the questionnaire for construct validity. Factor analysis of the details of measurements was performed for appropriateness. "The validity and reliability of the items are checked through the convergent, construct, and discriminant validity pertaining to items. Statistical outcomes show that all measurement items are significant and relevant to the measurement of variables" (Andrade, 2021), p. 186). At the beginning of the study, a pilot study was conducted. Fifty employees in the public sector were given questionnaires, of which 39 questionnaires were returned. Smart PLS-2 (Partial Least Squares) evaluated Cronbach's alpha to determine the composite reliability (CR) of the measurement instrument. Composite reliability results ranged from 0.766 to 0.899, which met recommended satisfactory values between .70 and .90. Partial Least Squares-Structural Equation Modelling (PLS-SEM), a 2-step approach of measurement and structural modeling, was used to evaluate the hypothesis. The PLS-SEM model was also used to verify the relationship between the dependent and independent variables. Additionally, confirmatory factor analysis was used to validate the measurements model.

Further, "internal validity speaks to the design of the study; does the study control sources of variance (other than that of the independent variables) that might influence the dependent measures, thus leading to erroneous conclusions about the study results? External validity speaks to the generalizability of the study results --- an issue addressed largely through sampling and design" (Pounder, 1993, p. 2). To ensure validity in the current study, the pre-test and post-test questions were reviewed by a member of the training staff to ensure that they measured what was intended. Although the pre-test and post-test were derived from the same curriculum, each test contained different questions to avoid the testing effect. The Role

Ambiguity Survey, the ambiguity tool, was adopted from Andrade (2021) and was well-established prior by Rizzo et al. (1970). The Pre and Post BCO Course Evaluations and the On-The-Job Training Course Evaluation were pilot tested on 15 fully released employees to ensure the content validity of each tool.

Similar to Andrade (2021), Pounder (1993) exerted that "reliability speaks to the accuracy of the measurement of the independent and dependent variables, another possible source of error in a study" (Pounder, 1993, p. 2). Reliability was established using Cronbach's alpha to evaluate how closely related the set of items are as a group. Andrade (2021) confirmed the reliability of the role ambiguity tool as established by Rizzo et al. (1970).

Qualitative Analysis

Maxwell (2013) stated that "two important threats to the validity of qualitative conclusions are the selection of data that fits the researcher's existing theory, goals, or preconceptions, and the selection of data that 'stand out' to the researcher" (p. 124). Throughout this process, there were several validity threats that I needed to be concerned with. One of the greatest concerns involved my conducting research in an environment that I oversee. As a part of this, I remained aware that participants may respond in a manner that they felt was expected of them as opposed to how they truly felt. For this research, trained staff were utilized to conduct interviews. In an effort to reduce subjectivity, all staff participated in a one (1) hour training course where mock interviews were conducted. Another concern was my perception of the training program as compared to those involved in the process. Having known the Training Officers for years, I had formed a working relationship with all of them. I observed their motivation, or lack thereof, daily. Since I trained new employees for years, I had a shared experience with the Training Officers. I understood that I could be mistaken by what was going on because, although I assisted in training, I was not the one personally delivering the training daily. These were serious threats because the information provided could have affected the true understanding of what participants thought they should say versus saying what they truly felt. If participants were dishonest regarding their experiences,

improvements to the training program could have been hindered.

Maxwell (2013) stated that "the influence of the researcher or individuals studied, generally known as 'reactivity,' a second problem that is often raised about qualitative studies" (p. 124). Asking open-ended questions allowed me to collect rich data that contained extensive details that painted a picture of our training program. Although it was impossible to avoid all validity threats, this was an honest effort towards eliminating bias (Gilal et al., 2019). The use of contextual analysis to evaluate the data and identify themes and patterns served to control threats to validity. Knowles, Holton III and Swanson (2015) pointed out that triangulation "involves using different methods as a check on one another, seeing if the methods with different strengths and limitations all support a single conclusion" (p. 102). For this research, surveys and face-to-face interviews were administered. Additionally, I had a Training Officer review interview questions for content validity and made all attempts to always remain neutral and avoid leading questions.

The goal of establishing validity and reliability in research was to make sure that the data was reliable and repeatable, and that the results were correct. Validity and reliability evidence were required to ensure the measuring instrument's integrity and quality. Paying attention to these factors helped to ensure the accuracy of measurements and the data gathered for research.

Considering this research study, a pilot study was conducted. Doody and Doody (2015) stated that "pilot studies are useful for a number of reasons to researchers as they assess and prepare their data-collection and analysis techniques. In addition, a pilot can be used to self-assess readiness, ability, and commitment as a researcher" (p. 2). They further explained that a pilot study is a condensed version of a larger study with a smaller pool of participants than will be used in the larger study. The goal of a pilot study is to contribute to the quality and value of research by providing the opportunity for the researcher to evaluate data analysis and collection

procedures. A pilot study allows the researcher to make changes and adjustments as needed (p. 1). In addition, Maxwell (1996) stated that anytime research design clarification is needed, conduct a pilot study (p. 45).

Data Integration

For the current study, a mixed methods data analysis was incorporated. To further explain quantitative data, qualitative data was analyzed subsequently. Qualitative data (Q4) explored the strengths and weaknesses of the current training program and the relationship of training evaluation at each level of the Kirkpatrick model as related to role ambiguity. Venkatesh, Brown, and Sullivan (2016) identified three advantages to incorporating a mixed methods approach to research analysis. First, it allowed the researcher to address confirmatory and explanatory research while simultaneously generating a theory. Second, it broadened the researcher's ability to form broader conclusions. Lastly, it allowed the researcher to produce a variety of relatable and opposing views (p. 3).

Quantitative data collected from the BCO pre-test and post-test, pre- and post- BCO Course Evaluations, O-T-J Course Evaluations, DOR and Release Test, and the Role Ambiguity instrument assisted in determining the benefit and usefulness of the delivery of the BCO curriculum. Qualitative data from face-to-face interviews assisted in determining the impact that training had on trainees' perception of role ambiguity, which influenced satisfaction and impacted trainee attitudes.

Summary

This chapter included the research methods utilized in the current research study. A mixed methods approach, quantitative and qualitative approaches to data analysis was discussed. Research questions, information regarding the research setting and participants was explored.

Additionally, interventions, data analysis instruments, validity and reliability, data collection and analysis methods utilized in the current study was included.

CHAPTER IV

DATA ANALYSIS

This chapter will discuss the results of data analysis for the current research study. Results are divided into respective sections, to include a section dedicated to the results of the four (4) research questions and a final section to bring together the overall findings for quantitative and qualitative data. This section of the research study also includes a qualitative interview with research participants. The final section focuses on the integration of quantitative and qualitative results.

Problem

Gwinnett County E911 continues to have difficulty retaining new hires despite having a well-organized training program. One issue is the current lack of consistent training and remediation, which is supportive of Trainees, to guarantee successful completion of the E911 training program. Inconsistent and ineffective delivery of the training program curriculum during on-the-job training are the specific issues, leading to ambiguous application of correct procedure and policy among trainees. Anecdotal and published research evidence suggests that this post-training role ambiguity is a key contributor to employee turnover.

Purpose

To understand how to provide effective training strategies, the focus of this study is the E911 training program classroom-based and on-the-job training. The purpose of this study was to create a training evaluation supportive of persistence, motivation, and retention as well as explore Training Officer and Trainee relationships. Additionally, this study focused on effective training strategies supportive of retention, thus decreasing turnover rates.

Research Questions

Q1: What is the level of trainee satisfaction after completing the training with aspects of the training content, delivery, and applicability in the workplace?

Q2: What is the level of performance mastery of the training content?

Q3: To what degree are trainees applying the skills learned in training back on the job?

Q4: To what extent does training affect trainees' perception of role ambiguity?

Significance of the Study

As evidenced by the 58% on-the-job retention rate in 2020, even with a structured training curriculum centered on Association of Public Safety Communications Officials (APCO) and Commission on Accreditation of Law Enforcement Agencies, INC. (CALEA) accreditation, Gwinnett County E911 has failed to show substantial retention of employees who participate in and/or complete the training program. Due to variation in the size and location of E911 centers, training program curricula, delivery of instruction, and level of coworker support vary amongst E911 centers (Baseman et al., 2018). This Dissertation Prospectus will explore the E911 training program's system of evaluation and trainees' experiences while participating in the training program. This study could benefit other agencies of comparable size by exploring obstacles and efforts to overcome challenges with retaining new hires.

Communications Officers, the core of law enforcement emergency centers, are the first point of contact in an emergency. It is imperative to provide effective training and support geared towards retention and success in a comfortable environment. Effective training and support will ensure that the best services are being provided to the public. Trainees must be given our best efforts to assist them in succeeding; hence, understanding their life experiences is important. Given today's circumstances, understanding the needs of Trainees can assist them in persisting through training, beginning to close the retention gap, and increase overall employee satisfaction.

Participant Profile Overview

To understand participant's experiences during the application of training program curriculum in the classroom and on-the-job, the researcher constructed four research questions. The research questions were designed to explore participants level of satisfaction, performance mastery, and ability to apply classroom-based learning to on- the-job training. The researcher also explored the relationship between training and role ambiguity. Research participants consisted of 16 Trainees employed with Gwinnett County E911. Participant profiles contained surveys, interviews, and documents. Surveys used in this research, apart from the Ambiguity tool, were developed by the researcher and distributed in person to participants.

Initial research participants included 15 females and one male. Eleven of the initial 16 Gwinnett County E911 participants provided demographic information which was further analyzed. Based on collected demographic information, results showed that the average age of Gwinnett research participants was 31 years of age. Most participants were female, and the predominate race of the participants was white. Three participants reported having a high school education or GED equivalent. Three participants reported having some college education. Three participants reported having obtained an associates degree. One participant reported having obtained a bachelor's degree, and one participant reported that they completed a Graduate Degree. Of 11 participants, one participant reported five years of experience working in emergency services while most participants worked a total of six months in emergency services (See Tables 2-6).

Table 2

Participants Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	11	22	63	31.27	12.313
Valid N (listwise)	11				

Table 3

Analysis of Participants Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Female	10	90.9	90.9	90.9
Male	1	9.1	9.1	100.0
Total	11	100.0	100.0	

Table 4

Analysis of Participants Race

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Black	3	27.3	27.3	27.3
Hispanic	1	9.1	9.1	36.4
White	7	63.6	63.6	100.0
Total	11	100.0	100.0	

Table 5

Analysis of Participants Education

	Frequency:	Percent	Valid Percent	Cumulative Percent
Valid Associates Degree	3	27.3	27.3	27.3
Bachelor's Degree	1	9.1	9.1	36.4
Graduate Degree	1	9.1	9.1	45.5
High School (or GED)	3	27.3	27.3	72.7
Some College	3	27.3	27.3	100.0
Total	11	100.0	100.0	

Table 6

Participants Experience in Emergency Services

		Frequency:	Percent	Valid Percent	Cumulative Percent
Valid	<1 year	1	9.1	9.1	9.1
	5 years	1	9.1	9.1	18.2
	5.5 Months	1	9.1	9.1	27.3
	6 Months	4	36.4	36.4	63.6
	7 Months	3	27.3	27.3	90.9
	8 Months	1	9.1	9.1	100.0
	Total	11	100.0	100.0	

Gwinnett County E911 participants completed a BCO Pre-Test and Pre-BCO Course Evaluation at the beginning of the one-week Basic Communications Officer training and completed a BCO Post-Test and Post-BCO Course Evaluation at the end of the training. Results from the Pre-BCO and Post-BCO Course Evaluations were utilized to answer Q1. Results from the BCO Pre-test and BCO Post-Test were utilized to answer Q2. Daily Observation Reports (DOR) and the on-the-job Calltaking Release Test #1 were utilized to answer Q3. The Role Ambiguity instrument and the On-The-Job Training Course Evaluation were utilized to answer Q4. In addition, participants completed a one-hour face-to-face interview which explored Q1-Q4.

Analysis of Research Question 1

***Q1:** What is the level of trainee satisfaction after completing the training with aspects of the training content, delivery, and applicability in the workplace?*

Research question one (1) examined the degree of satisfaction that research participants experienced while participating in classroom-based training. To examine research question one (1), a Pre-BCO and Post-BCO Course Evaluation was given to all research participants. Sixteen participants completed the nine question Pre-BCO Course Evaluation. The Pre-BCO Course Evaluation consisted of a nine-question survey containing a five-point Likert scale with

ratings from "strongly agree" to "strongly disagree." The purpose of the Pre-BCO Course Evaluation was to determine participant's pre-training motivators and their level of computer anxiety. Participants completed the Pre-BCO Course Evaluation immediately prior to the BCO Pre-Test and delivery of the one-week curriculum.

Sixteen participants completed the Post-BCO Course Evaluation which consisted of a 24-questions survey containing a five-point Likert scale with ratings from strongly agree to strongly disagree. Post-BCO Course Evaluation categories were designed to evaluate course content, content format, ease of use, perceived effort, utilization, and overall satisfaction following the delivery of the one-week training curriculum. The Post- BCO Course Evaluation was completed following the completion of the BCO Post-Test.

The responses were examined using descriptive analysis after the data had been gathered, utilizing mean, median, mode, and standard deviation. Comparing the overall results from the Pre-BCO responses to the Post-BCO responses we can see a positive response to the questionnaires' and increase in the degree of satisfaction from the prior to delivery of course curriculum to following delivery of course curriculum. The mean pre-BCO course evaluation score for Gwinnett County E911 participants ranged from 2.56 to 3.78, which suggests that most of the participants had a neutral impression of the BCO course since a score of 3 is considered neutral. The most frequent response for half of the participants was 5, indicating they strongly disagreed with most of the questions. The lowest standard deviation was 0.88 and the highest was 2.11, low standard deviation relates to minimal variation with the participants response to the questionnaires (See Table 7a). Based on 16 research participants, the overall mean score was ($M = 3.24$, $SD = .335$) (See Table 7b).

Table 7a

Analysis of Pre-BCO Course Evaluation Participants Responses

	Amy	Sue	India	Tia	Missy	Tammy	Mia	Zoe	Eva	Alex	Anna	Lily	Erin	Ida	Jean	Irma
N Valid	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	3.11	3.44	2.67	3.78	2.89	3.44	3.67	3.44	3.56	3.22	2.56	3.11	3.11	3.22	3.33	3.33
Median	4.00	5.00	3.00	5.00	4.00	5.00	5.00	5.00	5.00	5.00	3.00	4.00	4.00	4.00	5.00	3.00
Mode	4	5		5	4	5	5	5	5	5	3	1 ^a	1 ^a	5	5	5
Std. Dev.	1.17	1.94	1.66	1.56	1.36	1.94	1.66	1.88	1.74	2.11	.88	2.03	1.83	1.72	2.00	1.50
Minimum																
Maximum	4	5	5	5	4	5	5	5	5	5	4	5	5	5	5	5

a. Multiple modes exist. The smallest value is shown

Table 7b

Analysis of Overall Pre-BCO Course Evaluation Descriptive Statistics of Participants Responses

	N	Minimum	Maximum	Mean	Std. Deviation
Average	16	2.56	3.78	3.2431	.335
Response Valid	16				

N (listwise)

There were nine questions on the Pre-BCO Course Evaluation. Of those questions, questions 1,4,7 and 9 are pre-training motivation (PTM) related questions. The average score was between 1.25 to 2.13 in this category. Questions 2, 3, 5 and 8 are computer anxiety (CANX) related questions. The average score was between 4.31 and 4.75. The lowest standard deviation was .48 and the highest standard deviation was .81 (See Table 8a). Based on 16 research participants, the overall mean score was (M = 3.24, SD = 1.62) (See Table 8b). The Pre-BCO descriptive analysis of the survey questions outcomes indicate that the students tend to strongly agree to PTM related questions and strongly disagree to CANX related questions.

Table 8a

Analysis of Pre-BCO Course Evaluation Survey Questions

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
N	Valid	16	16	16	16	16	16	16	16	16
	Missing	0	0	0	0	0	0	0	0	0
Mean		1.25	4.75	4.31	1.31	4.63	4.63	2.13	4.63	1.56
Median		1.00	5.00	4.50	1.00	5.00	5.00	2.00	5.00	1.50
Mode		1	5	5	1	5	5	2 ^a	5	1
Std. Deviation		.58	.58	.79	.48	.81	.62	.81	.50	.63
Minimum		1	3	3	1	2	3	1	4	1
Maximum		3	5	5	2	5	5	3	5	3

a. Multiple modes exist. The smallest value is shown

Table 8b

Analysis of Overall Pre-BCO Course Evaluation Descriptive Statistics of the 9 Survey Questions

	N	Minimum	Maximum	Mean	Std. Deviation
Average Question	9	1.25	4.75	3.24	1.62
Valid N (listwise)	9				

The mean values of the response for the 24 Post-BCO Course Evaluation course questionnaires indicates that most of the participants had agreed or strongly agreed with the course evaluation questionnaires. The mean value ranges from 1.33 to 2.25. The lowest standard deviation was .59 and the highest standard deviation was 1.25 (See Table 9a). The overall average score was (M = 1.86, SD = .56). The standard deviation was around 1 for most of the questions, low standard deviation means minimal variation with the participants response to the survey (See Table 9b).

Table 9a

Analysis of Post-BCO Course Evaluation Participants Responses

	Amv	Sue	India	Tia	Missy	Fammy	Mia	Zoe	Eva	Alex	Anna	Lily	Enn	Ida	Jean	Irma
N Valid	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	1.88	1.38	2.25	3.38	1.33	1.96	1.58	2.00	1.71	1.33	2.75	1.63	1.54	2.21	1.50	1.42
Median	1.50	1.00	2.00	3.00	1.00	2.00	1.00	2.00	2.00	1.00	2.50	1.00	1.00	2.00	1.00	1.00
Mode	1	1	2	3	1	1	1	2	1 ^a	1	4	1	1	2	1	1
Std. Dev.	1.19	1.14	.68	1.25	1.13	1.16	.88	.59	.91	1.13	1.39	.97	.72	.88	1.18	1.18
Minimum	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Maximum	5	5	4	5	5	5	3	3	5	5	5	4	4	5	5	5

a. Multiple modes exist. The smallest value is shown

Table 9b

Analysis of Overall Post-BCO Course Evaluation Descriptive Statistics of the Participants Responses

	N	Minimum	Maximum	Mean	Std. Deviation
Average Response	16	1.33	3.38	1.86	.56
Valid N (listwise)	16				

The Post-BCO descriptive analysis outcomes indicate the trainees on average strongly agree or agree to majority of the questions except for question 14 and 18, which consider the perceived effort of the participants. The mean value ranges from 1.38 to 4.25. The lowest standard deviation was .63 and the highest standard deviation was 1.29 (See Table 10a and Table 10b). The overall average participant response was ($M = 1.87$, $SD = .71$). Participants disagreed that they did not try very hard or put much energy into the training course (See Table 10c).

