Effects of a Crisis Intervention Team (CIT) Training Program
Upon Police Officers before and after Crisis Intervention Team Training:
An Evidenced Based Program Evaluation Project in Miami Dade County Florida
A Capstone Project Submitted
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Chapter One: Introduction

Statement of the Problem:

Throughout communities across the United States, police officers frequently come in contact with individuals who are experiencing an active state of mental health crisis and do not have the necessary skills to safely and effectively intervene. The deinstitutionalization of patients in American psychiatric hospitals began in the 1970s (Burris, 2004). This policy was meant to be a way to help re-integrate those chronically ill patients back into the community (Burris, 2004). The theory of deinstitutionalization consists of component processes: the release of persons residing in psychiatric hospitals to families and alternative living facilities in the community, the diversion of potential new admissions to alternative community facilities, and the development of special services for the care of non-institutionalized mentally ill persons (Lamb & Bachrach, 2001). The limitation of this approach was that these services were limited and inadequate.

One unintended consequence of deinstitutionalization has been a marked increase in contact between persons with mental illness and the criminal justice system (Hartford, Heslop, Stitt, & Hoch, 2005). The evidence supports the fact that many of the patients who were released from state hospitals were so institutionalized mindset, that they had difficulties re-integrating socially into society (Hartford, Heslop, Stitt, & Hoch, 2005). Many have insufficient social skills, social support or resources, and are in need of comprehensive, coordinated, and multidisciplinary psychiatric, social work and case management services (Watson, 2010). With limited resources available, a large population of homeless individuals emerged in major cities throughout the country who have untreated
severe and persistent co-morbid and co-occurring mental health conditions (Deas-Nesmith, McLeod-Bryant, 1992). It is these negative outcomes resulting from the deinstitutionalization of psychiatric patients that pose many challenges to law enforcement personnel in communities across the country, and also what has generated much concern to legislative and public policy issues.

**Background of the Problem**

Over the years, several authors such as Bahora, et al., (2008), Broussard, et al., (2010), Compton, et al., (2011), and Compton, et al., (2006), have reported the disproportionate numbers of mentally ill individuals who are caught up in the web of the criminal justice system as opposed to psychiatric treatment facilities Hartford, et al., (2005). Hartford, et al., (2005), state that in 1995, 3% of the U.S. population were mentally ill and residing in a mental institution; whereas in 1999, 3% of the national population were mentally ill but living in the criminal justice facilities. In their study, Hails, & Broum (2003), reported that the national trend indicated that approximately 685,000 people with severe mental illness were admitted to U.S. jails every year; and between 6% and 15% of all jailed inmates had severe mental illness. Police officers frequently respond to crisis calls involving individuals with serious mental illness such as schizophrenia and bipolar disorders or addictive disorders such as alcohol or opiate; and often serve as the principle source for referral to psychiatric emergency services. For these reasons, it is crucial that officers are equipped with knowledge about the various mental illnesses. This is to effectively and safely intervene when someone is in a mental health crisis to expedite an appropriate disposition (Bahora, Hanafi, Chien, & Compton, 2008, and Broussard,

**Description of the Program**

The Crisis Intervention Team (CIT) is newest and the most innovative approach to bridge these disparity gaps. This unique and creative program was established for the purpose of developing a more intelligent, understandable, and safe approach to mental health crisis events (Eleventh Judicial Circuit Criminal Mental Health Project, 2010). There is a wealth of interdisciplinary literature including criminal justice, criminology, and sociology with evidence supporting CIT as an effective law enforcement/police tool when intervening with persons with mental illness. A search of the literature indicated that very little on CIT has been addressed from the discipline of nursing. Nurses could potentially contribute significantly to CIT from their clinical expertise in community health, theoretical models and research findings. Psychiatric Mental Health nursing expertise can serve as an important component of CIT in the future from the standpoint of ongoing community program development and evaluation, and evidence-based practice that results in quality health outcomes.

The Crisis Intervention Team (CIT) model is a specialized police-based program intended to enhance police officers’ interactions with individuals with mental illness and improve the safety of all parties involved in mental health crises (Compton, Bahora, Watson & Oliva, 2008). The standard CIT training is a 40-hour course consisting of classroom didactics on the disease process and signs and symptoms of mental illness and substance use disorders. There are video and live experiential role-play scenarios depicting the de-escalation of a person in a mental health crisis. During the training, officers are taken
on field trips where they visit local acute care psychiatric facilities, community mental health centers, and correctional facilities. The establishment of CIT was in response to a local high profile incident in which an armed man with a history of a mental illness was killed by a police officer (Bahora, Hanafi, & Chien, 2008). The Memphis model of CIT was established as the prototype of collaboration between law enforcement and mental health professionals and adopted in a number of large municipalities across the country (Compton, Bahora, Watson & Oliva, 2008). CIT is a revolutionary approach to transforming mental health treatment to a segment of society with a long history of social stigma and mental health disparity. The Psychiatric-Mental Health Nursing model has the potential to radically improve care of the severe and persistently mentally ill in the community by partnering with law enforcement.

**Purpose and PICOT Question**

The purpose of this evidenced based program evaluation project was to determine what impact the CIT training would have on police officers’ knowledge, perceptions, and attitudes toward mental illness from pre-CIT training to post-CIT training in Miami Dade County, Florida. Several previous studies have examined these concepts using both quantitative and qualitative methodological designs. Unfortunately, no previous studies have evaluated the CIT program in a large urban city such as Miami. The PICOT question is: does a 40-hour, one week Crisis Intervention Team (CIT) training program influence the knowledge, perception and attitudes of police officers toward persons with mental illness? It is expected that the Crisis Intervention Team (CIT) training program will have a positive influence on attitudes and perceptions, as well as enhanced knowledge-based post-CIT
training from pre-CIT training. The working hypothesis of this project is that change in outcomes will have positive influences on knowledge, attitudes, and perceptions by police officers toward persons experiencing a mental health crisis.

The overarching goal of this project is to raise interdisciplinary awareness of the importance of CIT as a valued community-based collaborative health care delivery initiative between law enforcement and people with serious mental illness, their families, mental health advocates, and the community at large.

**Defining the Concepts: Knowledge, Perceptions, and Attitude**

In her study on the “Effect of a Mental Health Educational Program Upon Police Officers”, Godschalx, (1984), defined knowledge as “the learning of new concepts and behaviors that can be applied to solve, or help to solve an identified problem.” Inability to use the correct psychiatric labels and understand psychiatric symptomology is a consequence of lack of knowledge (Aydin, Yigit, Inandi, & Kirpinar, 2003). For this project, the level of police officers’ knowledge about mental illness was determined from the Mental Illness Knowledge Questionnaire developed by Compton, Esterberg, Kotwicki, & Oliva, (2006).