Table 10a

Analysis of Post-BCO Course Evaluation Survey Questions

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
N Valid	16	16	16	16	16	16	16	16	16	16	16	16
Missing	0	0	0	0	0	0	0	0	0	0	0	0
Mean	1.50	1.63	1.63	1.88	1.88	1.81	1.75	1.75	1.81	1.94	1.44	1.56
Median	1.00	1.00	1.50	1.50	2.00	1.00	1.00	1.50	1.50	2.00	1.00	1.00
Mode	1	1	1	1	1	1	1	1	1	1	1	1
Std. Dev	.63	.885	.719	1.204	1.088	1.223	1.183	1.065	.981	1.124	1.031	.814
Minimum	1	1	1	1	1	1	1	1	1	1	1	1
Maximum	3	4	3	5	5	5	5	5	4	5	5	4

Table 10b

Analysis of Post-BCO Course Evaluation Survey Questions

	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24
N Valid	16	16	16	16	16	16	16	16	16	16	16	16
Missing	0	0	0	0	0	0	0	0	0	0	0	0
Mean	1.88	3.94	1.69	1.38	1.38	4.25	1.38	1.44	1.81	1.44	1.69	1.94
Median	1.50	4.50	1.00	1.00	1.00	5.00	1.00	1.00	1.50	1.00	1.50	2.00
Mode	1	5	1	1	1	5	1	1	1	1	1	1
Std. Dev	1.03	1.29	.95	.50	.62	1.07	.62	.63	1.11	.51	.87	1.12
Minimum	1	1	1	1	1	2	1	1	1	1	1	1
Maximum	4	5	4	2	3	5	3	3	5	2	4	5

Table 10c

Analysis of Overall Post-BCO Course Evaluation Descriptive Statistics of the 24 Survey Questions

	N	Minimum	Maximum	Mean	Std. Deviation
Average Question	24	1.38	4.25	1.8667	.71282
Valid N (listwise)	24				

Analysis of Research Question 2

Q2: What is the level of performance mastery of the training content?

Research question two (2) examined the degree of performance mastery that participants gained while participating in classroom-based training. To examine research question two (2) a BCO Pre-Test and BCO Post-Test was given to participants. The pre-test consisted of five (5) multiple choice questions and the post-test consisted of 50 multiple choice questions. A pre-test and post-test were given to the 16 Gwinnett County E911 research participants.

After data was collected, a paired samples t-test was performed to study the mean difference between test scores of Pre-tests and Post-Test. Based on n=16, the mean Pre-Test score was ($M=53.75$, $SD=17.464$). Based on n=16, the mean Post-Test score was ($M=81.38$, $SD=8.601$) (See Table 11 and Table 12).

Table 11

Pre-Test Post-Test Paired Analysis

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test	53.7500	16	17.46425	4.36606
	Post-Test	81.3750	16	8.60136	2.15034

Table 12

Pre-Test Post-Test Correlations

	N	Correlation	Significance	
			One-Sided p	Two-Sided p
Pair 1 Pre-Test & Post-Test	16	-.028	.459	.919

The effect size of Cohen's d (19.68) indicates high effect. The sample size can be a limitation in performing the paired sample test. As the sample size is too small, it is possible that we may not be able to validate the distribution of the data. The paired t-test indicated significant difference between the two test scores (Pre-Test and Post-Test), $t(15) = -5.62, p = < .001$. (See Table 13 and Table 14).

Table 13

Pre-Test Post-Test Paired Samples T-Test

	Paired Differences					Significance			
	Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
				Lower	Upper				
Pair 1 PreTest - PostTest	-27.63	19.68	4.92	-38.11	-17.14	-5.62	15	<.001	<.001

Table 14

Pre-Test Post-Test Paired Samples Effect Sizes

			Confidence Standardizer	95% Point		
				Interval	Lower	Upper
			^a	Estimate		
Participant	PreTest-	Cohen's d	19.68	-1.40	-2.09	-.694
1	PostTest	Hedges' correction	20.74	-1.33	-1.98	-.658

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

The maximum pre-test score was 80 with a minimum score of 20 and a mean score of 60 out of 100. The maximum post-test score for the same participants was 98 with a minimum score of 66 and a mean score of 81 out of 100. Results indicate that participants did benefit from instruction received during the post-week of classroom- based training (See Table 15).

Table 15

Pre and Post-Test Scores Descriptive Statistics

	Pre-Test	Post-Test
N	Valid 16	16
	Missing 0	0
Mean	53.75	81.38
Median	60.00	81.00
Mode	40a	72a
Std. Deviation	17.464	8.601
Minimum	20	66
Maximum	80	98

a. Multiple modes exist. The smallest value is shown

Analysis of Research Question 3

Q3: *To what degree are trainees applying the skills learned in training back on the job?*

Research question three (3) examined research participants utilization of the skills learned in classroom-based training back to the job. To examine research question three (3), Daily Observation Reports (DOR) and the Calltaking Release Test #1 was given to participants. The Daily Observation Reports (DOR's) consisted of 24 categories with a six-point Likert scale rating from "unacceptable" to "exceeds" and "not observed." Participants with ratings from one (1) to three (3) performed below standards. Participants with ratings between four (4) and five (5) performed acceptably, and participants with ratings of six (6) exceeded performance standards.

This research study examined 8 critical categories during Calltaking training, to include Professionalism and Attitude Toward Job, CAD Commands- proficiency and application, Case Entry and Key Questions/Answers Obtained (including proper order), Knowledge of

Departmental Policies/Procedures, Knowledge/Application of Signals and Codes, Problem Solving and Decision Making, Calltaking Performance (Stress), and Retention of Performed/Learned Skills. Standard Evaluation Guidelines were utilized to determine how to score participants in each category (GCPD E911, 2019). Critical categories analyzed in this research are important in determining whether Trainees performance on the job meets standards and is supportive of retention or separation.

A. Professionalism and Attitude toward Job

- 1 Unacceptable: Abuses authority; appears disinterested; lacks motivation. Resistant to assignments (such as study requirements or even the scheduling of shifts) and belittles the agency.
- 3 Progressing: Generally has a positive attitude at the start of the day. Tends to be hard on themselves and this affects attitude for the day, makes one or two mistakes and becomes discouraged, but generally motivated and ready-to-work.
- 5 Acceptable: Demonstrates an active interest in learning about the job. Does not abuse authority; actively developing professional style that incorporates core values and high ethical standards. Demonstrates courteous and empathetic behavior and communicates in a professional manner.
- 6 Exceeds: Utilizes off duty time to further professional knowledge, actively soliciting assistance from others to increase knowledge and improve skills. Able to quickly establish rapport with citizens and shows interest in being of service to the community.

B. CAD Commands- Proficiency and Application

- 1 Unacceptable: Unable to choose the most accurate CAD command without

assistance. Fails to use the most efficient CAD command. Fails to solicit updated information or inputs incorrect information when received. Routes information to the wrong terminal.

3 Progressing: Starting to use the most commonly used CAD commands but still having to be reminded which commands to be used at times. Is able to recall calls without a problem and search for calls that are easily found without problems.

5 Acceptable: Familiar with the most commonly used CAD commands and is able to utilize them accurately. Obtains additional information, determines proper routing. Rarely requires assistance.

6 Exceeds: Has an excellent working knowledge of CAD commands, even the commands not used frequently. Sends initial call information at the earliest moment and updates correctly with pertinent information.

C. Case Entry and Key Questions/Answers Obtained (including proper order)

1 Unacceptable: Trainee fails to record any answers to key questions or other pertinent information in the text of the call. Does not record or skips asking key questions displayed on the EMD Call card. Does not record supplemental information.

3 Progressing: Trainee asks all key questions but sometimes gets them out of order or ask ones that are marked not applicable to the patient/caller. The trainee is able to give case exit instructions (routine disconnect) but gets confused on more complex instructions such as CPR, Childbirth, and less commonly used cards.

5 Acceptable: Trainee asks/records answers to key questions (in the correct order) and asks/records other pertinent patient information in the text of the call. Asks caller pertinent questions reflected in the EMD cards. Produces a logical text which displays

information in a logical sequence.

6 Exceeds: Trainee always records answers to key questions in text of all calls.

Questions the caller in detail about pertinent patient information. Text is logical and orderly.

D. Knowledge of Departmental Policies/Procedures

1 Unacceptable: Fails to display knowledge of department policies and procedures or violates same. Requires frequent reminders and correction on commonly used policy or procedure.

3 Progressing: Trainee has read and familiarized self with the SOP call taking section and is able to apply what they have read. Some procedures are being learned as mistakes are still being made.

5 Acceptable: Familiar with the most commonly used department policies/procedures and complies with them. Asks questions on policies that are not common.

6 Exceeds: Has an excellent working knowledge of department policy/procedure including those lesser known or seldom used.

E. Knowledge/Application of Signals and Codes

1 Unacceptable: Lacks self confidence in applying signals. Consistently applies incorrect signals and codes.

3 Progressing: Passing signals tests given but still working on actual application. Most of the errors on the signals tests are 10-codes and status codes.

5 Acceptable: Has a working familiarity with signals and codes. Usually applies signals and codes correctly.

6 Exceeds: Is familiar with the correct definitions for signals and codes and uses them

correctly.

F. Problem Solving & Decision Making:

- 1 Unacceptable: Is indecisive. Acts without thought. Relies on others to make decisions. Does not reason through a problem to come to a conclusion. Does not recall previous solutions and apply them in like situations. Refers even routine questions or situations to a supervisor.
- 3 Progressing: Trainee questions their decisions by looking for approval from the CTO but seems to be making the right decision. Trainee starting to recall information previously used and making decisions of similar circumstance.
- 5 Acceptable: Is generally able to reason out problems. Makes own decisions in routine situations based upon available information. Usually perceives situations as they really are. Seeks confirmation before acting only on unusual calls/procedures.
- 6 Exceeds: Able to reason through even the most complex situations. Foresees problems and arrives at advanced solutions.

G. Call Taking Performance - Stress:

- 1 Unacceptable: Becomes emotional, is panic-stricken, cannot function or loses temper or displays cowardice and is not able to make a decision. Overreacts or prematurely terminates calls.
- 3 Progressing: Does not become "emotional" or panic-stricken; however, still relies on TO to take over on stressful calls. Requires prompting on actions to take when handling high priority calls. Shows signs of being anxious, but does not fail to act, just does so with more hesitation than acceptable.

5 Acceptable: Maintains calm and self-control in most situations. Determines proper course of action and takes it. Does not allow situation to deteriorate further.

6 Exceeds: Maintains calm and self-control even in the most extreme situations. Quickly restores control of the situation and takes command. Determines the best course of action and implements it.

H. Retention of Performed/Learned Skills

1 Unacceptable: Usually does not recall things that were just said. Does not remember prior incidents. Does not remember recent instructions. Does not recall habitual callers/call types and repeat locations.

3 Progressing: Beginning to remember some more common types of calls and how to handle them without assistance. Still having to remind how to handle other seemingly common commands/calls. Making some of the same mistakes but overcoming others.

5 Acceptable: Usually recalls things that were just said. Generally, remembers prior incidents, how they are to be handled and instructions for those types of calls. Remembers errors and prior corrections and was able to keep from making the same mistake multiple times.

6 Exceeds: Demonstrates both long- and short-term memory. Remembers corrections from even unusual calls and doesn't make the same mistakes.

During classroom-based training there were 16 participants. One (1) participant left immediately following classroom-based training and did not enter on-the-job training. Nine (9) participants started on-the-job training and then resigned either during training or shortly following release. That given, of the initial 16, I was able to interpret Daily Observation Reports for 11 participants, six of which are still employed with the agency. There were 8 criteria out of 24 on the Daily Observation Reports (DOR) which are considered critical categories and were chosen for analysis. There was variation in the number of observation for the participants due to the number of days in training, and/or resignations, and whether a participant was observed in a category. For any participant whose performance was not observed in a category, it was considered a missing value in the analysis. Each category was taken separately.

In the Professionalism and Attitude Towards the Job category, the mean score was (M=4.43-5.94, SD= .00-1.01). In this category, the most frequent score was 5 (See Table 16).

Table 16

Professionalism and Attitude Toward Job Statistics

	Sue	India	Tia	Missy	Tammy	Mia	Zoe	Eva	Alex	Anna	Lily
N Valid	28	20	51	63	42	62	30	49	45	48	54
Missing	35	43	12	0	21	1	33	14	18	15	9
Mean	5.00	5.15	5.94	5.16	5.00	5.05	4.43	5.12	5.82	5.90	4.96
Median	5.00	5.00	6.00	5.00	5.00	5.00	5.00	5.00	6.00	6.00	5.00
Mode	5	5	6	5	5	5	5	5	6	6	5
Std. Dev.	.00	.49	.24	.52	.00	.22	1.01	.33	.39	.31	.47
Minimum	5	4	5	4	5	5	2	5	5	5	3
Maximum	5	6	6	6	5	6	5	6	6	6	6

In the CAD Commands- proficiency and application category, the mean score was ($M=2.65-4.95$, $SD= .22-1.69$). In this category, the most frequent score was 5 (See Table 17).

Table 17

CAD Commands- Proficiency and Application Statistics

	Sue	India	Tia	Missy	Tammy	Mia	Zoe	Eva	Alex	Anna	Lily
N Valid	25	17	46	60	42	40	30	48	45	46	51
Missing	38	46	17	3	21	23	33	15	18	17	12
Mean	4.56	2.65	4.39	4.45	4.95	3.90	4.03	4.31	4.73	3.76	4.25
Median	5.00	2.00	5.00	5.00	5.00	4.00	4.00	5.00	5.00	4.00	5.00
Mode	5	1	5	5	5	4	4	5	5	5	5
Std. Dev.	.58	1.69	.93	.95	.22	1.06	.81	1.17	.78	1.35	1.06
Minimum	3	1	2	1	4	1	3	1	2	1	2
Maximum	5	5	5	5	5	6	5	6	6	5	5

In the Case Entry and Key Questions/Answers Obtained (including proper order) category, the mean score was ($M=3.44-4.93$, $SD= .37-1.59$). In this category, the most frequent score was 5 (See Table 18).

Table 18

Case Entry and Key Questions/Answers Obtained (including proper order)

	Sue	India	Tia	Missy	Tammy	Mia	Zoe	Eva	Alex	Anna	Lily
N Valid	28	9	40	55	41	45	30	44	45	43	49
Missing	35	54	23	8	22	18	33	19	18	20	14
Mean	4.46	3.56	3.60	4.04	4.90	3.67	3.70	3.55	4.93	3.44	3.92
Median	5.00	4.00	4.00	5.00	5.00	4.00	4.00	4.00	5.00	3.00	4.00
Mode	5	4	5	5	5	4	3	3	5	5	5
Std. Dev	.74	.88	1.45	1.387	.37	1.17	.84	1.37	.39	1.59	1.04
Minimum	2	2	1	1	3	1	2	1	4	1	1
Maximum	5	5	6	5	5	5	5	6	6	5	5

In the Knowledge of Departmental Policies/Procedures category, the mean score was (M=2.00-4.83, SD= .44-1.12). In this category, the most frequent score was 3 (See Table 19).

Table 19

Knowledge of Departmental Policies/Procedures Statistics

	Sue	India	Tia	Missy	Tammy	Mia	Zoe	Eva	Alex	Anna	Lily
N Valid	28	12	50	56	42	43	30	46	44	46	53
Missing	35	51	13	7	21	20	33	17	19	17	10
Mean	4.14	2.00	3.50	3.68	4.83	3.60	3.37	3.65	3.91	3.13	3.17
Median	4.00	2.00	3.00	4.00	5.00	4.00	3.00	4.00	4.00	3.00	3.00
Mode	4	2	3	4	5	3a	3	3	4	3	3
Std. Dev.	.76	.60	.91	.92	.44	1.12	.62	1.12	1.01	1.13	.85
Minimum	2	1	2	2	3	1	3	1	1	1	1
Maximum	5	3	5	5	5	6	5	5	5	6	5

a. Multiple modes exist. The smallest value is shown.

In the Knowledge/Application of Signals and Codes category, the mean score was (M=2.30-4.61, SD= .57-1.39). In this category, the most frequent score was 5 (See Table 20).

Table 20

Knowledge/Application of Signals and Codes Statistics

	Sue	India	Tia	Missy	Tammy	Mia	Zoe	Eva	Alex	Anna	Lily
N Valid	28	20	50	63	42	46	30	49	45	48	53
Missing	35	43	13	0	21	17	33	14	18	15	10
Mean	4.61	2.30	4.26	4.24	4.60	3.39	4.00	3.84	4.29	3.58	3.81
Median	5.00	2.50	4.50	4.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00
Mode	5	3	5	5	5	4	4	5	4	5	4
Std. Dev.	.57	.80	.90	.88	.67	1.33	.74	1.39	.63	1.37	1.02
Minimum	3	1	2	2	2	1	3	1	3	1	1
Maximum	5	3	6	5	5	6	5	6	5	5	5

In the Problem Solving and Decision-Making category, the mean score was ($M=2.21-4.80$, $SD= .57-1.03$). In this category, the most frequent score was 3 (See Table 21).

Table 21

Problem Solving & Decision-Making Statistics

	Sue	India	Tia	Missy	Tammy	Mia	Zoe	Eva	Alex	Anna	Lily
N Valid	28	6	49	38	40	44	30	45	45	47	51
Missing	35	57	14	25	23	19	33	18	18	16	12
Mean	4.21	2.67	3.29	3.66	4.80	3.59	3.93	2.98	4.07	2.21	3.24
Median	4.00	2.50	3.00	4.00	5.00	4.00	4.00	3.00	4.00	3.00	3.00
Mode	4	2	3	3	5	3	4	3	4	3	3
Std. Dev.	.57	.82	.94	.91	.46	1.00	.74	1.29	1.03	.86	.91
Minimum	3	2	2	2	4	1	3	1	1	1	2
Maximum	5	4	5	5	6	5	5	5	5	4	5

In the Calltaking Performance (Stress) category, the mean score was ($M=2.20-4.98$, $SD= .35-1.46$). In this category, the most frequent score was 3 (See Table 22).

Table 22

Call Taking Performance -Stress Statistics

	Sue	India	Tia	Missy	Tammy	Mia	Zoe	Eva	Alex	Anna	Lily
N Valid	20	5	28	34	41	26	17	37	18	30	30
Missing	42	57	34	28	21	36	45	25	44	32	32
Mean	4.35	2.20	3.75	2.97	4.98	3.12	4.06	2.62	4.72	3.53	3.53
Median	4.00	2.00	4.00	3.00	5.00	3.00	4.00	3.00	5.00	3.00	3.50
Mode	4	2	3a	3	5	3	4a	3	5	5	5
Std. Dev.	.67	.45	1.11	1.17	.35	.82	.83	1.26	.67	1.38	1.46
Minimum	3	2	2	1	4	1	3	1	3	1	1
Maximum	6	3	6	5	6	5	5	5	5	5	5

a. Multiple modes exist. The smallest value is shown

Finally, in the Retention of Performed/Learned Skills category, the mean score was (M=2.63-4.83, *SD*= .44-1.18). In this category, the most frequent score was 5 (See Table 23).

Table 23
Retention of Performed/Learned Skills Statistics

	Sue	India	Tia	Missy	Tammy	Mia	Zoe	Eva	Alex	Anna	Lily
N Valid	26	16	43	51	42	43	30	48	42	40	51
Missing	37	47	20	12	21	20	33	15	21	23	12
Mean	4.42	2.63	4.40	3.10	4.83	3.67	3.93	4.00	4.26	3.48	3.75
Median	4.00	2.00	5.00	3.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00
Mode	4	2	5	3	5	3	5	5	4	4	3
Std. Dev.	.50	.89	.82	.89	.44	1.04	1.08	1.09	.54	1.18	.85
Minimum	4	2	3	2	3	1	2	1	3	1	2
Maximum	5	5	6	5	5	5	5	6	5	5	5

A higher mean in any category was indicative of participants who scored high in the applicable DOR category. For participants who were struggling in the on-the-job training, their means were consistently lower than other participants in the research. For example, research participant India consistently had mean scores of 3.56 or less in all eight (8) critical categories except Professionalism and Attitude Towards the Job. A mean score of 3.76 should not qualify participant India for release from the Calltaking phase of training, however the DOR is considered a training tool and release is discretionary and determined overall by management.

Following completion of on-the-job training each participant is given a cognitive examination to determine whether they are performing at or above standards to release from the Calltaking phase of training. The Calltaking Release Test #1 was given to eight (8) of nine (9) participants following the completion of on-the-job training. One

participant was unable to take the release test and submitted a resignation letter. The examination consisted of multiple choice, fill-in-the-blank, true/false, and practical exercises. Participants were required to have a minimum score of 80% to release to solo capacity. After data was collected, a quantitative analysis to determine the mean and standard deviation was completed to examine the degree to which participants were able to apply the skills learned in classroom-based training on-the-job. Based on n=8, the mean Calltaking Release Test score was (M = 83.81, SD= 2.563). The minimum score on the release test, which is the required minimum score to pass, was 80%. The maximum score was 87% (See Table 24).

Table 24

Release Test Scores Descriptive Statistics (Gwinnett)

Release Test Scores		
N	Valid	8
	Missing	0
Mean		83.81
Median		84.25
Mode		86
Std. Deviation		2.563
Minimum		80
Maximum		87

Analysis of Research Question 4

Q4: *To what extent does training affect trainees' perception of role ambiguity?*

Research question four (4) examined the relationship that training had on the participants perception of role ambiguity. To examine research question four, the Role Ambiguity Instrument and the On-The-Job Training Course Evaluation was given to participants. The Role Ambiguity Instrument consisted of eight (8) categories with a five-

point Likert scale rating from "strongly disagree" to "strongly agree." According to Andrade (2021), role ambiguity occurred when an employee in an organization encountered "the confusion of multiple roles assigned by the organization. The Role Ambiguity Instrument was completed following the completion of the on-the-job training by 10 of 12 research participants.

The On-The-Job Training Course Evaluation consisted of a 20-questions survey with a five-point Likert scale with ratings from "strongly agree" to "strongly disagree." On- The-Job Training Course Evaluation categories were designed to evaluate course content, content format, ease of use, perceived effort, utilization, and overall satisfaction following 'the delivery of the on-the-job training curriculum. The On-The-Job Training Course Evaluation was completed following the completion of the on-the-job training by 10 of 12 research participants. The mean score was (M = 1.85-3.00, SD= 1.19-1.52) (See Table 25)

Table 25

OTJ Training Course Evaluation Statistics

	Amy	Sue	India	Tia	Missy	Tammy	Mia	Alex	Anna	Lily
N Valid	20	20	20	20	20	20	20	20	20	20
Missing	0	0	0	0	0	0	0	0	0	0
Mean	3.00	2.05	1.95	2.10	2.25	2.30	2.20	2.05	2.35	1.85
Median	3.00	2.00	2.00	2.00	1.50	2.00	2.00	2.00	2.00	1.50
Mode	4	1	2	1	1	2	1	2	2	1
Std. Deviation	1.21	1.32	1.19	1.25	1.52	1.34	1.36	1.19	1.23	1.23
Minimum	1	1	1	1	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5	5	5	5

The most frequent score was 1. Ratings range from strongly agree (1) to strongly disagree (5). Participants who chose categories three through five were either neutral or strongly disagree in the chosen categories. Three participants rated category one (1) which

stated "the training content was clear" a three (3), and one (1) participant rated the same category a five (5). One (1) participant rated category two (2), which stated "I was able to navigate through training content in an acceptable manner" a three (3) and one (1) participant rated the same category a four (4). Three (3) participants rated category three, which stated "I could easily understand the training material" a three (3), and one (1) participant rated the same category a four (4). One participant rated category four, which stated "I believe that a good variety of displays (maps, pictures, CAD, etc.) were used" a three (3), and three (3) participants rated the same category a four (4). Two participants rated category six, which stated "the learning was enhanced by the hands-on use of CAD" a three (3). Two participants rated category seven, which stated "overall, on-the- job-training was learner friendly" a three (3) and one participant rated the same category a four (4). Two participants rated category nine, which stated "the instructional material was comprehensive" a three (3) and three (3) participants rated the same category a four (4). Three participants rated category 10, which stated "overall, I found the training material easy to use" a three (3), and one (1) participant rated the same category a four (4). Two participants rated category 12, which stated "the content of the training material helped me to learn important concepts" a four (4). Two participants rated category 14, which read "I didn't put much energy into this training course" a four (4), and eight (8) participants rated the same category a five (5). Two participants rated category 15, which stated "the training will help me improve my performance on the job" a three (3). One (1) participant rated category 16, which stated "I believe the training material is relevant to my job" a three (3) and one (1) participant rated the same category a four (4). Two participants rated category 17, which stated "I didn't try very hard to do well in this training course" a four (4), while eight (8) participants rated the same

category a five (5). Finally, one participant rated category 20, which stated "overall, I had a very positive learning experience" a three (3), two (2) participants rated the category a four (4), and two (2) participants rated the category a five (5).

After data was collected, a quantitative analysis of data to determine the mean, median, mode and standard deviation was completed for participants to examine the relationship that training had on the research participant's perception of role ambiguity. The Role Ambiguity Instrument was completed by 10 of 12 research participants. The mean score was (M = 1.00-3.00, SD= .00-1.51) (See Table 26)

Table 26

Ambiguity Tool (Gwinnett)

		Tamm									
		Amy	Sue	India	Tia	Missy	y	Mia	Alex	Anna	Lily
N	Valid	8	8	8	8	8	8	8	8	7	8
	Missin	0	0	0	0	0	0	0	0	1	0
	g										
	Mean	2.13	3.00	1.00	2.00	3.63	3.00	1.13	2.00	2.14	1.50
	Median	2.00	3.00	1.00	2.00	4.00	3.00	1.00	2.00	2.00	1.00
	Mode	2	2 ^a	1	2	5	2 ^a	1	2	2	1.0
	Std.	.35	1.41	.00	.00	1.51	.93	.35	.00	.39	.76
	Deviation										
	Minimum	2	1	1	2	1	2	1	2	2	1
	Maximum	3	5	1	2	5	4	2	2	3	3

a. Multiple modes exist. The smallest value is shown

Although the most frequent score was two (2), Sue and Tammy both had multiple modes. The most frequent minimum scores were one (1) to two (2). The most frequent maximum score was two (2) and three (3). Participants who chose categories three through five agreed that role ambiguity does exist in areas of training. Three of ten participants rated category one (1) a four (4) and one (1) participant rated category one (1) a three (3). Two participants rated category two, which stated "I do not feel certain about how much authority I have" a three

(3) and four (4) equally. One participant rated category two a five (5). Two participants rated category three (3), which stated "I have no clear planned goals and objectives for my job" a four (4). One participant rated category 4 "I do not know exactly what is expected of me" a three (3), and one participant rated category four (4) a five (5). One participant rated category five (5), which stated "I do not know how I divided my time properly" a four (4) and another participant rated the same category a five (5). One participant rated category six (6) which stated "I do not know what my responsibilities are" a three (3). Finally, one participant rated category eight (8), which stated "I am not fully aware of appraisal criteria" a three (3) and one participant rated this same category a five (5).

Considering Kirkpatrick's levels one through three, Kirkpatrick and Kirkpatrick (2016) stated that level 1 evaluated the degree to which participants find training favorable, engaging, and relevant to the job (p. 40). Level 2 evaluates the degree to which participants acquire the intended knowledge, skills, attitude, confidence, and commitment based upon their participation in training. Level 3 examines if participants were influenced by the knowledge and are applying what they have learned. Level 4 evaluates the degree to which targeted outcomes occur as a result of training and the support and accountability package (Kirkpatrick and Kirkpatrick, 2016). Based on results from the Role Ambiguity Instrument and the On-The-Job Training Course Evaluation, it is evident that most participants were either neutral, disagreed, or strongly disagreed in a multitude of categories evaluating their training experience. Most research participants, at some point, were negatively impacted by some aspect of their training experiences. Considering the reasons why employees left the job, it was to either pursue another opportunity but more prevalent.

Using a mixed methods study grounded in an explanatory sequential design, quantitative data was collected, followed by qualitative data for 12 Gwinnett County E911

participants. Of 16 initial Gwinnett County E911 participants, seven (7) resigned and one (1) was terminated. For this research, the researcher was able to interview five (5) separated participants, to include four (4) resignations and one (1) termination, in addition to seven (7) participants who are still actively employed with the agency. In a qualitative study of the 12 remaining research participants, the researcher asked the participants 20 open-ended questions regarding strengths and weaknesses of the current training program and the relationship of training evaluation at each level of the Kirkpatrick model as related to role ambiguity.

Interviews data was coded using MAXQDA and transcribed using Rev.com for voice to text transcription for content data analysis. I collaborated with another experienced researcher to establish inter-coder reliability, then proceeded with data analysis. All interviews audio-recordings, and notes were reviewed multiple times for understanding and a classification system (Patton, 2002) was established prior to data analysis. Once completed, formal systematic coding began over several readings to establish convergence and divergence.

The categories that surfaced while establishing codes and themes for the 12 interviews included stress, application of knowledge back to on-the-job, on-the-job training versus classroom-based training experience, on-the-job Training Officer (good and bad subcategories), classroom-based training instructors (good and bad subcategories), Territory, Trainee satisfaction after BCO training, and Role Ambiguity.

Each of the research participants from participant 1, through participant 12 were assigned a pseudonym for the analysis of the interviews. For this research study, 11 of 12 research participants provided demographic information. Participants consisted of 10

females and one male. The mean age of participants was 31.27 years of age. Three (3) participants were Black, one (1) participant was Hispanic, and seven (7) participants were White.

Considering secondary education, three (3) participants had earned an associate degree, one (1) participant had earned a bachelor's degree, one (1) participant had earned a graduate degree. In addition, three (3) participants had a high school diploma or GED, and three (3) participants had attended college at some point. Of 11 participants, only one (1) had previously worked at least five (5) years in emergency services (See Table 1-5).

Analysis of Face-to-Face Interviews

Qualitative approaches to data collection were used to supplement quantitative data via face-to-face interviews were used to supplement quantitative findings for research questions one through four. Kirkpatrick and Kirkpatrick (2010) identified that 70% of training program failures are due to application environment (p. 7). To explore this idea, the researcher used the Interview Questions Guide to conduct 60-minute face-to-face interviews with 12 research participants following the completion of training. Interviews consisted of questions to determine the trainee's perception of the overall impact of training and trainee attitudes towards training.

All interviews were audio-recorded, and notes were taken and transcribed. The surveys were organized and read carefully to determine the codes and themes. I found several strong themes that emerged from the data that was gathered. Categories included Stress, Strengths of the Training Program versus Weaknesses (classroom v. on-the-job), Application of Knowledge Back to On-The-Job, Experience Bringing Classroom-Based Training On-The-Job, Level of Mastery, On-The-Job Training Officer (good and bad subcategories),

Classroom-Based Training Instructors (good and bad subcategories), Curriculum, Trainee Satisfaction after BCO Training, and Role Ambiguity. See Table 27 for examples of participant responses that resulted from the qualitative coding process.

Table 27

Table of Participant Responses- Qualitative Coding

Participant	Qualitative Code	Participant Response
Zoe	“It isn’t gonna be that bad”	I was not welcome. It was very, very apparent that I was not welcomed. Um, I tried to get through this. I tried to be patient and calm and be like, okay, this isn't gonna be that bad. It'll be okay.
India	“People in the room we’re willing to help”	basically anybody in the room were willing to help regardless if they were your trainer or if they have been here a year or 25 years
	“Some people don’t need to train”	there's people who are training that don't need to be training
Missy	“doesn’t prepare you for reality”	It doesn't prepare you for reality and, and nothing will until you sit on that phone. There's no type of training, there's nothing you can do to really make yourself understand some of the things you hear over that phone line.
Alex	“learning territory helped”	as far as territories go, that helped a lot cuz if someone said they're on know 78, you can start to like be able to at least apply that so you know that it's one of, you know, four different names. call guides were pretty, were pretty helpful. when TOS and CO2 S like taught you, it helps like apply the idea of what you're supposed to be taking so when you first get into the room you're not completely blind. I think that's probably honestly it
Tammy	“Test Scores”	I was pleasantly surprised. But I felt like I, once I actually took the test, I realized I knew what I, I knew more than what I thought I did. So it was nice seeing a higher score than I anticipated
Lily	OTJ TO: “key to my success”	The person who is the key to my success will be my first training officer
Zoe	OTJ TO: “treated me like I was in the way”	treated me like I was in the way. Um, she would never speak to me unless I was being scolded or corrected or told how wrong I was about everything
Sue	Classroom-Based (good): “how can I	my best experience was when they pretty much said, how can I help you learn this?

	help” Bad: “they didn’t go with what we had”	my worst experience would possibly be when they didn't really like go with what we had, like the material that we had. So when it came time for the test it was like okay, they said this but the material said that and now what is the answer on the test?
Eva	“structure of BCO”	I feel like it was just like the structure of bco because like when they came in to do territory, they would ask her like, what part of territory do you want us to cover? And then she would just be like, oh, just tell 'em whatever, you know.
	On-The-Job: “I feel like I got good training materials”	I feel like I got good training materials. The binder. I feel like that's a good thing because even once I was admin released, when I was on admin and it was slow, I was able to like look back into the binder at like on my DOR’s or study, re look over the quizzes and look at what I got wrong and what I needed to like strengthen in.
Tia	“I took more from being in the center”	I can't say I didn't take anything from BCO. I did, but I took more from being in this center prior to BCO than I did from BCO
Mia	Role Ambiguity: “my role is different”	My role, it's a little bit different than I expected when I was hired

See Figure 4 for an example of how qualitative codes were organized by themes using MAXQDA for participant Eva.

Study Habits		41
Training Behaviors		27
Role as CO	Were participants able to describe what their role was as a CO?	20
Skills Unclear	Were participants clear on what skills helped or did not help otj?	1
Skills - NOT Helpful	What skills did participants learn during training were least beneficial otj?	14
Skills - Helpful	What skills learned during training do participants feel helped them most otj?	19

Figure 4 Example of Qualitative Coding

Stress

One of the more prominent categories that emerged while coding interviews was stress.

The overall opinion of the research participants was that they experienced stress while participating in the training program. As Sue stated,

“My worst experience would possibly be what they didn't really like go with what we had, like the material that we had. So when it came time for the test it was like okay, they said this but the material said that and now what is the answer on the test? And so it was stressful and then everybody got the question wrong so it was like, okay so what's the real answer then? So just the difference between what the material said, and the instructor said it kind of didn't go together at times.”

When discussing testing, Eva stated,

so I feel like it was even people like crying and stuff like the day before and we were just comforting each other like feeling like they weren't gonna pass.”

Given these experiences occurred during classroom-based training, these comments impacted the degree of satisfaction that research participants experienced during classroom-based training. A third research participant, Zoe shared "I can tell you that on my retest for territories, there were a lot of tears. There were a lot of really dirty looks because the proctor was talking on her phone to a telemarketer during my test that determines whether or not I have a job.

Multiple participants reported experiencing testing anxiety, however considering stress specific to observable testing and quiz behaviors Missy stated,

Stress. I don't do well with tests, and I didn't realize this until here really. I didn't know that I had, I don't even know if it's a phobia. I don't know what it is. I do a signals test. I cannot remember anything when I get in that room. Whenever I'm on the phone, I never have to look at the sheet. You can ask either of my trainers,

you know, I know the codes. But whenever I sit there and listen to that, those a hundred questions, the best I've ever gotten was a 94.

The experiences shared by research participants provided evidence that participants struggled with anxiety, stress, and confusion while especially while attending classroom-based training. As stated previously by Lawrence (2021), it is important to provide resources for employees who struggle to cope with emotional stress and strain. "The role of a PST is challenging- providing a comfortable and productive work environment is essential. Offer programs such as Employee Assistance Programs (EAP) and Critical Incident Stress Debriefing/Management (CISD/M) to help PSTs deal with stress" (p. 39). The goal of the training program should be to provide support in the classroom and during on-the-job training through effective training and remediation.

Strengths of the Training Program versus Weaknesses

Strengths vs Weaknesses-Classroom

Research Participants agreed unanimously that Week 1 of classroom-based training was structured. Participants also felt that the instructors during Week 1 were helpful. Once Week 1 was completed and students transitioned to Week 2 to Week 6 of advanced classroom-based training participant perspectives changed from what they considered a structured learning environment to one that lacked structure. Zoe shared,

there does not appear to be a plan. From what I could see, anybody that was brought in from the actual call center, any dispatchers were not given a plan or, direction in what they were teaching. Much of it was, okay, so we're gonna, we'll talk about territories. This was where it stuck out the most in territories. We had two and a half days of training. We had different people in every day, and during that, they would look over at J and say, what am I supposed to teach? And she

would say, well, whatever you feel like you need to teach.”

Tia stated,

we had a set schedule every week for what we were gonna do each day of that week and then, like by the third week I think it was the ProQA lady that didn't come in, never came in. I think she got sick though, but that was rescheduled or wasn't rescheduled, I guess.

Classroom-based training should also prepare Trainees to seamlessly transition into the E911 center as an extension of what they have already learned. India stated,

it was only me and another girl that made a hundred on our test. I learned my way. And so, when I get into the room and she starts quizzing me, it's a little different. So, when you tell me that I need to learn this paper and not the one I learned in BCO, well then what was the point in learning this in BCO? Like, it doesn't, it doesn't line up.

Application of Knowledge Back to On-The-Job

Another category that was identified while coding and establishing themes was the ability of research participants to apply knowledge learned in classroom-based training to on-the-job. The ability to apply knowledge learned in the classroom is imperative for successful on-the-job training and the opportunity to release to solo capacity. Regarding research participants ability to apply knowledge gained in classroom-based training to on-the-job, Sue stated,

I would say it is kind of stressful at times because say like territory for instance, you get the two days to learn it in BCO, but they don't teach you like all the territory that you need to know. So, when callers started talking to us or when my training officers talking to me about Ronald Reagan, I was like, I don't.

A required training for all participants is Emergency Medical Dispatch (EMD). EMD

certification allows all employees to be able to handle emergency medical calls. Most trainees who do not successfully pass on the first attempt are allowed a retest, however it is based upon overall performance in the training program. For any employee who does not successfully complete EMD training, the agency is required to separate as they are unable to fulfill all the requirements of the job. When asked about the ability to apply knowledge from classroom-based training to on-the-job, Tia shared,

I will say that EMD was something I struggled with. And everybody in here knows. Um, I didn't come from a family of doctors, so my dad being an officer, I struggled big time before going into BCO with EMD. And I second guessed myself, so I took a lot from that class. Okay. Even though it was death by Power, PowerPoint, it was totally death by power PowerPoint. But yeah, I took a lot from him. I even stayed after like the last day and told the guy that was instructing us like, hey, like I, this, this was not, I was not doing well with this, but he was a really good instructor.