Perception is the process of attaining awareness or understanding the environment by organizing and interpreting sensory information (Aydin, Yigit, Inandi, & Kirpinar, 2003). All perceptions involve signals in the nervous system, which in turn result from physical stimulation of the sense organs (Godfredson, et al., 2011).

One’s perception is closely linked to the concept of self-efficacy (Bahora, Hanafi, Chien, & Compton, 2008). Self-efficacy is an important underlying component of
perception and response decision (Bahora, Hanafi, Chien, & Compton, 2008). Low self-efficacy may affect a police officer’s ability to choose and enact the best response to a psychiatric crisis situation. An example would be misperceiving anxious, angry, or agitated behavior in someone as violent, dangerous or threatening. In this project, the Mental Illness Perception Questionnaire, designed by Compton, Esterberg, Kotwicki, & Oliva, (2006), will be used to determine police officers’ (the project participants) perceptions toward people with mental illness.

Attitude is readiness to react to an object in a certain way (Aydin, Yigit, Inandi, & Kirpinar, 2003). Attitude is the predisposition toward a social object that is learned throughout one’s life, and comprise of favorable or unfavorable cognitive, affective, and behavioral components [for example: emotions and knowledge] (Godschalx, 1984, and Aydin, Yigit, Inandi, & Kirpinar, 2003). If one is given new knowledge it may change one’s opinion but may not be effective in altering one’s attitude (Aydin, Yigit, Inandi, & Kirpinar, 2003, and Godschalx, 1984). According to Aydin et al., attitudes are stable and closely associated with social-cultural norms and values. Negative attitudes of police officers toward persons experiencing a psychiatric crisis create difficulties with regards to utilizing the right de-escalating approach, avoiding excessive force, and transporting the person to the appropriate psychiatric treatment facility rather than incarceration. A Mental Illness Attitude Questionnaire developed by Compton, Esterberg, Kotwicki, & Oliva, (2006), was used to measure the attitude of those police officers who participated in this project.
The CIT Program Model

The first Crisis Intervention Team (CIT) training was developed and implemented in Memphis Tennessee in 1988 in conjunction with mental health professionals, local advocates, the National Alliance on Mental Illness (NAMI) and has evolved into a specialized program supported by the evidence from multiple studies (Bahora, Hanafi, & Chien, 2008). The leaders of CIT have identified several core elements. These include, but are not limited to: (1) partnerships, (2) community ownership, (3) law enforcement policies and procedures, (4) recognitions and honors, (5) availability of mental health receiving facilities, (6) training and advance in-services of officers and dispatchers, (7) evaluation and research, and (8) outreach to other communities (Compton, et al., 2011, and Hanafi, Bahora, Nemir, & Compton, 2008). CIT is intended to enhance police officers’ interactions working with individuals having mental illness or substance abuse problems. By applying crisis intervention skills, negotiators can help the person in crisis defuse their emotions, lowering the potential for a violent incident and increasing the likelihood of better decision making (Compton, Bahora, Watson & Oliva, 2008). The goal of using CIT techniques is to de-escalate and safely get the person in crisis to the most appropriate mental health facility where the most effective treatment is available.

The roles of contemporary mental health professionals are multifaceted and interface across disciplines, including law enforcement and criminal justice. Police officers often serve as de facto psychiatric triage specialists assuming many of the roles usually assume by Nurses, Social Workers and Case Managers (Compton, et al., 2009). Law enforcements professionals often are the community’s first-line responders to mental health
crisis usually through the 911 emergency dispatch systems. These calls to EMS may come from the patients themselves, family members, neighbors, or other professionals throughout the community. The responding law enforcement officer must quickly assess the nature of the emergency and determine if the individual is experiencing a psychiatric emergency. Without the proper tools, such as those taught in CIT, police officers have to rely on high intensity police units such as Special Weapons and Tactics (SWAT) to intervene with someone in a mental health crisis (Watson, 2010). The SWAT team would usually be called out if the person in crisis possessed a weapon, barricaded themselves in a building, or is threatening to jump off a high structure. For individuals experiencing a psychiatric crisis this approach could prove counterproductive sometimes with tragic consequences (Compton, et al., 2009).

Nurses are the first-line responders in Psychiatric Emergency Departments (PEDs) or Medical Emergency Departments (MEDs). They must act quickly using critical thinking assessment skills and determine any level of danger to the patient or others and implement the highest level of personal safety techniques for the protection of everyone who might be at risk. Both law enforcement and nurses rely on the same level of basic communication skills and techniques taught in CIT training. However, unlike police officers, nurses have advanced skills that encompass assessment, planning, intervention and evaluation of the individualized treatment implemented.
Chapter Two: Theoretical Framework and Literature Review

Major Concepts

Hildegard Peplau’s theory of interpersonal relations was chosen as the theoretical framework for this project. Her interpersonal relations theory has particular relevance and usefulness in understanding and intervening to reduce symptoms, re-establish relatedness, restore a sense of self-dignity, improve function, and promote health (Peplau, 1952, Peplau, 1995, and Thelander, 1997). Peplau (1952) views the person as an organism that lives in an unstable equilibrium such as psychological and social fluidity; and life experience is the process of striving in the direction of stable equilibrium. A person with serious mental illness suffers from symptoms over an extended period of time that constantly or intermittently remits and relapse. This is an example of what Peplau’s (1952) meant when she said “a fixed pattern of life experience is never reached except in death”. These periods of remittances and relapses in symptoms can seriously interfere with function and quality of life in such areas as work, social interaction, recreation, intimate relationships, and meeting community standards (Peplau, 1995, and Thelander, 1997).

Hildegard Peplau (1952) introduced an interpersonal paradigm for the study and practice of nursing which she borrowed from interpersonal relationship and psychodynamic models of other disciplines such as Freud, Maslow, and Sullivan (Peplau, 1952, and Thelander, 19997). A central assumption to Peplau’s nurse-patient relationship theory is the nurse’s capacity to maintain effective connectedness with the patients. Peplau’s theory centers on facilitating the development of problem-solving skills within the context of interpersonal relationship between the nurse and client using education and therapeutic

Clinical Exemplar Supporting the Framework

My anecdotal clinical experience is consistent with the patterns of interpersonal and psychotherapeutic paradigm identified by Peplau and serves to strengthen the theoretical framework of this project. For example, one patient who was being treated in the outpatient psychiatric clinic had chronic paranoid delusions that influenced his thoughts to attack others with a machete and gas-bomb. This patient is at high risk of further decompensating. Despite these disturbingly morbid thoughts, the patient was able to maintain control and follow through with all his follow-up appointments. This patient was able to say that the trusting, respectful, nonjudgmental and non-stigmatizing relationship he developed with this writer (the advanced practice nurse presently treating his psychiatric condition) was what has kept him adhering to treatment and out of the hospital. This quality patient care outcome is based on what Peplau noted as the nurse’s unique personality that influences self-awareness and ability to obtain and maintain insight (Vandemark, 2006). This experience is central to Peplau’s (1952) theory that nursing helps people to meet their present needs. When these needs are met more mature needs can emerge and the personality moves forward. This example was meant to suggest that police officers can develop valuable interpersonal relationships with persons who are experiencing a psychiatric crisis.
Application of the Theory to the Project