Knowledge of territory is a requirement of the job. As stated, Gwinnett County Police Department (GCPD) E911 is the second largest Public Safety Answering Point (PSAP) in the state of Georgia. The estimated population in 2022 was approximately 983,656 which is indicative of immense territory. Tammy shared,

locations, like territory. I'm not from here. I've only been, before I came here to work, I'd really only come in passing. So, I didn't know a lick of territory before I came in. So actually sitting down and hardcore studying territory was something that I absolutely needed. And that has helped me so much more on the floor. Cuz before I was just like, okay, I'm learning this through osmosis, getting my territory down through that way. But I was actually able to like, focus on that

Okay. And memorize things and it's, I don't feel like I'm a fish outta water anymore when I'm trying to get these territories.

Mia stated,

There's no structure in how that was taught to us. No structure on territory. Our introduction in my personal BCO 106, the introduction to Territory was our second week of BCO. Uh, it was the first day after we passed post week, and we sat down with some very outdated map books, um, that are not the ones we currently use in the room.

Further, MIA pointed out that, And we're told, okay, break into groups, go map out the major highways and write that down. The work that we did was not necessarily checked to confirm that everyone had done that correctly. And then we didn't touch territory again for probably a month. And when we came back and actually started doing territory and nobody had a clue what was going on, and we expressed that the response we received from the administration over BCO was, well, we did territory the first day after post-week.

During the advanced weeks of classroom-based training, research participants were allowed to create their own resources to learn territory. One research participant shared her experience with applying her way of learning territory on-the-job by stating "in territory we were allowed to, you know, make our own map, make our own way of studying any way we could learn it, do it. Um, and so that's, you know, that's what I tried to incorporate in the room, but it didn't work." As indicated by the varying perceptions of learning territory then applying what is learned, it can be overwhelming for Trainee that moved to Georgia for the job. Transitioning classroom learning can also be

overwhelming when they work to learn territory in a way that works for them, but it does work once training on-the-job.

Experience Bringing Classroom-Based Training On-The-Job

During classroom-based training, a new CAD system was also implemented. While some research participants worked in the E911 center prior to attending classroom-based training, others did not. Research participants that worked in the E911 center prior to classroom-based training work on the "old" CAD system. This meant that information learned on the old system had to be re-learned on a different system. After participating in classroom-based training, Zoe stated,

when we graduated, we were told everybody in that room is learning this program, so you're going to be able to help them and they'll be able to help you. Unfortunately, the people in the room were never told that. They were told that they know everything and we know nothing. And if we say, Hey, but I know how to do it this way, we would get in trouble. What we learned in class didn't matter because if our trainer told us it was wrong, it was wrong.

During classroom-based training research participants took part in simulations based upon real calls. The idea behind simulations was to give trainees an idea of what real life calls would be like once back in the center. Regarding this experience, participant Amy stated, "the classroom training, I think trained us enough to kind of see what it's kind of gonna be like. But I think, once again, we were able to observe more and we were able to see everything in real life, it could have helped a little more. So class-based training does prepare you for a training, but it won't prepare you for that call." It was the overall opinion of all research participants that call simulations done during BCO did not prepare them to handle live calls.

Level of Mastery

Each research participant took a pre-test and post-test during Week 1 of BCO. Directly following Week 1, BCO 106 participants completed five additional weeks of advanced classroom-based training. This is different than past academies as previously Trainees attended five total weeks of classroom-based training, then transitioned to on-the-job training. During training Territory is a critical area of study. The majority of research participants agreed that their experience with learning territory was a challenge during training then eventually on-the-job. As an example, Tammy stated,

Even though I liked territory, some of the resources we had just simply did not work for me. I created my own cuz they, it worked better for me. And how I study, I'm more of a visual and repetitive learner. So I made my own map cuz I just, the maps we had just didn't work for me and some of the material wasn't exactly accurate.

Eva added "I would say I didn't really like when we learned territory because it was just like kind of all over the place." AMY also identified the impact that the lack of adequate training in the area of territory had when stating "learning the highways, learning all the interstates, all the things like that, that was tough for everybody, even people born and raised in Gwinnett County."

Another critical area that is explored during classroom-based training is Call Guides. Call Guides are designed to present interrogation to callers regarding any type of incident. Understanding Call Guides will provide a baseline ability to interrogate callers for information. While some participants did not have a negative experience, Zoe stated,

well we spent a week and a half on call guides, but after having read the call guides cover to cover, that's not how we operate with them. We don't, we don't

use those, we don't do things that way. So the call guides, frankly, if we had done three days of call guides and a full week of territories, that would've been a lot more helpful because call guides was literally just a waste of our time.

On-The-Job Training Officer (good and bad subcategories)

Many research participants stated that they had positive relationships with their on-the-job training officer. For example, Tia stated "I love them all. Um, really explaining things like stopping and explaining things like when I had a question or even like if I didn't have a question or if I didn't know that I had a question." Zoe shared "sitting with B was the first time I felt like I was wanted, like I wasn't a burden. Like it, I was actually somebody that they did not feel was in the way." While training, most research participants reported having multiple Training Officers. Zoe shared her experience with multiple training instructors while on the job by stating "having been tossed around between six different trainers because of my trainers being on leave or sick, um, I was frequently told things that were incorrect, and when I attempted to try to understand what was correct, I would get in trouble for it." One participant, Amy shared her experience with multiple Training Officers by stating,

My best experience with my training instructors would be in the room. I had the chance to experience multiple trainers and I feel they all have their own, their own, what's the word I'm looking for? They have their own energy, and they have their own way of teaching you. And I feel that was amazing for me to be able to experience multiple people, different learning styles, different teaching styles.

India stated, "there's people who are training that don't need to be training. Um, my trainer." India further stated,

it's kind of like a kid wanting to play a sport, and the more the kid tries to play and

get better and do his best, it's not good enough for the parents. And that's why I felt every day I gave it my best. I did my best, but it wasn't good enough and it eventually made me end up quitting the job.

Like India's opinion, Missy shared,

I'm a strong person, it takes a lot to get me down, but there's been a few times where I've just, I was ready to walk out the door almost because it was just so negative.

Everything, everything you do is wrong. No matter how hard you're trying, no matter what you do, everything you do is wrong and that it wears you down after a while.

Further Sue stated, "my worst experience would possibly be when they didn't really like go with what we had, like the material that we had. So when it came time for the test it was like okay, they said this but the material said that and now what is the answer on the test?"

Classroom-Based Training Instructors (good and bad subcategories)

When sharing good experiences with classroom-based training instructors, most all participants reported that they enjoyed their instructors during Week 1 of BCO. Most trainees reported that their most memorable training instructors during advanced classroom-based training were visitors from other units, such as K9. Amy stated "I had a lot of great experiences with my training instructors. I think, um, when we were able to kind of learn about each and every department with, when it comes to K9, when it comes to swat, when it comes to things like that" While participants shared that they did enjoy the training instructors that taught them during advanced weeks of BCO, they felt that the

teaching lacked structure.

Curriculum

Results showed that most research participants felt that Call Guides were beneficial during training, however some participants felt that the amount of time dedicated to Call Guides was excessive. Regarding her experience with training curriculum that was provided during training, Tia stated,

In the center was definitely like, it can't be matched to any more perfectly.

Whether it be like from locations or like territory like examples, like call scenarios all those worksheets really helped with being in the center. BCO? I mean, I don't know. It's just different. It's different in BCO.

Tammy stated "Even though I liked territory, some of the resources we had just simply did not work for me. I created my own cuz they, it worked better for me." Finally, Mia shared,

the very, very limited materials and resources that I received were good. Once again, back to post week, with post week being the best materials received because of the structure required for that week. As far as the other training materials, I've just kind of collected things from people and really just put something together more myself. Um, we did get the call guide. The call guides are not bad. There's some updates and things that need to be added to them.

Trainee Satisfaction after BCO Training

Most research participants transitioned from classroom-based training to on-the-job training with concerns about what they learned in the classroom. Mia shared her experience when she stated,

I was in the room for 30 days, which really ended up to just being 14 days on shift.

And during that time, I felt like I was progressing very well. My training officer said that I was progressing very well. I felt good about the job. I was excited to go to BCO because she kept telling me, you're gonna go to BCO and all of this is gonna get explained to you so much more in depth, you're gonna come back with so many more resources and tools. I came back from BCO to the room not having any of those resources or tools that I thought I was going to have and feeling like I had just spent seven weeks of being taken backwards and had negative progress instead.

India stated "I was definitely able to put real life scenarios with the material that I had learned in BCO as far as like your call guides, or your location and things like that. Now CAD got a little tricky there at first." Finally, while sharing her experience with the transition from classroom-based training to on-the-job, AMY shared "It was not the best. Like I stated, BCO did not prepare me for interrogation. That's my weak point right now is interrogating, asking the right questions that you need to ask for the officer's safety."

Role Ambiguity

Most concerns for research participants centered around lack of structure, absence of updated training material, instructors not being given an agenda to adhere to while teaching, time management, and classroom-based training that did not seem to prepare participants to transition into taking live calls while participating in on-the-job training.

One experience that Sue shared while she and her peers were training was "the one that material had wasn't on the test and the one that the instructor taught us, that answer wasn't on the test either. And so it's like okay, so everybody just picked whatever they thought was the right one." Regarding time management, India stated,

in order to train and for me in order to train and keep me evolving, I've got to

keep going. I can't go to work and take a six-hour break, and then come home and sleep 10 hours, and then go to work, take a six-hour break, and then start. It's just too much time gap between the training and the, and the rest.

Amy stated,

the weaknesses of the training program is structure. There's no reason you should be spending two weeks on call guides. That was my main thing is structure with testing. A lot of the tests determine if people have a job. And I feel like the structure of studying should be more outlined so that it's more likely¹ that someone will pass those tests.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of the current study was to create a training evaluation supportive of persistence, motivation, and retention for Trainees. The study was conducted due to ineffective training practices which have failed to support persistence, motivation, and retention. Current training practices have also failed to reduce role ambiguity which subsequently negatively affects retention. This chapter includes a discussion of the findings that were outlined in chapter four. This chapter also includes a section which outlines the implications of the current study for future practices of E911 training programs. Finally, this chapter includes recommendations for future research studies of E911 training programs and a conclusion which summarizes data analysis of the study results.

Discussions of the Findings

Discussion of findings is presented by the following research questions.

Q1: What is the level of trainee satisfaction after completing the training with aspects of the training content, delivery, and applicability in the workplace?

After analyzing the quantitative data for the one-week classroom-based training, results were examined to determine the degree of satisfaction that trainees experienced with the content of training material, delivery of training and the applicability of the training in the workplace. Based on participant responses to the Pre-BCO and the Post-BCO Course Evaluations from both E911 agencies, results showed that most participants were satisfied with the one-week training course.

Prior to the delivery of the training course all participants disagreed that they feared or avoided computers. Participants also disagreed that they felt isolated in large groups of people learning about computers, and that they felt excluded from the computer generation. In addition, all participants agreed that they were motivated to learn and strongly agreed that they were willing to exert considerable effort to learn.

Following completion of classroom-based training, 16 Gwinnett County E911 Post-BCO Course Evaluation results indicated that participants agreed with the delivery of the training course and were *very* satisfied with the training received. All participants strongly agreed that course content was clear, easy to understand, comprehensive, and that it helped them to learn concepts of the course. Participants also strongly agreed that they were able to navigate through the course content easily with no additional help, and strongly agreed that the course material was easy to use. They strongly agreed that the course contained a variety of displays, graphics, sound media and voice, and that they could easily read the instructor's computer screen. In addition, participants strongly agreed that they put a lot of effort into the course, tried *very* hard during training, and that it was important for them to do well. Participants strongly agreed that the training was relevant and would help them to improve performance on the job. Finally, participants strongly agreed that if afforded the opportunity they would plan to attend additional training and training courses.

A cause for the increase in satisfaction could be because participants were motivated to learn, tried very hard to learn during training, and it was important for them to do well.

Another cause for the increase in satisfaction could be that the curriculum presented during training was understandable, relevant to the job, and had a positive learning experience.

Trainee evaluation during the one-week Basic Communications Officer course provides evidence that participants had positive reactions to the training and therefore had positive outcomes because of the training. Participant satisfaction during the classroom-based training provides evidence that participants benefited from training and therefore had increased motivation during the one-week classroom-based training.

The increase in motivation to learn supports evidence in previous studies regarding motivation and the impact of motivation on training outcomes conducted by Roumell (2019), Bhatti, Kaur, and Battour (2013), and Mason, Auerbach, Zeitlin, and LaPorte (2015). Kirkpatrick and Kirkpatrick (2016) also explored Trainee satisfaction, termed Reaction, in Level I of the Kirkpatrick Model. In the current study, participant reactions were evaluated by assessing the degree of satisfaction after having participated in the training program. Participants evaluated training content, training delivery, and the applicability of the training in the workplace. According to Kirkpatrick and Kirkpatrick (2016) there is a positive correlation between satisfaction and learning.

For Q1, the result of qualitative data from participant interviews identified a difference between classroom-based training and on-the-job training. Most participants agreed that week-one of classroom based training and on-the-job training was more beneficial to performing the job than the advanced weeks of classroom-based training. Most participants felt that the advanced weeks training was unorganized, outdated, or unnecessary however, the one component of advanced weeks training that most participants considered a benefit was when outside units visited to share how their units operate. Participants felt that understanding how other units within the department operate would help them to better assist and answer questions from callers.

Most participants reported that they found benefit in rapport that they established with peers who entered training at the same time as them, as well as veteran employees inside the E911 center. While some participants felt that Training Officers were a useful source of support, some participants also felt that Training Officers were not supportive of their needs while training. Participants that were able to work alongside a Training Officer inside the center felt that the hands-on experience helped them to better understand the job, regardless of the relationship. Most participants also felt that most veteran employees, some of which serve as Supplemental Training Officers, inside the center were a benefit because they were available, if needed, to answer questions.

Findings supported research by Bhatti, Kaur, and Battour (2013) who stated that it is imperative that trainers tailor training to meet the motivation of the student. Positive workplace relationships would be supportive of research conducted by Smidt et al., (2009) in which they explored collaborations which identified that the comfort level of residents was affected by relationships with staff (p. 267). Along the same lines, Kirkpatrick and Kirkpatrick (2016) suggested that organizations "check or challenge a purpose to build relationships and produce results fit for the purpose of all stakeholders" (p. 158). The researcher learned that the lack of positive relationships could have a tremendous impact on Trainees therefore it is imperative that organizational leaders and division management recognize the importance in investing in Training Officers so that they learn the necessary tools to be effective in their positions.

One strong emergent theme, and weakness of the training program, overwhelmingly revealed that Trainees experienced an extreme amount of stress while participating in the training program. These findings were consistent with Baseman et al., (2018) who shared

that a 2012 survey identified job stress as a contributor to turnover. Most participants shared that while attending advanced weeks classroom-based training, they experienced stress due to the lack or absence of critical information. Participants indicated that during training they created their own study material, such as maps, or anything that would help them to learn. In addition, most participants reported that many times what they were taught did not match the material that they received in the classroom. On-the-job, participants unanimously felt that Training Officers provided them with the necessary training material. Most participants shared that a large part of their stress was due to the disorganization of training. Participants' perception of disorganization and lack of information challenged Halstead and Koski's (2021) assertion that considering the difficulty of being a new employee, it is imperative that training be uniform to ensure that new employees are properly trained (p. 16).

Finally, many participants related stress to test anxiety and on-the-job evaluation. Some of the participants shared that the stress was due to managing live calls versus simulations like during classroom-based training, while stress for some participants resulted from less than favorable relationships with their Training Officers who they felt were not supportive during evaluation. One participant stated, "it's kind of like a kid wanting to play a sport, and the more the kid tries to play and get better and do his best, it's not good enough for the parents." Previous research was conducted regarding the benefit of having a formal leader, and according to Ziegert and Dust (2020), if role ambiguity exists, the presence of a formal leader can create structure by providing focus and clarity (p. 973). In this case, the researcher found evidence that lack of clear guidance and direction during advanced weeks classroom-based training contributed to participant

stress which, for some participants, continued once on the job.

When participants were asked questions regarding their experience applying what they learned in BCO to on-the-job, another emergent theme showed regarding the application of learned skills. Most participants felt that Call Guides and EMD training was most beneficial during advanced weeks classroom-based training. Some participants shared that they struggled to retain what they learned in the classroom and then learn added information on-the-job. Others shared that the classroom-based training did little to prepare them for the reality of the job. Based on the researcher's knowledge of the content that the participants should have received during the advanced weeks training, it was discovered that one reason that the participants struggled to transfer the learning from the classroom to on-the-job was due to lack of information provided in the classroom and creating their own way of understanding. Findings support research by Bhatti et al., (2013). Transfer design is one of the pertinent factors in training design. Designing the transfer gives an understanding of the training program and illustrates how the skills learned during training can be properly applied on the job (p. 40). Level 3 of the Kirkpatrick Model identified behavior as the degree to which participants apply what they learned during training when they are back on the job (p. 10). Level 3 evaluates key behaviors which, if invariably performed on-the-job, will have the greatest impact on desired outcomes. Recognizing that the classroom-based training is the foundation from which all learning builds, the researcher recognized that it is imperative for the person facilitating the classroom-based learning to be aware of the impact that transfer of learning has on the overall goal of retaining the employee. This belief is supported by Kirkpatrick and Kirkpatrick (2010) who stated "on average, we spend little time and few

resources preparing the participants (and their supervisors) prior to training, so as to maximize their learning during the training. We spend less time reinforcing what the participants have learned so that the knowledge and skills will transfer to sustainable, on-the-job behaviors" (p. 12).

Q2: What is the level of performance mastery of the training content?

A paired samples t-test was used to evaluate the BCO pre-test and post-test means. The purpose of the paired samples t-test was to determine the degree of performance mastery for Gwinnett County E911 participants. Based on a paired-samples t-test from participant mean scores on the pre-test and post-test, analysis indicated a significant improvement on the results of the participants between the two test scores following the delivery of instruction. A possible cause for the difference is the knowledge that was gained because of having participated in the classroom-based training. The sample size can be a limitation in performing the paired sample test. As the sample size is too small, it is possible that we may not be able to validate the distribution of the data. Participants were required to score a minimum of 80% on the post-test. The mean score on the post-test was 81%, which is another indication of how the classroom training was effective.

The significant increase from pretest to posttest supports evidence in previous studies regarding emotion, and reactions to learning outcomes conducted by Kirkpatrick and Kirkpatrick (2010), and Warr et al. (1999), Passmore (2016), and Prilyana and Aseanty (2020). These studies pointed out the importance of motivation and the results of these studies provided evidence that learning is correlated with emotion in the sense that participants must respond positively for learning to occur.

The result of qualitative analysis as related to performance mastery showed that most participants reported stress during times of testing and evaluation. Many participants reported

test anxiety and because of that such behaviors as second-guessing, staring at the paper, fidgeting, intense focus, and looking like a "deer in headlights." All participants reported that they did okay with testing, while some reported that they had difficulty due to errors on test and disorganization with testing. Some participants, even confident learners, reported that the lack of information interfered with their confidence that they would perform well. Overall, participants unanimously reported that they felt good, although some were shocked, about their test scores given anxiety and uncertainty related to the tests. Some participants felt that internal factors, such as the desire to be a perfectionist and being hard on themselves to make an A on the exam presented anxiety during testing. Participants who did not work in the E911 center prior to attending classroom-based training reported that they did not feel prepared to interrogate callers once on-the-job, while participants who worked alongside a Training Officer prior to attending the classroom-based training felt that they benefited more from working in the E911 center. These findings support research by Unguren and Arslan (2021) who stated that employees who work in large and complex environments are faced with an abundance of customer contact. Given the complexity of the job, it is important for management to properly train Trainees to handle the multitude of demands from callers. If care is not taken to ensure that Trainees are confident handling calls, the result could be employee turnover.

Upon completion of training, when participants were asked what they thought they were best at because of their training, approximately half of the participants felt that they were better at communicating with callers, asking questions, and organizing call text. Opposite that, approximately half of the research participants felt that they were either unsure of what they were best at, or still felt that they had some work to do to be better. Participant feelings align with research by Dai and Sternberg (2004) who stated that communication is an imperative component of learning which involves oral and written discussions and information sharing supportive of better understanding of subject matters. Due to the

complexity of training, the researcher established that it is important for the Training Coordinator to encourage Trainees and¹⁾ Training Officers to establish rapport.

Effectively communicating will allow ongoing dialogue between the Trainee and the Training Coordinator, Training Officer, and supervisors on shift.

Q3: To what degree are trainees applying the skills learned in training back on the job?

After analyzing the quantitative data to determine the degree of skills application from the classroom back to the job, results showed that every skill learned during classroom-based training was applicable to the participants performance on-the-job. Participants were evaluated weekly over the skills taught and attained in the classroom during the advanced weeks of classroom-based training (Seidman, 2013).

Based on the application of learned skills during on-the-job training, eight of the initial 16 participants were able to successfully complete the Calltaking phase of training and work in a solo capacity. Two of the eight employees who successfully completed the Calltaking phase of training resigned from the position, leaving six participants that successfully released to solo capacity and retained employment.

Despite retention of six of the initial 16 participants, results showed that participants felt that the classroom-based training was very critical and necessary for them to do their job competently. Without participating in the classroom-based training it would have been difficult for participants to perform their job in an acceptable manner. To evaluate whether the classroom-based training was effective and supportive of established goals and objectives, the researcher recognized that Level 1 of the Kirkpatrick Model could have been executed in the form of a survey following week-one training, then again following completion of the advanced weeks classroom-based training. Since week one and the advanced weeks were combined, yet two independent

sets of objectives, initiating a survey following both training courses would have allowed management to precisely recognize if and where any concerns lie. Also, consideration of Trainee reactions would allow organizations to identify any training concerns and gaps in training. Understanding gaps in training would also allow organizations to make needed changes and curriculum revisions, if needed.

Once participants transitioned to the E911 center for on-the-job training, Daily Observation Reports (DOR's) were completed for each day of training. Data analysis was completed in eight critical categories for 11 participants. The chosen categories were designed to evaluate Trainees attitude towards the job, the ability to use CAD, and overall Calltaking knowledge and performance. DOR categories chosen as part of this research were Professionalism and Attitude Toward Job, CAD Commands- Proficiency and Application, Case Entry & Key Questions/Answers Obtained (including proper order), Knowledge of Departmental Policies/Procedures, Knowledge/Application of Signals and Codes, Problem Solving & Decision-Making, Call Taking Performance-Stress, and Retention of Performed/Learned Skills.

Results suggested that participants performed best in the Professionalism and Attitude towards Job category which evaluated whether participants were self-motivated to study during off days and times on duty when they were not actively training. This category also evaluated whether participants respected authority and had an interest in learning the job. Guidelines suggested that any Trainee who performs below standards in this category might lack respect for authority, lack motivation, and seem disinterested in learning the job.

Based on the quantitative data analysis, nine participants consistently exceeded performance standards, while the remaining two participants performed in an acceptable

manner. Analysis of overall ratings in this category indicated that all participants had a positive attitude during training and were open to learning the job. Data analysis also showed that participants were respectful towards their Training Officer, supervisors, and management. Positive reactions to training while on the job supported research conducted by Giangreco, Sebastiano, and Peccei (2009) who stressed that Trainee reaction evaluation is imperative because positive training experiences benefit Trainee's. Further, positive reactions to training supported research by Prilyana and Aseanty (2020) who asserted that satisfaction regarding training is a result of motivation. Employee motivation could reduce employees' intentions to leave the company, therefore positively impacting employee turnover.

The CAD Commands- proficiency and application category evaluated whether participants were able to proficiently utilize CAD commands. This critical category examined proper utilization of CAD commands which would have allowed participants to search the CAD system to research calls. In addition, it was necessary for participants to properly maneuver CAD with the correct commands to communicate with other employees inside the center, field units who respond to callers, and the citizens who call the E911 center for information.

Quantitative data analyzed in this category showed that eight (8) participants were able to search CAD with proficiency while three (3) participants consistently performed below standards. Participants who performed below standards were unable to utilize CAD without assistance, utilized incorrect commands while searching CAD resulting in the ability to obtain needed information, or forwarded information to the incorrect destination.

The ability to be proficient in the application of CAD commands supported research by Kirkpatrick and Kirkpatrick (2016). Level 3, of the Kirkpatrick model, evaluates the degree to which participants apply what they learned during training back to the job. Additionally, the assessment of behavioral changes would allow management to determine not only if the skills were learned but also if the learned skills were logical to utilize on the job.

The Case Entry and Key Questions/Answers Obtained (including proper order) category evaluated whether participants were proficient at asking key questions and obtaining pertinent information from callers. This critical category examined whether participants were able to proficiently interrogate callers to obtain answers to key questions. Failure to properly interrogate a caller to gather necessary information for dispatchers to relay to responding units could result in unnecessary work for the dispatcher and liability for responding units. As an example, on a domestic it would be mandatory to interrogate the caller to determine if anyone on scene is armed, has been drinking or has been using illegal drugs. Failure to ask these three questions separately, directly, and clearly could result in injury or death to responding units. In addition, relaying information to responding units that a person is armed when the caller clearly said that no one was armed can result in injury or death of a citizen.

Case Entry and Key Questions/Answers Obtained and proficiency in key questions supported one component of the advanced skillsets that Schreiner (2020) stressed are required for Telecommunicators to adjust to a wide range of stress levels. As communication is key to obtaining pertinent information, proficiency in this category supported Unguren and Arslan (2021) who described the reciprocal role of communication as having a role sender and a role receiver. While training, the role of the

Trainee was like a "role owner" who would receive and mentally process expectations of the role sender, then determine an appropriate response. After performing the role and receiving feedback, the role owner, or Trainee, would reevaluate their actions. During week-one of classroom-based training, Trainees were taught the importance of proper interrogation and effective communication with callers in order to determine the best course of action.

Quantitative data analyzed in this category showed that four participants were able to properly interrogate callers to gain answers to key questions. The remaining seven participants consistently performed below standards and were unable to independently interrogate callers and ascertain answers to key questions.

The Knowledge of Departmental Policies/Procedures category evaluated whether participants were knowledgeable of departmental policy and procedure. Competency in this category is supportive of research conducted by Li, Lin, Xu, Huang, & Xi (2020) who identified that lack of clear policy led clinicians to undertake their roles. While policy was required to be covered with participants during classroom-based training, it was also a component of on-the-job training. Participants were responsible for reading, understanding, and acknowledging via digital signature in PowerDMS all departmental policy and procedure. In addition, participants were responsible for reading, understanding, and acknowledging the E911 division's policies and procedures via digital signature in PowerDMS. Division policy that was covered during training was more specific to the E911 unit, while departmental policy applied to all departmental employees regardless of title, rank, or position. Failure to understand policy and procedure could result in the participants inability to answer the caller's questions, or

understand procedures required to adequately handle and process information received from callers.

Quantitative data analyzed in this category determined that two participants out of 11 were competent in departmental policy and procedures. The remaining participants consistently performed below standards and therefore lacked knowledge of departmental policy and procedures.

The Knowledge/Application of Signals and Codes category evaluated whether participants were competent in signals application. Kirkpatrick and Kirkpatrick (2016) stated that the goal of Level 2 of the Kirkpatrick Model was to evaluate the training participant's ability to acquire the knowledge and skills required to confidently perform on-the-job. The only way to enter a call for service is with a signal, therefore it was imperative that all participants learn and competently apply signals.

Upon hire, all Trainees were given a signals card to study and learn over 100 signals, along with codes and ten codes. While in classroom-based and on-the-job training, participants were frequently given signals tests to determine if their scores improved from one test to the next. This critical category evaluated each participant's ability to apply the correct signal to situations which were presented over the phone. Depending upon how the caller described the situation, more than one signal could apply. Proper signals application also required that participants be knowledgeable of the definition and characteristics of each signal.

Data analyzed in this category determined that six (6) participants were competent in signals applications. The remaining five (5) participants consistently performed below standards and therefore had trouble applying the proper signal to the situation presented. The researcher recognized that implementation of Level 2 of the

Kirkpatrick Model would allow management to evaluate whether participants received training supportive of learning transfer from the classroom to on-the-job. As an example, if a caller reported that a person who they had never seen before was standing in their driveway the proper signal for this type of call should be a signal 54P or a 93. One possible cause of subpar ratings in this category could be the participants interpretation of what the caller described versus what the Training Officer interpreted the caller to say.

The Problem Solving and Decision-Making category evaluated whether participants were able to remember information presented to them, recall how previous similar situations were handled and apply information received to new situations to make the most appropriate decision. Participants were evaluated in this category to determine if they were able to receive information from callers and make the most appropriate decision to enter the call for service. Participants were also evaluated to determine if it was necessary to enter a call for service, or if callers required other assistance.

Data analyzed in this category showed that three (3) participants were competent in the Problem Solving and Decision-Making category. The remaining eight (8) participants consistently performed below standards and had difficulty making the most appropriate decision based on information presented by the caller. One possible cause of unacceptable performance in this category could be ambiguity in how calls should be handled. For example, policy states that an officer will not respond to routine animal complaints but will respond to reports of vicious animals. Routine animal complaints should be entered for Animal Control to respond; however, if the

caller reported a noise complaint involving an animal, Trainee's may have interpreted the call as a noise complaint versus an animal complaint. The inability to perform up to standards in this category was supported by research conducted by Rogalsky and Paradis (2016) who found that understanding expectations can be difficult when things happen very quickly. Working in a fast-paced environment could be one possible reason that Trainees are not performing up to standard in this category. In E911 centers most things happen quickly, including calls that are most times answered back-to-back. To prevent Trainees from experiencing burnout, role ambiguity, and losing motivation Rogalsky and Paradis (2016) found that it is important to ensure that Trainees are clear on their roles.

The Calltaking Performance - Stress category evaluated whether participants were able to handle calls in a calm and self-controlled manner, even during stressful events. Participants were evaluated in this category to determine if they were able to handle calls where the caller may be screaming, frustrated, rude, or inconsolable calmly and tactfully. Participants were also evaluated to determine if they were able to continue with interrogation and not prematurely terminate calls or fail to make the best decision while managing a stressful event.

Data analyzed in this category determined that four participants were competent in the Calltaking Performance- Stress category. The remaining seven participants consistently performed below standards in this category and had trouble managing stressful events. One cause for unacceptable performance in this category could be due to minimal exposure to live stress calls during pre-BCO training. Another cause for unacceptable performance during on-the-job training could be practical evaluation

guidelines in the classroom which do not require competence in handling stressful events.

While participants are in classroom-based training they participate in simulations, which fail to present the same level of stress as a live unscripted call. Findings supported Mantovani et al. (2001) who conducted research to explore safety training in a virtual environment and findings suggested that uncertainty regarding what to do in situations created ambiguity. In the current study, the researcher identified that having participants with minimal exposure to handling stress calls themselves in a live environment prior to BCO, and more exposure to simulated calls could have become a concern when Trainees were presented with live stress calls again. Another concern could have been having Trainees exposed to stress calls while observing live calls in the E911 center, then leaving for classroom-based training for six weeks with no exposure to stress calls. To avoid role ambiguity, one possible solution would have been to create a simulated environment based on stress events that mirrors live calls as closely as possible.

The final category was Retention of Performed/learned Skills. This category evaluated whether participants were able to recall prior events and instruction provided during training. This category also determined if participants were able to recall prior errors and mistakes in training and apply corrections learned from the previous incidents to new incidents.

Quantitative data analyzed in this category showed that five (5) participants were competent in the Retention of Performed/Learned Skills category. The remaining six (6) participants consistently performed below standards in this category and had trouble retaining skills learned during training, both in the classroom and on-the-job. One cause

for performance which was below standard could have been the failure to understand what to do because of the many ways that different calls are handled. For example, during training participants will likely train with multiple Training Officers who teach numerous ways in which they want calls handled. The way that one Training Officer wants a call handled may not be the way another Training Officer would handle the same call. To prevent the chance that Trainees could become confused and overwhelmed with Training Officer's preferences. It is important to educate Training Officers to communicate with each other the needs of the trainee that they are having trained by another Training Officer on the importance of understanding how Trainee's onto pay attention training that can become confusing and overwhelming for Trainees, Kirkpatrick and Kirkpatrick (2007) stressed the importance of selecting trainers with "desire and potential" (p. 19) who are provided "train the trainer" processes prior to the delivery of training (p. 19). Pairing Kirkpatrick and Kirkpatrick (2007) stressed the importance of selecting trainers with "desire and potential" (p. 19) who are provided "train the trainer" processes prior to the delivery of training (p. 19).

Quantitative data from the Calltaking Release Test #1 was also analyzed to evaluate whether participants gained the necessary cognitive and psychomotor skills necessary to perform the job after participating in on-the-job training. The release test was a proctored exam which consisted of 80 multiple choice questions, fill in the blank, and true/false questions along with four practical exercises. Students were allowed a maximum of two (2) hours to achieve a minimum passing score of 80%. The release test consisted of a cognitive and psychomotor component. Participants took the examination in a quiet conference room setting and were given a map book, EMD cards, and a blue pen. Any participants who did not pass the release test on the

first attempt would be allowed the option to retest after seven (7) calendar days.

Of the initial 16 participants that attended classroom-based training, eight (8) challenged the on-the-job release test to work in a solo capacity on handling emergency and non-emergency calls. All participants passed the Calltaking Release Test #1 with at least 80%. The highest score was 87% and the lowest score was 80%, with a mean score of 83%.

After passing the release test, all participants were placed in a 30-calendar day observation period. During the observation period participants were assigned to a Training Supervisor who monitored live, and recorded calls from another location inside the E911 center. Training Supervisors were responsible for completing observation reports to submit to the Training Coordinator. At the conclusion of the 30-calendar day period, a decision was made regarding participants performance, and they were either released to solo capacity or entered remediation. All eight (8) participants successfully completed the observation period. After working independently, two (2) of the eight (8) participants resigned, leaving six (6) of the initial 16 participants that attended classroom- based training to receive their certification.

The result of qualitative analysis as related to participants ability to apply learned skills to on-the-job showed that most participants were not familiar with how SOP policy applied. Few participants were familiar with the foundation of SOP policy. Some participants questioned what the SOP was and stated that material provided during training was all the same. One participant defined policy, then defined procedure but could only say that the SOP was outdated. Most participants described the SOP policy as something that was not followed. Some participants shared that the

SOP was presented to them in orientation when hired and they were told to sign off on SOP policy when they had not read it. SOP policy was described as black and white compared to what was done on the floor. Some participants shared that their assigned TO provided SOP policy related to Calltaking training so that they could study once on-the-job, while some participants studied the SOP on their own. During classroom-based training, some participants shared that they were told to look at one section of the SOP to study when it was another section that contained information that the participants needed to study for the test. One participant shared that they were given the wrong policy to look up abbreviations 15 minutes before a test. Related to the test, one of the participants shared that policy stated how to handle a call where the caller wished to remain anonymous but during classroom-based training they were told to do something different causing them to answer incorrectly when asked the question on the test. This behavior supports research by Unguren and Arslan (2021) who stated that role ambiguity occurs when employees do not feel that they have needed information to perform their job adequately or are uncertain about their role.

Participants were asked questions related to their experience bringing knowledge from classroom-based training into on-the-job. Most participants shared that the only benefit gained during the advanced weeks training was learning Call Guides, while some also felt that EMD and signals was beneficial to learn. Data analysis showed that participants felt that they lacked training related to territory which created difficulty during on-the-job training. Failure to attain the intended knowledge does not support learning as described by Kirkpatrick and Kirkpatrick (2016). They identified Level 2, learning, as the degree to which participants would acquire the intended knowledge, skills, attitude, confidence, and commitment based on their

participation in the training (p. 10). Recognizing that classroom-based training should provide the basic abilities to perform the job, most participants felt that they would have gained more benefit from training by observing more in the live environment. The lack of simulations which reflected stress situations as closely as possible to what participants would experience on- the-job is one thing that the researcher discovered could have been of benefit during training. Role play simulations could have been re-created from previous 911 calls, and role players, who are unknown to the participants, could have acted out stress situations over the phone for participants to be evaluated on. Kirkpatrick and Kirkpatrick (2016) suggested that exams and assessments as examples of assessment techniques.

Finally, participants were asked questions about the skills learned in training to date that helped them the most, and which of those skills were least beneficial. Results showed that some participants shared that studying every night was a beneficial skill while some felt that talking and typing simultaneously, interrogation, communication, ability to remain calm in stressful situation, and establishing routines such as verifying location and phone number twice were beneficial skills. In addition, some participants felt that CAD training and ProQA training were beneficial skills. Many participants felt that everything learned could be used in some way on-the-job.

While some participants felt that everything learned during classroom-based training would be beneficial at some point, results showed that some participants considered the amount of time dedicated to Call Guides, time spent personalizing profiles in CAD, and BCO overall to be least beneficial. In addition, results showed that most participants felt that learning the location of Walmart's and Dollar Generals over territory of the entire county was not beneficial. These findings

provide relevance to findings by Prilvana and Aseanty (2020) which suggested that positive experiences in the classroom and during on-the-job training are critical to the success of the training program and overall employee retention and satisfaction. Along these same lines, Level 1 of the Kirkpatrick Model suggested that participant reactions are important and consider whether participants found the training satisfying, beneficial, relevant, and engaging. These findings are important for management to understand so that effective evaluation can be implemented to make classroom-based learning more engaging to Trainees.

Q4: To what extent does training affect trainees' perception of role ambiguity?

Quantitative data was analyzed from the Role Ambiguity Instrument and the On-The-Job Course Evaluation to determine the relationship that training had on participants' perception of role ambiguity. Ten out of 12 participants completed both the instrument and evaluation following completion of on-the-job training and the Calltaking Release Test #1. The Role Ambiguity Instrument assessed participants' experiences while participating in the training program. Specifically, The Role Ambiguity Instrument analyzed whether participants were clear on their role and expectations while participating in training on-the-job. The On-The-Job Training Course Evaluation assessed participants' experiences with the content and format of the training program while participating in training. It also assessed the effort that participants put into training, ease of use of the training material, whether the training content would be beneficial to the job, and the overall experience of participants.

Participant data analysis results showed that they were clear on what was expected of them, their responsibilities, expectations of the training program, and

instructions that were provided during training, however three of the 10 participants were neutral in their responses regarding role ambiguity. Considering each category independently, of 10 participants who completed the Role Ambiguity Instrument, three agreed that the explanations that they received during training were not clear. One participant's opinion was neutral regarding the clarity in explanations provided to them, and the remaining six participants felt that the explanations provided to them were clear about what they needed to do while training. Lack of clarity is supported in research by Kahn et al. (1964) who stated that complexity can outweigh a person's level of comprehension and create a lack of clear ideas regarding the scope and responsibilities of the job.