Peplau’s interpersonal relationship theory is being adopted and modified for brief or recurring interactions between police officers and persons with mental illness. Drawing on the core principles of Peplau’s interpersonal theory as a framework, it is assumed that police officers and the mentally ill person can form important interpersonal relationships, although their interactions and encounters are often brief and recurring. Within these brief and reoccurring interactions, police officers can serve in any of the seven distinguishable relationship roles: (1) stranger, (2) resource person, (3) teacher, (4) leader, (5) surrogate, (6) counselor, and (7) technical expert (Courey, Martsofl, Draucker, & Strickland, 2008).

Aspects of Peplau’s interpersonal relationship theoretical framework can be used effectively to strengthen the relationship-roles and responsibilities between contemporary law enforcement, people with mental illness, mental health professionals, and mental health advocacy groups. Relating to an individual living with mental health challenges is especially important in the beginning of an emerging therapeutic relationship; this takes time. Time is not the only aspect of knowing a person, but time is required. Taking time, investing time and energy, and not looking rushed are all essential to the experience of the therapeutic relationship (Dinga & Karvinen, 2008). These are indeed the core values of CIT.
Chapter Three: Literature Review

Prevalence of the Problem

A wealth of interdisciplinary literature exists from criminal justice, criminology, and sociology on the subject of Crisis Intervention Team (CIT) law enforcement professionals, and persons with mental illness. This information spans the 23 years since its inception as a Memphis model. One theme from this literature search was the absence of scholarly publications on the subject of CIT from the discipline of nursing. There was however, one letter to the editor in the Psychiatric Services journal by a psychiatric nurse in response to a previous CIT study (Boyd, 2006). Compton, Bahora, Watson & Oliva (2008) conducted a comprehensive review of the literature and presented a synthesized statistical analysis on the effectiveness of CIT intervention from 14 states that have implemented the CIT model. The authors also cited other research studies that referenced CIT programs in 42 states.

According to Demir, Broussard, Goulding, & Compton (2009), and Broum, (2003), up to 10% of all police contacts involve a person with a mental illness. Law enforcement officers provide up to one-third of all emergency mental health referrals. Some 6,624 (23.6%) individuals with a serious mental illness had at least one arrest mostly for non-violent offenses. According to these authors, this meant that the number of those who were arrested was about 3.3%, while only 0.3% was diverted by the justice system to community mental health services in lieu of further court processing (Demir, Broussard, Goulding, & Compton 2009). Demir, Broussard, Goulding, & Compton (2009), elaborate that about 21% of local jail inmates report having mental health treatment within the past 12 months.
Hartford, et al., Heslop, Stitt, & Hoch, (2005) estimated that half the calls received by an urban police department involve mental illness or family crisis. This startling revelation, that police act as de-facto mental health professionals, is not a new phenomenon (Compton, Neubert, Broussard, McGriff, Morgan, & Oliva, 2009).

Police encounters with persons with mental illness contributes to an increasing number of communities experiencing high-profile incidents in which an officer used deadly force against a person who was actively experiencing symptoms of mental illness (Hails, & Broum, 2003).

Despite the fact that police officers frequently respond to calls and crisis situations involving persons with serious mental illness, they receive very little training about mental illness. This results in a schism between expectations placed on officers and the minimal training they typically received for dealing with someone they encountered who is experiencing a psychiatric crisis (Demir, et al., 2009). These are complicated issues that demand an innovative intervention such as the CIT model. CIT is an interdisciplinary and collaborative model consisting of four primary outcomes measures. These are: (1) increasing police officers’ knowledge of mental illness, (2) increasing their awareness of community services options and alliances (3) decreasing criminalization of the mentally ill, and (4) improving the safety of both the officer and the person with mental illness.


**Current Research Findings**

Using pre-test post-test questionnaires, vignettes, and several scales, Bahora, Hanafi, Chien, & Compton, (2008) assessed perception of self-efficacy and desired social distance. Thirty four non-CIT officers served as control and were compared to 58 officers who completed the CIT training. However, only 40 were available for the post-test. Outcomes of this randomized controlled study indicated that self-efficacy and social distance improved on each of the four vignettes depicting depression, cocaine use, schizophrenia, and alcohol dependence. Self efficacy scores on the depression vignette improved significantly \([(F (1, 35) = 24.03, p < .001)]\) as did the vignette on cocaine dependence \(F (1, 35) = 20.85, p < .001\], schizophrenia \([F (1, 35) = 21.03, p < .001]\), and alcohol dependence \([F (1, 35) = 12.64, p < .001]\]. Likewise social distance scores improved on each of the four vignettes covering depression \([F (1, 35) = 9.20, p < .005]\), cocaine dependence \([F (1, 35) = 24.90, p < .001]\), schizophrenia \([F (1, 35) = 21.11, p < .001]\), and alcohol dependence \([F (1, 35) = 6.11, p < .02]\). Overall, this study highlights the relevance of CIT training in enabling police officers to have confidence in their ability to interact with people who have mental illness and substance use disorders. Methodological limitations of this study include the small sample size, the possible unreliability and potential lack of validity associated with untested self-report instruments and mistrust among police officers.

In a retrospective study, Broussard, McGriff, Neubert, D’Orio, & Compton, (2010), attempted to determine what types of patients are CIT-trained officers referring to Psychiatric Emergency Services (PES) and whether meaningful differences exist between patients referred by family members, patients, non-CIT officers, and patients referred by
CIT-trained officers. Samples of 300 medical records were reviewed on patients 18 years old or older who were referred to the PES over a 7-month period. Variables included: sociodemographic characteristics and referral source, primary clinical presentations, primary clinical diagnosis based on the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*; specialized clinical interventions, and disposition from PES. Of the 300 charts reviewed 213 (71.0%) were in the PES, 11 (3.7%) were in the inpatient psychiatric unit, and 8 (2.7%) were in the crisis stabilization unit. One hundred twenty seven (42.3%) patients were brought in by family members; 132 (44.0%) were brought in by non-CIT officers; and 41 (13.7%) were brought in by CIT-trained officers. Officers who were not CIT trained were more likely to detain individuals who were lower functioning indicated by GAF score ($F = 3.68, df = 260 = p = .03$), held on a locked unit ($\chi^2 = 15.42, df = 2, p < .001$), African American ($\chi^2 = 7.90, df = 2, p = .02$), highly agitated ($\chi^2 = 7.60, df = 2, p = .02$) and had substance abuse as the presenting problem ($\chi^2 = 15.42, df = 2, p < .001$).