Two participants agreed, and one participant strongly agreed that they did not feel certain about the amount of authority that they had. Two participants were neutral, while the remaining five participants felt that they were clear about the amount of authority that they had. Two participants felt that they did not have clear goals and objectives related to the job, while eight participants felt that goals and objectives related to the job were clear. One participant strongly agreed that they did not know what was expected of them during training and one person was neutral, while the remaining eight participants felt that expectations were clear to them while training. One participant strongly agreed, while one participant agreed that they did not know how to divide their time. The remaining eight participants felt that they understood how to divide their time. While one participant was neutral regarding whether they knew what their responsibilities were, the remaining nine participants agreed that they understood their responsibilities. Unanimously, 10 participants agreed that they were familiar with SOP policy. Finally, one participant felt that they were not aware of the

criteria for appraisals and one participant's opinion was neutral. The remaining eight participants felt that they were clear on the criteria for appraisals.

The Kirkpatrick Model was designed to allow companies, or an organization with multiple companies, to evaluate outcomes of training and development. Kirkpatrick and Kirkpatrick (2016) provided three major reasons, supportive of positive outcomes, to evaluate training programs. The first reason for evaluation is to improve the program. Second, to boost the transfer of learning into on-the-job behavior is a benefit for the organization. Finally, evaluation clearly shows the value of training in the organization. The four components of the model include reaction, learning, behavior, and results. Each component was considered separately as related to the Role Ambiguity Instrument utilized in this research.

Level 1, Reaction, considered whether participants found the training satisfying, beneficial, relevant, and engaging. Four of the 10 participants agreed, with one neutral, that they were not clear regarding what had to be done. One participant strongly agreed, two agreed, and two were neutral regarding the level or authority that they had in the organization.

Level 2, Learning, considered whether participants acquired the expected knowledge, skills, and confidence after participating in the training program. Two of 10 participants agreed that they did not have clear planned goals and objectives. Two of 10 participants strongly agreed, and one participant was neutral regarding not knowing what was expected of them.

Level 3, Behavior, considered the degree to which participants were able to take knowledge gained during classroom-based training and apply it back to the job. One

participant strongly agreed, and one participant agreed that they did not know how to divide their time properly. One participant was neutral regarding not knowing what their responsibilities were.

Level 4, Results, considered outcomes and whether they occurred as a result of training and whether the outcomes met the accountability package. Although all participants agreed that they were familiar with the SOP, one participant strongly agreed that they were not aware of the appraisal criteria and one participant was neutral regarding whether they were familiar with the appraisal criteria.

Following completion of on-the-job training and the Calltaking Release Test #1, the same 10 participants that completed the Role Ambiguity Instrument also completed the On-The-Job Training Course Evaluation. Scales for the survey measured perceived effort and reactions related to content, format, ease of use, utilization, and overall satisfaction with training.

In the area of perceived effort, participants unanimously either agreed or strongly agreed that they put a lot of effort into training. All participants strongly agreed that they tried very hard during training and that it was important to them to do well. They also strongly disagreed and disagreed that they did not put much energy into training and that they didn't try very hard during training.

Regarding the content of the training, one participant strongly disagreed that the training content was clear. Three participants neither agreed nor disagreed that the training content was clear, and the remaining six participants agreed, with one strongly agreeing that the training content was clear. One participant disagreed that they could easily understand the training content, while three participants neither agreed nor disagreed that they could easily understand the training content. Six

participants agreed, with one participant strongly agreeing that they could easily understand the training content. Three participants disagreed that the instructional material was comprehensive, while two participants neither agreed nor disagreed. The remaining five participants agreed, two of which strongly agreed that the instructional material was comprehensive. Finally, two participants disagreed, while the remaining eight either agreed or strongly agreed that the training material helped them to learn important concepts of the job.

In the area of format, one participant disagreed while one participant neither agreed nor disagreed that they were able to navigate through the training course in an acceptable manner. Three participants disagreed, while one participant neither agreed nor disagreed that the training course contained a good variety of displays such as maps, pictures, CAD, etc. Finally, all participants agreed, while five participants strongly agreed that their training experience was enhanced when they were able to hear live calls.

Considering ease of use, participants utilized test-CAD during classroom-based training and created calls based on scenarios presented by the instructor. Prior to classroom based training, some participants were able to work with a Training Officer inside the E911 center. During that time, they shadowed Training Officers while they handled emergency calls. Two participants neither agreed nor disagreed that learning was enhanced by hands-on use of CAD. Of the remaining eight participants, three agreed that learning was enhanced by hands-on use of CAD. Five participants strongly agreed that learning was enhanced by hands-on use of CAD.

In the area of utilization of training and training material for the job, most participants strongly agreed that the training would improve their work performance. Two participants neither agreed nor disagreed that the training would help them to improve work performance. One participant disagreed that the training material was relevant to the job, and one participant neither agreed nor disagreed that the training material was relevant to the job.

Finally, participants shared their feelings towards the on-the-job training. Overall results showed that one participant disagreed that the on-the-job training was learner friendly, while two participants neither agreed nor disagreed that the on-the-job training was learner friendly. Six participants agreed that the on-the-job training was learner friendly, and one person strongly agreed that the training was learner friendly. All participants either strongly agreed or agreed that they found the on-the-job training valuable. Two participants strongly disagreed, while two participants disagreed that they had a positive learning experience. One participant neither agreed nor disagreed that they had a positive learning experience. Of the remaining five participants, three agreed and two (2) strongly agreed that they had a positive learning experience.

Qualitative analysis showed that most participants were not clear on their role. One participant stated, "my role is to shut my mouth, do what I'm told, and not think for myself." Some participants felt that their role was to observe and take everything in, while others felt that their role was to help people or be the best Calltaker that they can be. Still others felt that their role was to have a positive attitude because they don't know what kind of calls they will receive. Finally, one

participant stated that their role was to be knowledgeable on policy and procedure, and territory and be able to have people describe things to me and find their location.

Participants were asked to describe the Calltaking phase of training. Results showed that one participant was able to answer the question specifically while most were unable to answer. Analysis further indicated that other participants said things such as "you learn how to talk to people," "it prepares you to find the right resources," "a lot of signals test and Quizlet," "start off observing but unsure of how many hours," "I don't remember how many hours and then my training officer slowed me into talking and typing, and strengths and weaknesses on DOR are assessed so you know what to do better next time until they feel you're ready to release." Shockingly, results showed that one participant stated, "instead of allowing me to ask questions that I thought was reasonable I was stopped and had to ask questions the way they wanted me to." Results support research conducted by Andrade (2021) who defined role ambiguity as the absence of understandable instructions which aid to guide behaviors meant to attain specified goals.

When asked what the researcher would observe if participants were shadowed during a normal day of training in E911, results showed that one participant responded that the researcher would observe confidence, while most participants stated that the researcher would observe them attempting to take control of the caller, going back and forth with callers to get information, taking calls and looking over their shoulder at Training Officer to see if they did something wrong, handling mostly difficult calls, looking all over getting needed information, second guessing

which signals and codes to apply to calls, and hesitation a little too long while trying to get a full story. Although participants are required to study during downtime at work, results indicated that most participants also studied from home during their off days. Results showed that most participants used flashcards, Cahoots and Quizlet. Other participants reported that they would also read while cooking dinner, and with other family members.

Finally, participants were asked about their experience with anyone who was instrumental in helping them bridge the gap between BCO and on-the-job training. Results showed that most participants felt that their Training Officers and Supervisors were key to helping them bridge classroom-based learning to on-the-job training through accountability and the ability to explain things. Results also showed that other participants felt that everyone, in some capacity, was beneficial to them during training. Participants that had negative experiences with their initial Training Officer were assigned to another Training Officer who they felt was instrumental in bridging classroom-based training to on-the-job training. The researcher noted that everyone that was instrumental to participants success worked with them at some point during on-the- job training.

Implications for Practice

The problem is that Gwinnett County E911 continues to have difficulty retaining new hires. One issue is the current lack of consistent training and remediation, which is supportive of Trainees, to guarantee successful completion of the E911 training program. Inconsistent and ineffective delivery of the training program curriculum during BCO and advanced weeks, along with on-the-job training, are the specific issues, leading to ambiguous application of correct policy and procedure among trainees. Results of the present study suggest that the one-week Basic Communications Officer course is currently the only successful strategy for trainees employed in Gwinnett County E911. Results of week one of the Basic Communications Officer Course provided significant evidence that learning occurred as a result of the training. The purpose of this mixed methods design study is to examine strategies and practices used by training program staff who are responsible for overseeing the training and release of new hires.

Considering the evidence of learning having occurred because of training during week one of the Basic Communications Officer Course, the same or similar structure can be implemented during the advanced weeks classroom-based training and during on-the-job training. Before implementing any curriculum, Training Officers and other members of the training program should be trained in how to effectively evaluate the training program both in the classroom and on-the-job. A training certification from an accredited program or a college degree may need to be a requirement for anyone delivering curriculum, instruction, and evaluation to new hires in E911 centers. With the implementation of a structured training program under

the four levels of The Kirkpatrick Model, I believe that Trainee retention will improve in both small and large centers which have training programs.

Although results of the BCO pre-evaluation and post-evaluation did not show concerns during week-one of the Basic Communications Officer Course, the On-The-Job Training Course Evaluation, and the Role Ambiguity tool for Gwinnett County E911 participants considered advanced classroom-based training and on-the-job training and showed that most participants did experience problems during training. Given these results, it could be assumed that implementation of current instruction during both training components did not support employee retention. To support this, at the start of week-one of classroom-based training, Gwinnett County E911 had 16 Trainees who completed training and received their POST certification. Following the completion of the week-one training, one participant resigned directly following the training. Three participants started on-the-job training then resigned, leaving 13 Trainees. During on-the- job training five employees either resigned or transferred to another unit to retain employment. In addition, there were two fully released employees who resigned from the job shortly following training, leaving a total of six employees out of 16.

The results of the current study also provided evidence that role ambiguity was apparent during implementation of the training program, starting with the advanced weeks classroom-based training. Also, due to the results of the advanced weeks classroom-based training and on-the-job training, it can be assumed that the design of advanced weeks classroom-based training and possibly the implementation of components of on-the-job training could have potentially influenced the inability to

retain Trainees who either resigned or transferred to other units.

Recommendations for Future Research

The current study was limited in some respects and can be developed further in numerous ways. After conducting research regarding the relationship between Basic Communications Officer on-the-job training and role ambiguity through the application of Kirkpatrick's 4-level evaluation model, I was able to conclude that the current design and implementation of advanced weeks classroom-based training and components of the on-the-job training does not support the retention of Trainees. Results are based on the analysis of surveys, test scores, DOR data analysis and analysis of participant interviews.

Data analysis showed that participants were happy with the first week of training. They felt that the instruction was good, the training was organized. This is further shown based on the significant improvement in scores between the classroom-based pre-test and post-test. Results reflect that learning occurred because of participants having participated in week-one of the classroom-based training. Simply stated, the difference in improvement from the pre-test to the post-test indicated that learning did not occur just by chance. Another possible reason for satisfaction during week-one was because it is mandatory that instructors be certified through POST Council to teach the curriculum developed by Post Council. To become a certified instructor, POST IT students are required to create a lesson plan and teach it to other students in front of a senior instructor who grades them. One recommendation would be to create structured training for trainees which is taught by E911 certified instructors during the advanced weeks of BCO.

Training outside of week-one of classroom-based training showed different results, most of which was indicative of role ambiguity. Lack of communication between instructors in the classroom and on-the-job, unstructured and lack of curriculum, and the failure to communicate a clear vision to trainees possibly contributed to less satisfaction, and the inability to retain many of the current research participants. To remedy this, I recommend that Training Officers be required to participate in certified classroom-based training which would provide them with the necessary tools to support their roles as trainers. In addition, continuing education should be completed annually to allow them to stay abreast of changes and challenges which may affect trainees, hence allowing them to support the needs of trainees. Another recommendation would be that all Training Officers attend POST IT to become certified instructors who are trained to teach novice adult learners in a way that they will understand.

Participation in the classroom during BCO would allow Training Officers to understand what is being taught to trainees before they are assigned to them, hence a reduction in confusion between what they are told in the classroom and on-the-job. There is a gap between training that takes place in the classroom and training that occurs on- the-job. Bridging the gap by ensuring that those delivering the training, (classroom and on-the-job) can do so effectively could improve morale, reduce ambiguity, and support retention.

The current research study did not include a control group, hence no way to compare results to other similar groups of participants. In the future, the use of a control group could be beneficial to provide more evidence regarding the impact of training program delivery on training outcomes and trainee retention. Another

recommendation for future research would be to consider POST week classroom-based training, advanced weeks classroom-based training, and on-the-job training as three separate entities in order to determine where the impact is greatest.

Due to the inconsistent results between the quantitative and qualitative data related to participants experiences while participating in the training program, it is recommended that different methods be utilized to investigate the impact of the delivery of training program curriculum, both classroom-based and on-the-job. In addition, it is recommended that research be done to determine the impact of the delivery of training delivered by Training Officers, as related to trainee satisfaction and retention. Finally, I would recommend the creation of a survey that considers advanced weeks classroom- based training separate from on-the-job training. A survey could also be given at the start of advanced weeks classroom-based training and then at the conclusion of the training, followed by the same at the start and conclusion of on-the-job training.

Conclusions

The overall goal of the current research study was to determine if there was a relationship between Basic Communications Officer on-the-job training and role ambiguity through the application of the Kirkpatrick Model. The results of both quantitative and qualitative data provided evidence that the current design and implementation of the training program does not support trainee retention. This information can be useful to E911 centers who utilize training program evaluation. Although there was significant improvement between the Pre-BCO and Post-BCO Course evaluations, On-the-Job Training Course Evaluation and Role Ambiguity

tool, as well as participant interviews showed that most participants did experience problems during training. Finally, results of the study provided evidence that the use of effective training program evaluation can be useful in E911 centers who value their investment in new employees and want to design training supportive of successful outcomes. This information can be used by executive leadership, directors, managers, and Training Coordinators who oversee training programs as support for the use of effective training program evaluation.

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Appendix A:

Pre-BCO Course Evaluation

Pre-BCO Course Evaluation

Below are numbered statements regarding your training experience. Please read each one and indicate to what extent you agree or disagree with each statement.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1. I am motivated to learn the material in this course. (PTM)	1	2	3	4	5
2. I have avoided computers because I don't understand them. (CANX)	1	2	3	4	5
3. I don't feel that I am a part of the computer revolution that is going on. (CANX)	1	2	3	4	5
4. I will try even harder if I don't understand some part of this course. (PTM)	1	2	3	4	5
5. I still have a fear of computers even though they are valuable and necessary. (CANX)	1	2	3	4	5
6. Computers are strange and frightening. (CANX)	1	2	3	4	5
7. I will put more effort into this course than most people. (PTM)	1	2	3	4	5
8. I feel left out of the large group of people that are learning about using computers. (CANX)	1	2	3	4	5
9. I am willing to exert considerable effort to learn the content of this course. (PTM)	1	2	3	4	5

Scales (shown in parenthesis following each evaluation item):

Pre-training Motivation Scale (PTM)

Computer Anxiety Scale (CANX)

Appendix B:

Post-BCO Course Evaluation

Post- BCO Course Evaluation

Please fill in the blank with your employee number and then read the numbered statements regarding your training experience. Indicate to what extent you agree or disagree with each statement.

(Reminder: Your employee number is for tracking purposes only. All responses will remain confidential.)

Employee number _____

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1. The course content was clear. (CONTENT)	1	2	3	4	5
2. I was able to navigate through the course content in an acceptable manner. (FORMAT)	1	2	3	4	5
3. I could easily understand the course content. (CONTENT)	1	2	3	4	5
4. I believe that a good variety of displays (text, pictures, graphs, etc.) were used. (FORMAT)	1	2	3	4	5
5. I put a lot of effort into this training course. (PE)	1	2	3	4	5
6. The learning was enhanced by the graphics. (pictures, graphs, etc.). (FORMAT)	1	2	3	4	5
7. Overall, the training course was user friendly. (EQU)	1	2	3	4	5
8. I tried very hard during this training course. (PE)	1	2	3	4	5
9. The instructional material was comprehensive. (CONTENT)	1	2	3	4	5
10. Overall, I found the course material easy to use. (EQU)	1	2	3	4	5
11. It was important to me to do well in this training course. (PE)	1	2	3	4	5
12. The content of the course material helped	1	2	3	4	5

me to learn important concepts. (CONTENT)					
13. The course was enhanced by the use of sound and voice. (FORMAT)	1	2	3	4	5
14. I didn't put much energy into this training course. (PE)	1	2	3	4	5
15. This course will help me improve my performance on the job. (UTILITY)	1	2	3	4	5
16. The text on the instructor's computer screen was easy to read. (FORMAT)	1	2	3	4	5
17. I believe that the course content is relevant to my job. (UTILITY)	1	2	3	4	5
18. I didn't try very hard to do well in this training course. (PE)	1	2	3	4	5
19. I was able to complete the training course without additional assistance from the instructor. (EOU)	1	2	3	4	5
20. Overall, I found the content of the course valuable. (OVERALL)	1	2	3	4	5
21. Overall, I was very satisfied with the presentation of the content of the training course. (OVERALL)	1	2	3	4	5
22. Overall, I had a very positive learning experience. (OVERALL)	1	2	3	4	5
23. If given the opportunity to receive additional course training, I would gladly do so. (INTENT)	1	2	3	4	5
24. I plan to attend additional training course offered by GCPD. (INTENT)	1	2	3	4	5

Scales (shown in parenthesis following each evaluation item):

Perceived Effort (PE)

Reactions

Content Sub-scale (CONTENT)

Format Sub-scale (FORMAT)

Ease of Use Sub-scale (EOU)

Utility Sub-scale (UTILITY)

Overall Satisfaction (OVERALL)

Intent to Take Further Training (INTENT)

Appendix C:

BCO Pre-Test

Gwinnett County Police Department
Basic Communications Officer - Pre-test

1. Which of the following is the correct definition of a Communications Officer?
 - a. Any person who receives, processes, or transmits public safety information and dispatches law enforcement officers, firefighters, and medical personnel.
 - b. Any person who dispatches law enforcement officers, firefighters, and emergency personnel.
 - c. Any person employed by a local governmental agency to receive, process, or transmit public safety information and dispatch law enforcement officers, firefighters, medical personnel, or emergency management personnel.
 - d. Any person employed by state and local governmental agency to receive, process, or transmit public safety information.

2. There are many areas of liability in public safety communications. The three that have the greatest potential for civil lawsuits are:
 - a. Creation of special relationships, failure to respond in a timely and appropriate manner, and negligence.
 - b. Acting under the color of law, intent to deprive and failure to act.
 - c. Conspiracy, criminal intent and acting outside the scope of employment.
 - d. Gross negligence, simple negligence, and administrative liability.

3. The categories of legal liabilities of concern to a Communications Officer are:
 - a. Civil
 - b. Criminal
 - c. Administrative
 - d. All the above

4. The role of a Communications Officer in crisis intervention is to:
 - a. Diffuse intense emotions
 - b. Solve the caller's problems
 - c. Judge the caller's values
 - d. Shared related personal experiences

5. The most important piece of information a Communications Officer should obtain when taking a call is:
 - a. Caller's phone number
 - b. Primary problem
 - c. Location of incident

d. Caller's name

Appendix D:

BCO Post-Test

GWINNETT COUNTY POLICE COMMUNICATIONS BCO CLASS-
FINAL TEST

Name:

Date:

Select the most correct answer.