According to post hoc analyses, patients brought in by police officers generally resembled those brought in by family members except that family members were more likely to bring in patients who were substance abusers and who were African American than CIT-trained officers. Family members were also more likely to bring in patients who had low GAF scores.

Compton, Broussard, Hankerson-Dyson, Krisham, & Stewart-Hutto (2011), hypothesized that officers entering CIT training – particularly those volunteering for it – would have a higher likelihood of past exposure and experience with mental health issues
and greater empathy and psychological mindedness. Using a descriptive comparative
design and a sample size of 177 police officers; 109 non-CIT-trained officers and 68 of
whom were officers entering the training were assessed. The Empathy Quotient (EQ) and
the Interpersonal Reactivity Index (IRI-EC) scales were used as instruments to evaluate
empathy and psychological mindedness. This instrument has good internal consistency
(Cronbach’s alpha = .88). Paired-sample t tests were used to measure the hypothesis
pertaining to stability of empathy and psychological mindedness. Values on one measure of
empathy (IRI-EC) and both measures of psychological mindedness (BIPM and PMS) did
not change after the week-long CIT training course. Results of this study indicated that the
three groups did not differ with respect to empathy or psychological mindedness. Empathy
and psychological mindedness did not appear to be greater among volunteering over self-
selecting officers into the CIT training; however, to the knowledge of the surveyor, this was
the first demonstration of changes in empathy during CIT training. Suggestion for further
research is strongly recommended.

Using a quasi experimental design, Compton, & Chien, (2008) examined factors
related to knowledge retention after crisis intervention team training for police. These
authors hypothesized that CIT officers’ test scores on mental health knowledge, which
would be higher immediately after CIT training, would decline over time after completion
of training. This study used 17 items from a 40-item paper-pencil, multiple-choice
knowledge test administered at the conclusion of CIT training to 88 officers. Bivariate
statistical tests and paired-samples t-test were used. Immediately after the training, the 88
officers had a mean score of 16.7 (range 12-17). At time of follow-up assessment, the mean
score was 14.7 (range 8-17) ($t(81) = 9.69, p < .001$). The result of the study showed a decline in knowledge scores after the training. Methodological limitations include: small sample size; low response rate; participation from non-respondent officers; selection bias; responders may be more diligent and thus more likely to retain content of their training, or because they may be more enthusiastic about or committed to CIT. Further research is needed to determine the practical meaningfulness of the differences in post-training and follow-up knowledge scores.

Compton, Demir, Broussard, McGriff, Morgan, & Oliva, (2009) used a quasi experimental design to hypothesize that compared with non-CIT- trained officers (traditional police officers), CIT-trained officers would (1) select a lesser degree of force across a series of three escalating scenarios, (2) identify nonphysical actions (e.g. issuing verbal commands, negotiating with the suspect) as more effective, and (3) perceive physical force (e.g., grabbing the suspect, using pepper spray, or physically engaging the suspect) as less effective means of handling the situation in order to reach a desirable or appropriate outcome. Forty eight CIT-trained and 87 non-CIT-trained police officers completed a survey containing three scenario-based vignettes depicting an escalating situation involving a subject with psychosis in a psychiatric crisis. Results showed that there was no difference between CIT and non-CIT trained officers in perceived effectiveness of non-physical force for the scenario that relied on physical presence and giving verbal command but was significant for scenarios that engaged in physical force ($F(2, 224) = 55.55, p < .001$) over time. Non-CIT-trained officer’s repeated selection of the physical force measures as effective in all three scenarios, suggesting greater acceptance of
using physical force. These findings suggest that CIT-trained officers may be more likely to use non-physical action (less force) than non-CIT-trained officers during interactions involving agitated individuals with a psychotic disorder.

Compton, Esterberg, McGee, Kotwicki, & Oliva (2006) conducted a first of its kind pretest, posttest design investigational study to describe changes in knowledge, attitudes, and social distance related to schizophrenia among police officers after CIT training. A survey was administered to 159 police officers before and after a 40-hour CIT training program in Georgia. The authors reported acceptable internal reliability with Cronbach’s alpha = .89. Using paired-sample t-test, the result of this study indicated that officers demonstrated enhanced knowledge ($t = 2.94, df = 138, p < .001$) from baseline with regard to attitude and social distance related to persons with schizophrenia. The authors addressed several limitations to this study and suggested the need for further research.

Using a sample of 135 (48 CIT-trained and 87 non–CIT-trained) officers, Compton, Neubert, Broussard, McGriff, Morgan, & Oliva (2009) conducted a quasi experimental design to test the hypothesis that the CIT-trained officers would select a lower level of force, identify nonphysical actions as more effective, and perceive physical force as less effective compared with the non-CIT-trained officers. Scenario-based vignettes were used to depict an escalating psychiatric crisis of schizophrenic nature. The MacArthur Mental Health Module scales to measure their perceptions and social distance. The CIT-trained officers overall chose less escalating options in the management of the psychiatric crisis, and endorsed lower perceived effectiveness of physical force than the non-trained CIT officers ($\chi^2 = 4.65, df = 1, p = .03$). Several limitations of this study are worth
addressing including that fact that officers were paid $15 to complete the survey. The authors also made special note as to the possibility that the CIT-trained officers could have been influenced by “social desirability bias” which is a type of Hawthorne effect. This conclusion was based on prior research from this setting suggesting that up to three-fourths of the officers reported having volunteered for CIT rather than being assigned (Compton, Neubert, Broussard, McGriff, Morgan, & Oliva 2009).

Demir, Broussard, Goulding, & Compton (2009) conducted a quasi experimental investigation to determine whether or not causal beliefs about schizophrenia change after CIT training. One hundred fifty nine officers attended a total of nine CIT training classes over a 7-month period. Beliefs about causes of schizophrenia were measured in both the pre- and post-training survey using a 30-item list developed in Germany. Comparisons of the pre- and post-training scores revealed three significant differences: (1) a decrease in endorsement of items in the Personal/Family/Social Stressors Subscale ($z = 3.05, p = .002$), (2) a decrease in endorsement of items in the inconsistent with modern Conception of Risk Subscale ($z = 1.97, p = .05$), and (3) an increase in endorsement of items in the consistent with modern biological conceptions subscale ($z = 2.82, p = .005$). The findings of this study indicate that CIT training may effectively align officers’ understandings of causation closer to those existing within the mental health profession, thereby correcting myths and reducing stigmatizing attitudes. This may lead to increased rapport-building skills, de-escalating abilities, communication between officers and family members, and ultimately, better outcomes in terms of referrals to mental health services and fewer incarcerations.

Godschalx, (1984) used a nonequivalent control pretest-posttest design in their
study. This author wanted to determine whether an educational seminar could improve the knowledge and attitudes of police offers toward people experiencing emotional difficulty. The research hypotheses were that attitudes can be altered regardless of the degree to which an individual is aware of the attitude; and that police officers’ knowledge toward people experiencing emotional difficulty would significantly improve after an 8-hour educational seminar. This study included one control group, \((n = 33)\); (no education) and the experimental group \((n = 27)\) (received education). Knowledge and attitudes were measured using the Mental Health Knowledge Index and the Osgood Semantic Differential Instruments. Cronbach’s alpha for this tool was not reported. The experimental and control groups were not significantly different on attitudes or any of the four although the groups did not differ on knowledge at pre-test, the experimental group had significantly more knowledge than the control group at posttest \((t(47) = 3.6 \ p < .002)\). The data supported the hypothesis that police officers’ knowledge about people experiencing emotional difficulty would improve after an educational seminar. The data did not support the hypothesis that a multi-level educational program would alter those police officers attitude.

Hails, & Broum, (2003), conducted a survey to examine the nature and extent of training that police agencies provide on handling calls involving Patients with Mental Illness (PMI) and the nature of prevalence of police-based specialized response programs. A survey questionnaire was developed to assess the extent of recruit and in-service training for how to respond to calls involving PMI and the existence of specialized responses for these calls. The survey was administered to 135 officers. Based on the limited content information available to the researcher, it is difficult to distinguish which, or how many
agencies have adequate training. However, the study revealed that the time allotted for training seem limited, falling below the 16 hours recommended in the model curriculum recommended by the Police Executive Research Forum. Seventy agencies reported the number of hours of recruit training devoted to responding to calls involving PMI, ranging from 0 – 41 hours. The remaining agencies described their training without specifying hours. The median numbers of training hours was 6.5 ($M = 9.16; SD = 4$). This survey suggests that the proportion of agencies using a police-based specialized mental health response model was very similar to two previous surveys (12% in 1996 vs. 13% in 1999). The findings from this survey suggest that overall, throughout the country, there still appears to be very little attention given to training police recruits and veteran officers to understand and intervene with people who have mental illnesses.

In their descriptive qualitative analysis, Hanafi, Bahora, Nemir, & Compton, (2008), explored the question of how does CIT training affect police officers’ interaction with individuals with mental illness during work. Four groups (5-8 in each group) of law enforcement officers (25) who had recently completed CIT training in a large urban metropolis in the U.S. were assessed using a brief survey. Enhanced knowledge of signs and symptoms as causes of mental illness were contributed to: (1) a greater ability to recognize and respond to an individual in crisis; (2) reduced stigma and stereotyping of individuals with mental illnesses; (3) greater empathy for those individuals and their caregivers; (4) more patience when dealing with consumers; and (5) fewer arrests and more redirection toward treatment for consumers. Detailed narrative illustrative accounts of each of these enhanced knowledge areas are presented. The authors identified several limitations
to this study: (1) This study was unable to examine the differences among select groups of CIT officers, and (2) The authors focused on officers’ narratives, and equally important would be an examination of patients’ and family members narratives.

Hartford, Heslop, Stitt, & Hoch, (2005), used a retrospective design study the accounts of police officers encounters with person with mental illness (PMI) from computerized administrative databases. An algorithm was developed to identify PMI in the police administrative database (a) cautionary/dependency flags, (b) addresses and (c) text terms indicative of mental illness). A computer program was written to select individuals over age 16 with any of the four cautionary/dependency flags (a) mental instability, (b) suicidal tendencies, (c) mental disability/senility and (d) possible suicide, and current and past addresses. A random sample of 100 test-based computerized records of Definite PMI for the first year was selected. Proportions were examined between PMI and non-PMI (NPMI) on the number of interactions using the non-parametric Kruskal-Wallis test, and on the types of interactions using $\chi^2$ test (between and among groups comparisons, $p = < .001$) were considered to be statistically significant. The results of this study supported previous studies indicating that PMI have a higher level of contact with police, and incidents of arrest than the general population. Four limitations were identified in this study. One, the study has not been validated using diagnoses because of mental health legislation requiring written consent to contact clinicians to confirm diagnostic information. Two, because the algorithm is based in part on known addressees, it is possible that homeless PMI and PMI living at home who are not flagged are under-represented in the study. Three, the prevalence of alcohol and drug abuse may be under-represented since only charges were
known, not individuals with drug and alcohol dependency. Four, the permanence of the dependency flags means that if an officer attaches a ‘mental disability/senility’ or ‘possible suicide’ flag improperly, it remains and there is no mechanism to correct the mistake.

In a quasi experimental exploratory pretest/post design study 45 non-CIT and 65 pre-CIT (n = 110) officers, Ritter, Teller, Munetz, & Bonfine, (2010) attempted to answer the following questions. One, how do police officers who volunteered to participate in CIT training differed from those who did not? Two, what is the impact that CIT training and subsequent experiences as a CIT-trained officer had on officers’ perceptions of dangerousness, nature of the problem, causal attributions, and social distance? Three, what factors influence CIT officer’s opinion about their own preparedness to respond to crises involving individual with mental illness? The MacArthur Mental Health Model was used to measure stigma social distance and causes of mental illness. The Opinion About Mental Illness (OMI) Questionnaire was used to measure stigma measured as perception of dangerousness. A vignette presentation depicting someone with schizophrenia, and theorized causes (scientific and non-scientific) of schizophrenia, and questionnaires were the instruments used in this study. Crombach’s alpha internal consistency reliability coefficient for both scales was .84. There were three major findings of this study: (1) few differences between those officers who volunteered and those who did not and (2), up to one year post CIT training field test suggested that officers were significantly more equipped to handle incidents of individuals in mental illness crisis at 97% confident as compared to 26% prior to the CIT training. Third, exploratory analysis suggests that the predictors of whether officers will feel better prepared to handle mental illness calls after
CIT training and experience were (a) prior to training, believing that the issue of mental illness was a serious problem for the department and (b) after training and experience, believing that the department overall was effective in meeting the needs of those with mental illness and not endorsing that mental illness was a result of how someone was raised. A small sample size was a major limitation of this study.