1. The transmission of an idea from the mind of one to the mind of another, with understanding, is the definition of
 - a. Perception
 - b. Message
 - c. Communication
 - d. Channel

2. Which of the following is the correct definition of a Communications Officer?
 - a. Any person who receives, processes, or transmits public safety information and dispatches law enforcement officers, firefighters and medical personnel
 - b. Any person who dispatches law enforcement officers, firefighters and emergency personnel
 - c. Any person employed by a local government agency to receive, process or transmit public safety information and dispatches law enforcement officers, firefighters, medical personnel or emergency management personnel
 - d. Any person employed by state and local government agency to receive, process or transmit public safety information

3. The role of a Communications Officer in crisis intervention is to:
 - a. Diffuse intense emotions

- b. Solve the caller's problems
 - c. Judge the caller's values
 - d. Share related personal experiences
4. There are four types of crisis. Which type of crisis would be indicated by a person who is experiencing severe depression?
- a. Interpersonal
 - b. Intrapersonal
 - c. Situational
 - d. Maturational
5. Which of the following type of crime carries the most severe levels of punishment:
- a. Felony
 - b. Misdemeanor
 - c. Tort
 - d. In-progress
6. A hazard is defined as:
- a. A dangerous event that does not result in a request for state/federal assistance
 - b. A dangerous event or circumstance that has potential to lead to an emergency or disaster
 - c. A dangerous event that causes a significant human and economic loss and demands a crisis response beyond the scope of any single agency or service
7. Terrorism is defined as a U.S. citizens carrying out acts of terror against federal, state or local governments and targets.

- a. Domestic
 - b. International
 - c. Intercontinental
8. Terrorism is defined as citizens of other governments living or coming to the United States to carry out acts of terrorism against targets within the U.S. or against U.S. targets in other countries.
- a. Domestic
 - b. International
 - c. Intercontinental
9. Of the four classifications of fires, what is a Class B fire?
- a. Combustible metals
 - b. Ordinary combustibles
 - c. Flammable liquids
 - d. Energized electrical equipment
10. Which of the following is not a criteria for an emergency call of service?
- a. Weapons
 - b. Injuries
 - c. In-progress
 - d. Neighborhood
 - e. Drugs/alcohol involved
11. Radio broadcasts should normally not exceed _____ seconds with a break or pause.
- a. 25

b.30

c.45

d.60

12. Which stages of the stress reactions is described as "reactions become specialized in an attempt to bring the effects of the stress factor within tolerable levels" and is sometimes referred to as "fight or flight?"
- a. Alarm
 - b. Resistance
 - c. Exhaustion
 - d. Middle
 - e. Late
13. Which state of the stress reaction is described as when "the defenses of all systems collapse and the stress effects run wild?"
- a. Alarm
 - b. Resistance
 - c. Exhaustion
 - d. Middle
 - e. Late
14. The Americans with Disabilities Act requires all emergency services to have a Telecommunication Device for the Deaf installed at their center. They are required to have the TTY connected to a separate seven-digit phone line from the voice line:
- a. True
 - b. False

15. For a suit based on the Theory of Negligence to succeed, four elements must be present. These elements are a legal duty to conform to a standard of conduct; a breach of this standard; a legally attributable connection between the conduct and the resulting injury; and some loss or damage flowing to the plaintiffs legally protected interest as a result of the alleged breach of their duty.
- a. Special relationship
 - b. Causal connection
 - c. Intentional tort
 - d. Causative association
16. Which of the following is a criteria for certification of POST as a Communications Officer?
- a. be a U.S. citizen
 - b. be 18 years of age
 - c. have less than three felony convictions in the past five years
 - d. both A & B
 - e. All of the above
17. The hysteria threshold can be reached by:
- a. Repetitive persistence
 - b. Telling the caller to shut up
 - c. Telling the caller that if he/she does not calm down you will not help them
 - d. Hanging up if the caller gets out of control
 - e. Using the echo principle
18. Closed-ended questions are questions which provide you with very specific short answers.

- a. True
 - b. False
19. In a tiered EMS system, Tier 1 is:
- a. BLS units
 - b. ALS units
 - c. AMS units
 - d. First responders
20. Which of the following is considered a major responsibility of a communications officer?
- a. safety of the public
 - b. safety of field units
 - c. enhancement of professional image
 - d. all of the above
 - e. none of the above
21. According to O.C.G.A. 35-8-23, the term "communications officer" means and includes any person employed by a local government agency to and public safety information and dispatch law enforcement officers, firefighters, medical personnel, or emergency management personnel.
- a. Answer, transfer, and pass along
 - b. Receive, process, and transmit
 - c. Send, receive, and transfer
 - d. Answer, disseminate, and communicate
22. Lawsuits brought under 42 USC 1983 against a communications officer alleged that the communications officer

- a. While acting under the scope of their employment intentionally violated an individual's constitutional rights
 - b. Violated an individual's constitutional rights while acting under the color of law
 - c. Conspired with others to violate the individual's constitutional rights while acting under the color of law
 - d. All of the above
 - e. None of the above
23. Which of the following is a technique used for active listening?
- a. Typecasting
 - b. Second guessing
 - c. Assumptions
 - d. Feedback
24. The "condition of being actually or potentially subject to an obligation; condition of being responsible for a possible or actual loss, penalty, evil expense or burden; a condition which creates a duty to perform an act immediately or in the future" is the definition of:
- a. Immunity
 - b. Probable cause
 - c. Negligence
 - d. Liability
 - e. Bad faith
25. The good faith defense can be successfully utilized when a communications officer:
- a. Acts according to policy

- b. Acts according to orders from the superior
 - c. Acts according to legal counsel's advise
 - d. All of the above
 - e. None of the above
26. An example of a factor which can complicate the communications process is:
- a. Passing on information regarding a call at the same address two nights earlier
 - b. Repeatedly dispatching to a payphone from which numerous hang-ups have been received
 - c. Delaying the dispatch of units to a medical complaint from a person you have previously received unfounded complaints.
 - d. Speaking slowly and clearly to an elderly person with obvious hearing loss.
27. When answering an incoming call, if there is silence on the line, the proper procedure is to verbally identify your agency and then:
- a. Assume you have been disconnected and hang up
 - b. Send a TTY message to see if the caller is using a TTY
 - c. Speak very softly into the phone
 - d. All of the above
 - e. None of the above
28. In what order of importance, identify the four major points, which must be covered on every call.
- a. Who, What, Where, When
 - b. What, Where, When, Who

- c. Where, What, Who, When
 - d. Where, What, When, Who
29. According to the SMCR concept, completes the "Loop of Understanding."
- a. Feedback
 - b. Interpersonal Communications
 - c. Telecommunications
 - d. All of the above
 - e. None of the above
30. Crisis can be defined as:
- a. Any emotional reaction
 - b. Any serious interruption in the steady state
 - c. A state of emotional
turmoil
 - d. A&B
 - e. B&C
31. Open-ended questions are questions, which provide you with a lot of information and cannot usually be answered yes or no.
- a. True
 - b. False
32. The process of repetitive persistence is:
- a. Shouting back at the caller until they calm down
 - b. Repeating instructions/questions in exactly the same words and tone of voice until the caller calms down
 - c. Identify the emotional state of the caller

- d. Speaking softly as the caller will have to be quiet to hear you
33. "Repeating the important parts of a radio broadcast" to ensure that the units receive the pertinent information is a technique referred to as _
- a. Repetitive persistence
 - b. Clipping
 - c. Feedback
 - d. Echo principle
34. During a Voice Carry Over (VCO) call, the communications officer's role is to
- a. Listen to the caller
 - b. Read the caller's message and then talk to the caller using the headset
35. Which type of crisis would be indicated by a person who is experiencing crisis as the result of debilitating accident?
- a. Interpersonal
 - b. Intrapersonal
 - c. Situational
 - d. Maturational
36. During the Hearing Carry Over (HCO) call, the communications officer's role is to
- a. Listen to the caller and then type your response
 - b. Read the caller's message and then talk to the caller using the handset
37. Public safety communications officers are trained to use special codes designed by their agency. When should you not use these codes?
- a. Sending teletype messages

- b. Dealing with the public
 - c. Handling multi-agency operations
 - d. All of the above
38. What personal techniques will affect radio communications?
- a. Voice levels
 - b. Word choice and level of excitement
 - c. All of the above
 - d. None of the above
39. When taking a structure fire call, it is important to always have the caller stay on the phone with you so you may ask all the necessary questions.
- a. True
 - b. False
40. The three phases of the dispatch function in proper order are:
- a. Call receiving, post-dispatch, activities, patient transport
 - b. Call receiving, interrogation, pre-arrival medical instructions, call dispatch, activities
 - c. Call receiving, interrogation, unit notification, medical facility notification
 - d. Call receiving, dispatch, post-dispatch activities
41. If the caller is trapped in a burning building, the communications officer should advise them to:
- a. Jump to safety and rescue others
 - b. Stuff wet towels under doors and hang sheet from window
 - c. Stay low and breathe through a wet cloth

d.A&B

e.B&C

42. What is the best technique for taking the description of a vehicle to ensure that you obtain the necessary information?

a. VEHICLE

b.CYMBALS

c. AUTOMOBILE

d. None of the above

43. Hazardous materials are any substances that when not properly contained may pose a risk to health, ----- oenvironment.

a. Safety, property

b. People, animals

c. Traffic, roadways

44. Which of the following is the best method for advising responders that there are "no weapons" involved in this call:

a. No weapons

b. Negative weapons

c. Possible weapons

d. No report of weapons at this time

45. Symptoms are defined as:

a. Characteristics described by patient about themselves

b. Characteristics described by callers about patients

c. Signs of respiratory distress

d. Signs of difficulty breathing

46. A disaster is defined as:

- a. A dangerous event that does not result in a request for state/federal assistance
- b. A dangerous event or circumstance that has potential to lead to an emergency or disaster
- c. A dangerous even that causes a significant human and economic loss and demands a crisis response beyond the scope of any single agency or service

47. Which of the following is the correct order of request for backup starting from least urgent to most urgent?

- a. Officer needs assistance, send another unit, officer needs backup, officer down
- b. Officer down, officer needs backup, officer needs assistance, send another unit
- c. Officer needs assistance, officer needs backup, officer down, send another unit
- d. Send another unit, officer needs assistance, officer needs backup, officer down

48. An emergency is defined as:

- a. A dangerous event that does not result in a request for state/federal assistance
- b. A dangerous event or circumstance that has potential to lead to an emergency or disaster
- c. A dangerous event that causes a significant human and economic loss and demand a crisis response beyond the scope of any single agency or service

49. Signs are defined as:

- a. Characteristics described by patients about themselves
 - b. Characteristics described by callers about patients
 - c. Signs of respiratory distress
 - d. Signs of difficulty breathing
50. What is the correct order of the phases of emergency management?
- a. Preparedness, mitigation, response, recovery
 - b. Response, recovery, mitigation, preparedness
 - c. Mitigation, preparedness, recovery, response
 - d. Mitigation, preparedness, response, recovery

Appendix E:

Daily Observation Report (DOR)

Daily Observation Report

Name: _____ CO Number: _____ Date: _____
 CTO: _____ Cycle: A B C D Hours: _____

Unacceptable 1 2 3 4 Acceptable 5 Exceeds 6 Not Observed
 When documenting performance, utilize the SEG's for each category

ATTITUDE

1. 1 2 3 4 5 6 Professionalism and Attitude toward Job
 2. 1 2 3 4 5 6 Acceptance of Feedback/Conduct with Peers and Supervisors

CAD

3. 1 2 3 4 5 6 Knowledge of Call Entry Screen
 4. 1 2 3 4 5 6 CAD Commands – proficiency and application
 5. 1 2 3 4 5 6 Location Verified and Entered Correctly

EMD

6. 1 2 3 4 5 6 Key Questions/Answers Obtained (Including proper order)
 7. 1 2 3 4 5 6 Appropriate Card / Response Code Applied
 8. 1 2 3 4 5 6 PAI / PDI's Given

OVERALL CALLTAKING KNOWLEDGE AND PERFORMANCE

9. 1 2 3 4 5 6 Knowledge of Departmental Policies/Procedures
 10. 1 2 3 4 5 6 Knowledge/Application of Signals and Codes
 11. 1 2 3 4 5 6 Knowledge of Territory and Mapping Resources
 12. 1 2 3 4 5 6 Listening/Comprehending/Articulation
 13. 1 2 3 4 5 6 Ability to Multi-Task (Including Typing Skills while Caller is Speaking)
 14. 1 2 3 4 5 6 Problem Solving & Decision Making
 15. 1 2 3 4 5 6 Call Taking Performance – Non-Stress
 16. 1 2 3 4 5 6 Call Taking Performance – Stress
 17. 1 2 3 4 5 6 Interview and Interrogation Skills
 18. 1 2 3 4 5 6 Caller Control
 19. 1 2 3 4 5 6 Organization of Text
 20. 1 2 3 4 5 6 Spelling/Grammar
 21. 1 2 3 4 5 6 Knowledge of Phone System
 22. 1 2 3 4 5 6 Calls Processed in a Timely Manner
 23. 1 2 3 4 5 6 Retention of Performed/Learned Skills

CO Signature: _____ Date: _____
 CTO Signature: _____ Date: _____
 SCO Signature: _____ Date: _____

Appendix F:

Gwinnett County Police Department

Communications Division

Call Taking Release Test #1

Gwinnett County Police Department

Communications Division

Call Taking Release Test #1

Maximum Time Limit: 2 Hours

NAME:

DATE:

Provide student with: Map Book & EMD Cards

Revised 02/27/2020

Circle the most correct answer (all worth 1 pt. each unless otherwise specified)

1. When taking an armed robbery call (JO), the call taker should quickly relay what information to the dispatcher: (SOP 200.27)
 - A. Location of the call and a complete description of the perpetrator.
 - B. Basic information, location, DOT, complainant name and callback.
 - C. Verbally relay all of the information to the dispatcher.

2. The victim reporting an armed robbery should be advised to: (SOP 200.27)
 - A. Contact the manager and have them en route.
 - B. Secure the scene, lock doors, and preserve fingerprints.
 - C. Remain calm and make an inventory of items taken.

3. A just occurred call is considered to have happened: (SOP 200.28)
 - A. In the last five minutes.
 - B. In the last ten minutes.
 - C. In the last fifteen minutes.

4. A call taker should advise a rape victim to: (200.29)
 - A. Not shower or bathe.
 - B. Write down a description of the perpetrator for the officer
 - C. Go immediately to the hospital.

5. When trying to calm a hysterical caller, repetitive persistence should be used.

Repetitive persistence is: (SOP 300.02)

- A. Trying to talk louder than the caller.
 - B. Using the same sentence structure in the same identical way and tone.
 - C. Whispering softly so the caller will have to calm down.
6. The Detention Center has medical personnel on duty 24 hours a day, therefore, if a request for ambulance is received from them, the CO should: (SOP 600.22)
- A. Offer pre-arrival and post-dispatch instructions.
 - B. Not offer pre-arrival and post-dispatch instructions.
 - C. Offer pre-arrival instructions only in the event of cardiac or respiratory arrest.
7. How would you force a call to the in-house officer? (BCO Advanced Weeks)
- A. Type "in-house" in the text of the call
 - B. Type INH in the DAREA field of the CAD entry screen
 - C. Type INH in the Type field of the CAD entry screen
8. If a signal 63 is received by telephone the call taker will: (SOP 500.11)
- A. Immediately transfer the call to the dispatcher console
 - B. Immediately advise the SCO of the call, gather information, and transfer the caller to the dispatcher console

- C. Obtain information, relay information to the dispatcher, and gather additional information
9. When receiving a report of a burglary alarm from the alarm company, the call taker should ascertain: (BCO Advanced Weeks)
- A. If the alarm is from a business or residence, premise phone number, audible or silent, and exact location of the alarm.
 - B. If the alarm company has made contact with the premise before dispatch.
 - C. If this is a repeat alarm.
10. Who is responsible for conducting a search of the premises in the event of a bomb threat? (SOP 200.32)
- A. Police bomb squad personnel
 - B. Manager, owner or occupants of the location.
 - C. Firefighters
11. Responding police personnel will be involved with evacuating the premises if: (SOP 200.32)
- A. A device is located or time of detonation is given.
 - B. Requested by owner of business.
 - C. The K-9 unit needs to search the building.

12. When a hang up call is received from a BST quick service number displaying an address, the call should be: (SOP 200.12)
 - A. Entered as a closed call.
 - B. Entered as a closed call with a case number.
 - C. Dispatched to the address displayed.

13. The Ultratec Superprint 4425 TDD Machine is used for communicating with the hearing impaired. The Communications Officer and the person they are talking to must: (SOP 200.21)
 - A. Type at the same time.
 - B. Take turns typing.
 - C. Press the ESC key after each message.

14. When a citizen calls from another jurisdiction requesting emergency police service the call taker should: (SOP 200.10)
 - A. Refer the caller to the proper police agency and provide them with the number.
 - B. Relay the caller to the proper police agency immediately.
 - C. Take the information and relay it to the proper police jurisdiction.

15. In situation where no department action can be taken the caller should:
(SOP 200.02)
- A. Apologize politely and explain that we are unable to help.
 - B. Refer the caller to the Georgia State Patrol.
 - C. Provide the caller with acceptable alternatives.
16. In order to calm the caller and obtain needed information the call taker may have to exercise various forms of: (SOP 200.03)
- A. Voice control and positive re-enforcement.
 - B. Repetitive persistence and personality projection.
 - C. Voice projection and control.
17. What should be done if the complainant wishes to remain anonymous?
(SOP 200.04)
- A. List the name from the ALI screen under the complainant section of the incident entry screen.
 - B. Place "Mr." Or "Ms." To identify gender and "Refused" under the complainant section.
 - C. Place "E911" Refused" under the complainant section.
18. If the caller speaks a language other than English, the call taker should:
(SOP 200.22)

- A. Attempt to identify the language, then conference the call to a departmental interpreter.
 - B. Advise them to put someone on the phone that speaks English.
 - C. Should not spend too much time attempting to identify the language, but conference the call to Language Line Services.
19. 'When using call cards and a call is received for both Police and Fire/EMS service, which type card should be used? (SOP 900.03)
- A. Red Call Card
 - B. Blue Call Card
 - C. Two Part Card
20. If the person reporting a structure fire is calling from inside the burning structure, the call taker should: (SOP 200.43)
- A. Obtain the address, and then assess the caller's immediate danger, instructing the caller to leave the structure and call back from a neighboring telephone as soon as possible.
 - B. Instruct the caller to get out immediately and call back from a neighboring telephone as soon as possible to advise on the address.
 - C. Obtain the location, and then instruct the caller to move to a safe location in the house and wait until the units arrive.