Conducting a nonrandomized pilot study, Vermette, Pinals, & Applebaum, (2005) asked (N = 150) officers who attended one of two in-services about mental illness, what were the topics of interest and preferred modalities of training for police officers in their work with PMI? A pre-training questionnaire was used to rate the importance of potential mental health topics and the effectiveness of potential training modalities; and a post-training questionnaire was used to rate the effectiveness of the training. The training curriculum consisted of specific mental health topics; psychosocial, legal, and administrative issues; video; role-playing; and group discussions. Based on repeated ANOVA, the authors suggested that over 90 percent of the respondents reported that the topic mental illness was either fairly important or very important to their work and should be incorporated as part of their academic training as opposed to post-academic training such the current CIT model (F(126) = 84, p < .05). Results of the training were evaluated based on level of importance to the officers (fairly important or very important). Very important were scored as follows: video = 37%, small group discussion = 29.9%, handout = 29.0%, lecture 25.0%, role-play = 22.7%, Slides = 22.3%, and panel discussion = 22.5%. Fairly important were scored as follows: video = 0%, small group discussion = 1.7%, handout = 0.8%, lecture = 0.7%, role-play = 5.0%, slides = 0.8%, and panel discussion =
1.7%. The average overall scores: video = 3.34%, small group, discussion = 3.21%, handout = 3.17%, lecture = 03.15%, role-play = 2.87%, slides = 3.21%, and panel discussion = 3.12%. Requested training frequency: yearly = 68.3%, every five years = 18.7%, and every six months = monthly = 1.6%. Requested training length: half day = 55.7%, full day = 22.1%, two hours = 19.7%, and one hour = 2.5%. Based on study participant’s feedback, Vermette et al., suggested that police officers would choose topics of: dangerousness, suicide by cop, decreasing suicide risk, mental health law, and potential liability for bad outcomes. Additionally, they preferred effective communication with person with mental illness, drug and alcohol abuse, and stress management. A collaborative approach to teaching with a designated lead law enforcement professional in attendance, and a mental health professional in the instructor role can serve as a model for effective communication between law enforcement officers and mental health professionals to achieve best outcomes for persons with mental illness. The conceptual model of CIT was not addressed in this study and the small sample size was noted as one of the limitations of the study by the authors. Regini (2004) outlined the core skills and techniques that are the cornerstone of the CIT intervention for anyone using it as a tool to de-escalate persons who are experiencing a mental health crisis. These core intervention skills and techniques incorporate the concepts of empathy, active listening, nonjudgmental attitude, boundary setting, and problem solving. These skills are also the cornerstone of psychiatric-mental health nursing from basic to advanced levels.

In a retrospective study, Teller, Munetz, Gil & Ritter (2006) examined two years of police dispatch data before implementation of a CIT program and four years post
implementation program in Ohio to assess the effects of the training on officers responding to mental health emergencies. Since the training program, there has been an increase in the number of calls involving mental illness, an increased rate of transport by CIT-trained officers of persons experiencing mental illness crisis to EDs on both involuntary and voluntary status (from 29% pre-CIT to 97% post-CIT) but no significant changes in the rate of persons with mental illness being arrested (statistics not cited). The authors concluded that the study suggests the CIT training was instrumental in the collaborative development between the police department, the mental health system, consumer of services, and their family members in a partnership effort to assist persons who are experiencing a mental health crisis to gain access to treatment. The authors cited several limitations to this study, and in particular the fact that it is lacking empirical data from a comparison group.

In their quasi experimental research study, Aydin, Yigit, Inandi, & Kirpinar, (2003), examine the level of negative attitude toward mentally ill patients by hospital staff in Turkey. A total of 160 physicians, nurses, academicians, aids and cleaners participated in the study divided into two groups. The instruments used were a set of vignettes depicting paranoid schizophrenia, anxiety, and depression, and Social Distance Scale. The authors did not report the reliability and validity of these instruments. The overall result of this study illustrated that attitude towards patients with mental illness were generally negative. However, by comparison, physicians and nurses scored higher in negative attitudes toward patients with mental illness while aids and cleaners scored higher in positive attitudes toward patients with mental illness. This finding occurred despite low education levels and lack of medical training in aids and cleaners. The findings from Aydin, Yigit, Inandi, &
Kirpinar, (2003) study were compared and contrasted to other studies done in western societies where it is generally reported that hospital employees (e.g. general employees and kitchen workers) are more authoritarian and restrictive in their attitudes toward psychiatric patients than hospital professionals such as doctors, psychiatrists, social workers, and nurses. These are findings that highlight possible gaps in the general education/training programs about mental health across disciplines.

**Summary of Literature Review**

The wealth of empirical research and scholarly articles mentioned herein supports the benefit of CIT as an effective evidence-based, community-based healthcare intervention that benefits persons who are experiencing a psychiatric crisis. For example, studies by Bahora, et al., (2008), Broussard, et al., (2010), and Compton, et al., (2009) supported CIT as a means to increased and retained knowledge about mental illness, positive perceptions and attitudes toward persons with mental illness, officers choosing less force, and choosing to deliver persons with mental illness into treatment rather than jails. Compton, et al., (2006), Compton, et al., (2009), and Demir, et al., (2009) reported effectiveness of CIT on improving police officers’ understanding of mental and substance abuse illnesses, as well as enhancing their perceptions and attitudes in a more favorable manner. Inquiries by Godschalx, (1984), Hartford, Heslop, Stitt, & Hoch, (2005) also concluded that CIT has meaningful benefits as a health and safety program for officers, persons served, and the community at large. Likewise, Ritter, et al., (2010), Vermette, Pinals, & Applebaum, (2005), and Aydin, Yigit, Inandi, & Kirpinar, (2003) reported effectiveness in CIT as an educational intervention across several healthcare disciplines. In contrast, while they
offered important preliminary findings, studies by Compton, et al., (2011), Compton, & Chien, (2008), Godschalx, (1984), Hanafi, et al., (2008), and Teller, Munetz, Gil & Ritter (2006) had some methodological limitations. The authors could not determine the most effective curriculum content for CIT, or the most effective methods for conducting the training to officers.

Although lacking randomized controlled trials, the majority of studies and articles reviewed provide strong evidence to support CIT as a novel healthcare model that may be effective in bridging the knowledge, attitude, perception, and relationship gaps between law enforcement agencies and individuals with mental illness their families, advocacy groups, the criminal justice system, and policy makers. However, despite several local, state and national initiatives to decrease the social stigma that is attached to persons with mental illness, several gaps such as local, state and national legislative policies remains. These gaps will require additional prescriptive innovative interventions such as CIT. It is interesting to note that reduced self-efficacy and negative attitudes toward persons with mental illness are prevalent even among mental health professionals (Aydin, Yigit, Inandi, & Kirpinar, 2003). Inandi, & Kirpinar, (2003), describe the pervasive nature of negative attitudes toward the mentally ill by mental health professionals. These authors noted that even when one is given new knowledge; it may change their opinion but not their attitude. This was in referenced in CIT studies conducted by Bahora, Hanafi, Chien, & Compton, (2008), Compton, Esterberg, McGee, Kotwicki, & Oliva (2006), Godschalx, (1984), Ritter, Teller, Munetz, & Bonfine, (2010), and Aydin, Yigit, Inandi, & Kirpinar, (2003). This would certainly be an outcome to be aware of when evaluating the effectiveness of CIT as a
Chapter Four: Program Implication and Evaluation Methods

Design

Approval for this project was obtained from Florida Atlantic University’s IRB and the Eleventh Judicial Circuit Criminal Mental Health Project, and informed consent from the participants. A one-group, pre-test, quasi experimental post-test design was used to evaluate the effectiveness of CIT training on knowledge, perception, and attitudes, of police officers toward persons with mental illness.

Setting

The CIT project was conducted at Florida International University south campus in collaboration with the Eleventh Judicial Circuit Court Criminal Mental Health Project and taught by the CIT training coordinator of Miami Dade County.

Sample

The project participants were recruited from a convenience sample of 28 police officers who are employed by three Dade County’s police municipalities and who represented heterogeneity in socio-demographic characteristics.

Measurements

Outcomes were adopted from Bahora, Hanafi, Chien, & Compton, (2008), and Compton, Esterberg, Kotwicki, & Oliva, (2006), and were chosen because of their flexibility and established reliability (Crombach’s Alpha > .80) and validity. These tools are as follows: (1) The Socio-demographic Questionnaire (SDQ): An 11-item questionnaire developed by Compton, Esterberg McGee, Kotwicki, & Oliva, (2006) and designed to
assess a number of basic demographic characteristics. There are 6 questions to determine the officers’ level of familiarity with, and exposure to mental illness, and 5 items designed to measure a number of basic personal characteristics.

(2) The Mental Illness Knowledge Questionnaire (MIKQ), a 30-item, 4-point Likert Scale questionnaire developed by Compton, Esterberg McGee, Kotwicki, & Oliva, (2006), and Demir, Broussard, Goulding, & Compton, (2009), and designed to measure knowledge and understanding of mental illness, and how mental illness impacts someone who is affected. Operationally, the MIKQ allows participants the flexibility to choose answers between “no” and “very likely” and to what degree these choices shift from pretest to posttest. For each of the 30 items, participants were asked “is the cause of mental illness?” and instructed to select “no,” “possible,” “likely,” or “very likely.” Scores for both pre-and post-test questionnaires were derived from the total number and level of items endorsed ranging from 0 – 90 points (“no” = 0 points, “possible” = 1 points, “likely” = 2 points, and “very likely” = 3) [3 X 30 = 90 points]. This tool is representative of the training content and has been cited by several other authors as having acceptable confidence level in its internal consistency reliability at alpha = .89.

(3) The Mental Illness Perception Questionnaire (MIPQ), a 6-item, 4-point Likert Scale questionnaire developed by Compton, Esterberg, Kotwicki, & Oliva, (2006), and operationally designed to measure officers’ perception of mental illness within the construct of their self-efficacy. The items on this were scored according to responses ranging from 1, “very uncomfortable” to 4, “very comfortable.” This tool has also, been cited by several other authors as having acceptable confidence level in its internal consistency reliability at alpha = .89.

(4) The Mental Illness Attitude
Questionnaire (MIAQ), a 4-item, 4-point Likert Scale questionnaire developed by Compton, Esterberg, Kotwicki, & Oliva, (2006), and operationally designed to measure officers’ attitude toward someone with mental illness within the construct of social distance. The items on this tool were scored according to responses ranging from 1, “extremely unsupportive,” to 4, “extremely supportive.” This tool has also, been cited by several other authors as having acceptable confidence level in its internal consistency reliability at alpha = .90.

These authors cited acceptable internal consistency and validity in its acceptable confidence level during their study to determine its effects in improving social distance attitudes, gaining greater knowledge about mental illness, and lower levels of perceptions toward self-efficacy (Bahora, Hanafi, Chien, & Compton, 2008). These instruments were chosen for this project because of their flexibility for adaptation to other related research topics addressing similar phenomena without statically significantly altering their reliability and validity. This was reported by the original author, who also gave permission to this writer to adopt the tools to the project being undertaken.

According to Bahora, Hanafi, Chien, and Compton (2008), previous scales for assessing police officers’ self-efficacy as an acquired skill were unavailable, thus requiring the authors to construct the instruments for their study; using vignettes from the MacArthur Mental Health Module (1996) as a central framework. Although these instruments are not published (not in public domain), they were adapted from other well-established concepts and instruments from scholars representing the disciplines of psychology and sociology where reliability and validity were also documented. These scholars include Bandura...
Informed Consent

The principle investigator and the CIT training coordinator asked the officers if they would like to participate in a project evaluating the CIT being conducted by a Doctor of Nursing Practice student at Florida Atlantic University, Boca Raton Florida. This was done on Monday morning, the first day of CIT training before the training began. Twenty six (93%) of the 28 officers consented to participate in the project, however, only 25 (89%) completed the training and the project’s posttest.

Those police officers who agreed to participate in the survey were asked to sign an informed consent that was separate from the project’s questionnaire and instruments. The officers were also informed that the investigator has no direct affiliation with any of the law enforcement departments or with the CIT program; that they are under no obligation to participate in the project; that they have the right to withdraw from the project at any time; that all information collected will be kept confidential and that they were being asked to answer each item on the survey tools, but they may skip questions if they wish.

After obtaining the informed consents, a copy of each questionnaire was distributed in the form of a packet containing the socio-demographic questionnaire, and the study instruments. Each packet was numbered with an identification number. The informed consents were kept separate from the questionnaire packet. A code book was used to record the matching pre and post-test, including other pertinent data gathered during the project. The completed questionnaires were collected by the investigator and kept in a locked safe
at the investigator’s home. The information is available for review by the investigator’s chair and other professors as indicated.

Individual officers’ identity were kept confidential by the fact that only their badge numbers were used to identify pre-test and post-test responses. Additional identity protection lies within the fact that none of the participating officers were wearing uniforms during the training. A tear-off tag was placed on the front each packet for the purpose of recording each officers’ badge number. Once the pre-test post-test information was matched and recorded in the grade book, the tag containing the officer’s badge numbers were removed and stored separately for eventual shredding. All completed copies of the survey instruments including the informed consent will be stored safely for a minimum of five years according to standard procedures. This investigator was available to answer questions or clarifications regarding any of the survey questions. The entire process (pre and post) took a maximum of 30 minutes. The investigator attended all 40 hours of the CIT training and maintained interaction with the participants during the training and took daily notes to assess any common themes (objective and subjective) that developed among the officers over the course of the week-long training. This provided insights as to the final survey, what did and did not change. This is documented under the heading “Participants’ Objective and Subjective response to the Training”

**Intervention**

The training was a five-day 40-hour mental health training that occurred Monday June 11, 2012 – Friday June 14, 2012. All of the officers were assigned to the CIT training by their training departments.
Analysis of Data

For this project, two-sample dependent t-tests were conducted between pre and post CIT training on Knowledge Questionnaire Score, Mental Illness Perceptions, score, and Mental Illness Attitudes score. In order to control for increasing Type-I error, a Bonferroni correction was made assuming two-tailed test. Thus, the overall alpha level in this project was set to .05. Additionally, effect sizes were computed using both Eta square ($\eta^2$) and Cohen’s $d$ to provide quantitative interpretation of the findings. Effect sizes are interpreted based on Ferguson, Cohen’s $d \geq 0.41$ and Eta square ($\eta^2$) $\geq .04$ are considered recommended minimum effect size as “practically” significant effect (Recommended Minimum Practical Effect: RMPE), $d \geq 1.15$, $\eta^2 \geq .25$ as moderate effect, and $d \geq 2.7$, $\eta^2 \geq .64$ as strong effect.