21. It is the policy of GCPD to transport stranded persons of serious situations only. This includes: (SOP 200.36)
- A. Persons who do not wish to pay for transportation
 - B. Women, children, or persons unable to reach a telephone
 - C. Persons to assist other police agencies
 - D. B&C
22. In extreme weather conditions a fire engine may be dispatched to assist with an animal locked in a vehicle upon the approval of:
- A. Police Sergeant
 - B. Fire Command Staff
 - C. SCO on duty
23. When entering a Private Impound or a repossession of a vehicle as "enter advised" the VIN must be entered using:
- A. The complete 17 digit VIN
 - B. The last 6 digits of the VIN
 - C. The first 6 digits of the VIN
25. On a hazardous material incident after ascertaining the location, the call taker should determine:
- A. What material is involved **and if** the material is spilled, leaking or burning

- B. What kind of container is the material in and is it properly marked
 - C. Is the material powder, liquid or gaseous.
25. If a report of a chase in progress is received over the phone from another agency the call taker should:
- A. Immediately verbally relay the information to the appropriate console, and then remain on the line to obtain further information.
 - B. Immediately transfer the call to the appropriate console, verbally announcing the call to the dispatcher.
 - C. Immediately obtain pertinent information and enter the call for dispatch while continuing to enter updated information as quickly as possible.
26. Where is the TDD machine located inside the Communications Center?
- A. Between WS and CS radio
 - B. Between SCO and SC02
 - C. In the back of the room by SC03 and SC04
 - D. Next to SS dispatch
27. The county has a fire mutual aid agreement with the City of Loganville. Several streets covered by this agreement will verify in CAD to show

"LF" for Loganville Fire. When you, as a calltaker, receive a EMS call indicating LF that verifies in CAD, you should:

- A. Transfer the call to the appropriate agency
- B. Notify the fire dispatcher verbally
- C. Enter the call as normal
- D. Notify the supervisor to send a FDPIO page

28. The Communications Section is responsible for monitoring the alarm system of

- A. All businesses and private residences in Gwinnett County
- B. All businesses and private residences in Gwinnett County that have been issued the proper alarm permit.
- C. The on-site evidence storage
- D. The evidence refrigerator

29. When a citizen calls in requesting to speak with a Police Officer, you can provide the following information to the caller.

- A. The Officers home phone number
- B. The Officers cell phone number
- C. The Officers county issued cellphone number
- D. None of the above

30. The operational ready condition OPCON 5 means:
- A. Severe emergency, requiring immediate police response
 - B. The possibility of a severe emergency developing
 - C. Normal day to day operations
 - D. None of the above
31. When the emergency phone in the elevator at HQ is activated it will ring in on what number?
- A. 911
 - B. 770-513-5911
 - C. 770-513-5700
 - D. 770-513-5761
32. When a citizen calls the 911 center requesting a copy of a 911 call they should be referred to.....
- A. Open Records Department
 - B. Communications Manager
 - C. The Communications Manager Administrative Assistant
 - D. An SCO or CSS
33. When an Officer calls the 911 center requesting a copy of a 911 call that they handled, which they do not need immediately, they should be referred to _____

- A. Open Records Department
- B. Communications Manager
- C. The Communications Manager Administrative Assistant
- D. An SCO or CSS

Define the following:

- 34. ANI-
- 35. ALI-
- 36. GCIC-
- 37. DOT-
- 38. NCIC-

List the standard abbreviations for the following:

- 39. In front of -
- 40. Across from -
- 41. Towards -

Apply the correct signal to the following situations:

- 42. _____ A female complainant reports that she hears shouting, obscene language, crashes, and thuds from the apartment next to hers.

43. _____ The emergency room clerk reports that they are treating a patient who was beaten in a fight at the Meadow Creek High School football field.
44. _____ A complainant reports that her car was damaged when a shopping cart rolled into it in a parking lot.
45. _____ A man reports that his barn was broken into overnight and several saddles were stolen.
46. _____ A convenience store clerk reports that a man has been standing outside by the payphone for the last two hours, just smoking and watching customers come in and out.
47. _____ A passing motorist reports several pieces of lumber on the interstate in the lane next to the median wall.
48. _____ A motorist reports that a vehicle ran off the road during a heavy rain storm and that the driver can't get out because the car is wedged down.
49. _____ The bartender at Chili's reports that it is closing time and that there is an intoxicated person at the bar who can't understand that he has to leave.

50. _____ A convenience store clerk reports that a man wearing a mask just walked into the store, demanded money, and ran away as she was making the 911 call. He told her he had a gun, but she never saw it.
51. _____ The manager at Kroger reports that several vehicles are parked in the fire lane.
52. _____ Georgia Power requests that a police officer be sent to meet with one of their crews to block traffic while they run a power line across Hwy 124.
53. _____ A pedestrian is hit by a truck on Buford Dam Road and isn't getting up.
54. _____ A motorist reports that there is a man at Best Friend Park that is flashing himself to women as they approach the restroom.
55. _____ A park ranger is reporting a vehicle that has been left at the Buford Dam parking lot for over a week.
56. _____ Wells Fargo reports a silent panic alarm at a residence on Bush Ivey Road.

57. _____ An unknown subject reports that he has planted a bomb in the Post Office in the Mall Corners Shopping Center.

Using the EMD cards, list the correct card that you would go to and the response determinant for the following scenarios:

58. A man reports that his wife is 4 months pregnant and that she has been passing blood, they were getting ready to go to the hospital and now she is feeling dizzy and is having abdominal pain.

CARD# DETERMINANT

59. A teenaged boy says that his mother has been sick with the flu. She has a high fever and has been vomiting. She has now passed out in the bathroom and hasn't come to.

CARD# DETERMINANT

60. A man reports that he has a compressed disk for which he has been seeing a doctor for several months. Now he can't get up and walk around because of the pain. He wants to go to the hospital.

CARD# DETERMINANT

61. A female calls and advises that she has cut her hand on a glass while washing dishes. The cut is bleeding pretty good but it is not spurting. She has no medical history at all.

CARD# DETERMINANT

62. A woman reports that she doesn't feel well; she has been feeling bad all morning and now her face and arm on the right side are numb. You have trouble understanding her because her words are slurred but she understands you and tries to answer all of your questions.

CARD# DETERMINANT

63. A woman reports that her 11 year old has had the flu and she gave him some medicine that her pediatrician has prescribed but not the child has large red bumps all over his body and is crying because they itch so badly.

CARD# DETERMINANT

64. A man reports that he is having trouble breathing and is sweating profusely. He advises he had been out in the yard doing yard work when he started experiencing exhaustion and now he is having problems breathing.

CARD# _____ DETERMINANT _____

65. A two-year old child fell from a deck that is approximately 15 feet off the ground, the child has cuts and bruises on the left side of his head, face and chest and is screaming hysterically.

CARD# DETERMINANT

66. A 19-year-old female is having severe abdominal pain and has already fainted once.

CARD# DETERMINANT

67. A passing motorist reports a car on the side of the road with the driver slumped over the wheel. The motorist did not stop and will not go back.

CARD# DETERMINANT

Using a zoned Aero Atlas map, zone the following locations as you would for Police dispatch. (could be more than one zone or OJ- If OJ, list jurisdiction).

- 68. _____ Gravel Springs Road @I-85

- 69. _____ Buford Hwy @ Buford Drive

- 70. _____ Azalea Drive @ Braselton Hwy

- 71. _____ Mall of Georgia

- 72. _____ South Gwinnett High School

- 73. _____ Rockbridge Road@Webb Pkwy

- 74. _____ Mountain Industrial Blvd & Hugh Howell Rd.

- 75. _____ Highpoint Road @ Oak Road

- 76. _____ Lawrenceville Hwy @ Jimmy Carter Blvd

- 77. _____ Ross Road @ Annistown Rd.

True or False

78. True/ False. When a citizen requests your name and CO number you are not required to provide the caller with the information.
79. True/ False. All official documents will be shredded prior to being discarded.
80. True/ False. The Communications Shift Supervisor/ Senior Communications Officers are authorized and will be responsible for releasing current routine status information to the news media at all times.

Practical Exercises: Four practical exercises will be conducted by a SCO. Each Exercise is worth (5) five points. Each task must be completed without assistance or be considered unacceptable. The SCO must initial each exercise as Acceptable or Unacceptable.

TDD

**** Note *** The CO is allowed to refer to the written instructions posted by the TDD machine but assistance from the SCO will constitute failure to complete this practical exercise.*

1. *An SCO should dial the deaf phone so that the automatic answer feature is activated. Then have the CO put the telephone back into "Autoanswer"*

Acceptable _____ *Unacceptable* _____

2. *The trainee should make an outgoing call on the TDD to a number in the Communications Center.*

Acceptable _____ *Unacceptable* _____

Call Conference & Transfer

3. *The SCO should dial 9-1-1 and have the CO Answer. The CO should then conference the call to a seven digit number within the Communications Center such as*

770-513-5700.

Acceptable _____ *Unacceptable* _____

4. *The SCO should dial in from an administrative line and have the CO answer the grey phone at their position. The CO should then transfer the call to an extension within the center.*

Acceptable _____ *Unacceptable* _____

Appendix G:

Interview Questions Guide

Interview Questions Guide

Q1: What is the level of trainee satisfaction after completing the training with aspects of the training content, delivery, and applicability in the workplace?

Q2: What is the level of performance mastery of the training content?

Q3: To what degree are trainees applying the skills learned in training back on the job?

Q4: To what extent does training affect trainees' perception of role ambiguity?

1. Based on your experience, what would you say are the strengths of this training program? (Q1)
2. What would you say are the weaknesses of this training program? (Q1)
3. Describe for me your best experience with your training instructors. (Q1)
4. Describe your worst experience with your training instructors? (Q1)
5. Tell me about your experience with applying what you learned in BCO to on-the-job training? (Q1)
6. Tell me what you think about the quality/usefulness of the training materials that were provided to you during training? (Q1)
7. If I could observe you during any time that you had to take a test or quiz, what types of behavior would I see? (Q2)
8. Tell me about your experiences with testing in this program? (Q2)
9. Tell me about how you felt about your test scores during training? (Q2)

10. Tell me about what you are best at because of your training? (Q2)
11. In general, tell me about handling calls in the E911 center following BCO training? (Q2)
12. Tell me about written SOP policy as related to training procedures? (Q3)
13. Having participated in classroom-based training, tell me what your experience was like bringing that knowledge into on-the-job training? (Q3)
14. Tell me about the skills learned in training to date that helped you most? (Q3)
15. What skills learned during training was least beneficial? (Q3)
16. Tell me about your role as a Communications Officer trainee? (Q4)
17. Tell me about the calltaking phase of the training program? (Q4)
18. If I shadowed you during a normal day of training in E911, what would I see? (Q4)
19. Tell me what a typical day of studying looks like for you? (Q4)
20. Describe your experience with anyone who was instrumental in helping bridge the gap between BCO and on-the-job training? (Q4)

Appendix H:
On-The-Job Training Course Evaluation

On-The-Job Training Course Evaluation

Please fill in the blank with your employee number and then read the numbered statements regarding your training experience. Indicate to what extent you agree or disagree with each statement.

(Reminder: Your employee number is for tracking purposes only. All responses will remain confidential.)

Employee number _____

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1. The training content was clear. (CONTENT)	1	2	3	4	5
2. I was able to navigate through training content in an acceptable manner. (FORMAT)	1	2	3	4	5
3. I could easily understand the training material. (CONTENT)	1	2	3	4	5
4. I believe that a good variety of displays (maps, pictures, CAD, etc.) were used. (FORMAT)	1	2	3	4	5
5. I put a lot of effort into on-the-job training. (PE)	1	2	3	4	5
6. The learning was enhanced by the hands-on use of CAD. (EOU)	1	2	3	4	5
7. Overall, on-the-job training was learner friendly. (OVERALL)	1	2	3	4	5
8. I tried very hard during training. (PE)	1	2	3	4	5
9. The instructional material was comprehensive. (CONTENT)	1	2	3	4	5
10. Overall, I found the training material easy to use. (EOU)	1	2	3	4	5
11. It was important to me to do well in this training course. (PE)	1	2	3	4	5

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
12. The content of the training material helped me to learn important concepts. (CONTENT)	1	2	3	4	5
13. The training was enhanced by the use of live calls. (FORM.AT)	1	2	3	4	5
14. I didn't put much energy into this training course. (PE)	1	2	3	4	5
15. This training will help me improve my performance on the job. (UTILITY)	1	2	3	4	5
16. I believe that the training material is relevant to my job. (UTILITY)	1	2	3	4	5
17. I didn't try very hard to do well in this training course. (PE)	1	2	3	4	5
18. I was self-motivated to complete the training within the allotted amount of calltaking training hours. (EOU)	1	2	3	4	5
19. Overall, I found the on-the-job training valuable. (OVERALL)	1	2	3	4	5
20. Overall, I had a very positive learning experience. (OVERALL)	1	2	3	4	5

Scales (shown in parenthesis following each evaluation item):

Perceived Effort (PE) Reactions
 Content Sub-scale (CONTENT)
 Format Sub-scale (FORMAT) Ease
 of Use Sub-scale (EOU) Utility
 Sub-scale (UTILITY) Overall
 Satisfaction (OVERALL)

Appendix I:

Role

Ambiguity

Role Ambiguity

Kindly read these statements carefully and circle the number that most
appropriately reflects your opinion

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

No.	Statements	Scale				
		1	2	3	4	5
1.	Explanations I receive are not clear about what has to be done	1	2	3	4	5
2.	I do not feel certain about how much authority I have.	1	2	3	4	5
3.	I have no clear planned goals and objectives for my job.	1	2	3	4	5
4.	I do not know exactly what is expected of me.	1	2	3	4	5
5.	I do not know that how I divided my time properly.	1	2	3	4	5
6.	I do not know what my responsibilities are.	1	2	3	4	5
7.	I do not know what are the SOPs at my workplace	1	2	3	4	5
8.	I am not fully aware of appraisal criteria	1	2	3	4	5

Thank you, really appreciate your Cooperation

Appendix J:
VSU IRB Approval



**Institutional Review Board (IRB)
For the Protection of Human Research Participants**

PROTOCOL EXEMPTION REPORT

Protocol Number: 04330-2022

Responsible Researcher(s): Natoshia Burney

Supervising Faculty: Dr. C. Keith Waugh

Project Title: *The Relationship Between Basic Communications (BCO) Officer On-The-Job Training and Role Ambiguity: An Application of Kirkpatrick's 4-Level Evaluation Model.*

INSTITUTIONAL REVIEW BOARD DETERMINATION:

This research protocol is exempt from Institutional Review Board (IRB) oversight under 45 CFR 46.101(b) of the federal regulations category 2. If the nature of the research changes such that exemption criteria no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before continuing your research study.

ADDITIONAL COMMENTS:

- Upon completion of the research study, all collected data (e.g. requested data, demographic data, name lists, email lists, etc.) must be securely maintained and accessible only by the researcher(s) for a minimum of 3 years. At the end of the required time, collected data must be permanently destroyed.
 - Pseudonym lists and corresponding name list (incl. employee number) are to be kept in separate, secure files.
 - Employee numbers must be removed from data and replaced with assigned pseudonyms.
 - Exempt guidelines permit recording interviews for the purpose of creating an accurate transcript. Recordings must be deleted immediately upon creation of the transcript. Exempt guidelines prohibit the collection, storage, and/or sharing of recordings.
 - The research consent statement must be read aloud to participants at the start of each interview session, and documented in the transcript.
- If this box is checked, please submit any documents you revise to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your exemption.

Elizabeth Ann Olphie 10.05.2022
Elizabeth Ann Olphie, IRB Administrator

Thank you for submitting an IRB application.
Please direct questions to irb@valdosta.edu or 229-253-2947.

Revised: 06.02.18

Consent Form

VALDOSTA STATE UNIVERSITY Consent to Participate in Research

You are being asked to participate in a research project entitled "The Relationship Between Basic Communications (BCO) Officer On-The-Job Training and Role Ambiguity: An Application of Kirkpatrick's 4-level Evaluation Model." This research project is being conducted by *Natashia Burney*, a *student* in Department of Leadership, Technology, and Workforce Development of the Dewar College of Education and Human Services at Valdosta State University. The purpose of this research is to create a training evaluation supportive of persistence, motivation, and retention. The researcher devised this study to gather information regarding trainee's experiences while participating in the training program that may impact performance and retention. Your participation is entirely voluntary.

As described in more detail below, we will ask you to complete a pre and post BCO course evaluation, a on-the-job training course evaluation and a one-on-one interview designed to gather information regarding your experiences while participating in the training program. Someone in your position might be interested in participating because it may help to improve the current training program and help us to learn more about your needs as a training program participant. Although risks are expected to be minimal, you may not wish to participate. It is important for you to know that you can stop your participation at any time. More information about all aspects of this study is provided below.

This form includes detailed information to help you decide whether to participate in this research. Please read it carefully and ask any questions that you have before you agree to participate. Please be sure to retain a copy of this form for your records.

Procedures: You will be asked to complete three separate surveys which should each take 10-15 minutes and participate in a one-on-one interview which will take approximately 60 minutes. Your employee number is for tracking purposes only. All responses will remain confidential. If you agree to participate, the researchers will also gather information from Daily Observation Reports, the BCO pre and post-test, and the Calltaking Release Test. There are no alternatives to the experimental procedures in this study. The only alternative is to choose not to participate at all. All components of the

research project are also mandatory components of the training program, therefore must be completed to satisfy the requirements of training.

Possible Risks or Discomfort: This is a minimal risk research study. That means that the risks of participating are no more likely or serious than those you encounter in everyday activities. Identified concerns may be possible uneasiness in dealing with sensitive issues. If you experience a crisis and need assistance several resources are available, including the Employee Assistance Program (EAP) and Critical Incident Stress Management (CISM) team. As employees, both services are available at no cost to you. By agreeing to participate in this research project, you are not waiving any rights that you may have against Valdosta State University for injury resulting from negligence of the University or its researchers.

Potential Benefits: Although you may not benefit directly from this research, your participation will help the researcher gain additional understanding of effective training strategies supportive of retention, thusly decreasing turnover rates. Additionally, your participation will allow us to explore the relationships between Training Officers and Trainees who participate in the training program in areas of motivation, and role ambiguity. Knowledge gained may contribute to addressing retention of new employees.

Costs and Compensation: There are no costs to you and there is no compensation (no money, gifts, or services) for your participation in this research project.

Assurance of Confidentiality: Valdosta State University and the researcher will keep your information confidential to the extent allowed by law. Members of the Institutional Review Board (IRB), a university committee charged with reviewing research to ensure the rights and welfare of research participants, may be given access to your confidential information.

To protect participant information from unauthorized access, all interview recordings will be stored in a computer that is password protected for three (3) years to be deleted thereafter. Participants personal information will be recorded by employee number for tracking purpose only. All participant information will remain confidential and will not be included in the dissertation or publications. Examination results collected during the Basic Communications Officer academy will be archived in a secured file room at the Gwinnett County Police Department Training Facility. Examination results collected during on-the-job training will be stored in a secured file cabinet located behind a locked door in the Training Coordinators office.

Voluntary Participation: Your decision to participate in this research project is entirely voluntary. If you agree now to participate and change your mind later, you are free to leave the study. Your decision not to participate at all or to stop participating at any time in the future will not have any effect on any rights you have or any services you are

otherwise entitled to from Valdosta State University. You may skip any questions that you do not want to answer.

Information Contacts: Questions regarding the purpose or procedures of the research should be directed to Natasha Burney at nburney@valdosta.edu. This study has been approved by the Valdosta State University Institutional Review Board (IRB) for the Protection of Human Research Participants. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the IRB Administrator at 229-253-2947 or irb@valdosta.edu.

Agreement to Participate: The research project and my role in it have been explained to me, and my questions have been answered to my satisfaction. I agree to participate in this study. By signing this form, I am indicating that I am 18 years of age or older. I have received a copy of this consent form.

I would like to receive a copy of the results of this study: Yes No

Mailing Address:

E-mail Address:

Printed Name of Participant

This research project has been approved by the Valdosta State University Institutional Review Board for the Protection of Human Research Participants through the date noted below.