Results

As shown in table 2, most officers (21, 84%) were males. Approximately three quarters (18, 75%) identified as Hispanic/Latino, 4 (16%) as White/Caucasian, while 18 (72%) were police according to rank, and 10 (40%) had 1 – 5 years in their rank. Approximately half of the participants (12, 48%) completed college. As shown in table 3, 25 (100%) of the officers acknowledged that they have dealt with someone with mental illness in the past, and 20 (80%) said they have arrested a person with mental illness. Thirteen (54%) perceived people with mental illness to be as equally aggressive as those individuals not suffering from a mental illness, and 14, (58%) perceived people suffering from mental illness were equally as likely to commit violent crime than the average person not suffering from a mental illness.
Prior to the CIT training, the groups’ knowledge of mental illness was scored as \( M = 30.46, SD = 14.98 \) on the Knowledge Questionnaire pretest. On the posttest, subjects knowledge about mental illness improved, \( M = 37.02, SD = 16.2 \), \( t(24) = 2.841, p < .0125, \eta^2 = .2517 \) Moderate, \( d = .80 \) RMPE), thus achieving statistical significance (\( p = .009 \)). These data support the hypothesis that police officers’ knowledge about mental illness improved after CIT training. Specifically, CIT training contributed about 25.17% of change in knowledge measured by knowledge questionnaire which shifted by .80 standard deviation.

On the MIPQ pretest, the groups’ mean score on perception of persons with mental illness was \( M = 15.33 \) (\( SD = 3.81 \)). On the posttest, the groups’ perception score significantly improved, \( M = 18.79, SD = 3.15 \), \( t(23) = 3.9, p < .0125, \eta^2 = .3981 \) Moderate, \( d = 1.13 \) RMPE). CIT training contributed about 39.81% of change in perception measured by MIPQ which shifted by 1.13 standard deviation.

On the MIAQ pretest, the groups’ mean attitude score toward persons with mental illness was 7.5 (\( SD = 2.04 \)). On the posttest, mean attitudes \( M = 9.33, SD = 3.0 \) were significantly more favorable toward person with mental illness \( t(23) = 3.456, p < .0125, \eta^2 = .3418 \) Moderate, \( d = 1.00 \) RMPE). CIT training contributed about 34.18% of change in attitude measured by MIPQ which shifted by 1.00 standard deviation. See table 4 for overview of the results, and figure 1 for the graphic comparison of the means.

The knowledge component was further investigated in four components of knowledge personal, inconsistent, external and biological (see table 5). Although when Bonferroni corrections are applied, none of them were significant, it is worthwhile to
investigate the effect size for future study. See table 2 for the comparison. As all components had at least RMPE level of effect size, it indicates that there might have been significant findings if the collected sample size was larger. Using a subscale measurement derived from the original tool by Demir, Broussard, Goulding, & Compton, (2009), officers were divided into a subgroup for the purpose of a cluster analysis. This was based on four specific knowledge-types that emerged. The personal knowledge-type analysis assumed that officers’ personal, and/or family history of mental illness or substances were more likely to respond to CIT training with attitudinal changes. According to Demir, Broussard, Goulding, & Compton, (2009), the inconsistent knowledge-type highlighted one limitation of the MIKQ. The authors explained that it would have been helpful if the 30 items on this scale were more explicit in providing a single “correct” answer. The external knowledge type reflects how participants endorsed questions regarding the possibility of external/environmental insults to the brain. The biological knowledge type reflects the degree to which officers were more likely to endorse causes of mental illness that are more consistent with modern biological conceptions of mental illness. Analysis from this series of cluster analysis may provide an opportunity for further research to investigate which officers are more suitable for CIT training by virtue of and increased capacity to gain greater knowledge and develop empathetic responses. By using this relatively simple subscale design, it was shown that after the training, officers were less likely to endorse mental illness causes pertaining to personal and inconsistent conceptions of risk, and more likely to endorse causes consistent with modern external and biological conceptions of mental illness (Demir, Broussard, Goulding, & Compton, 2009). (See table 5).
Discussion

This project documents statistically significant changes in police officers' knowledge, perception and attitude scores towards PMI at the end of a week of CIT training. The results supported the hypothesis that after the training, officers’ knowledge would increase, while their perceptions and attitudes improved. This validates prior studies suggesting CIT programs may be effective across several domains. It can be inferred that different sociodemographic characteristics among the group of officers helped to influence the final scores. This includes an uneven distribution of race/ethnicity, a larger number of lower ranks, a well-represented education level, and few years of experience. Demir, Broussard, Goulding, & Compton, (2009) noted that years of experience as police officers significantly predicted retention of mental health knowledge among CIT-trained officers, though a number of other demographics and work-related characteristics did not.

The fact that 100% of officers acknowledged that they have dealt with someone with mental illness and 80% of them acknowledged that they have arrested a PMI may have also influenced the pre-post scores. The change in the MIJKQ mean total score indicated that either fewer items were endorsed or that items were endorsed with a lower level of certainty at the end of the training week. Values on both the MIPQ and the MIAQ also changed significantly after the week-long CIT training. This suggests that experiential training such as CIT can have significant influence on different knowledge base as well as individual characterological traits. Findings within this project suggest that exposure to the personal stories shared by consumers with psychiatric and substance abuse history, treatment, and recovery during the training may lead to changes in perceptions and attitudes.
toward mental illness over the course of the CIT training (see table 4). This underscores a need for further research to determine which police officers are ideally suited for CIT training by virtue of an increased capacity to develop empathetic responses.

The present findings indicate that CIT training may effectively align officers’ knowledge and understanding of mental illness closer to those existing within the mental health profession, thereby correcting myths and reducing stigmatizing perceptions and attitudes. This may help in achieving the goals of increasing rapport-building; improving de-escalation abilities, improving communication among officers and family members, and ultimately best practice outcomes in terms of referrals to mental health services and fewer incarcerations.

Several methodological limitations of this project warrant discussion. First, this project includes selection bias that could not be controlled. For example, police officers were assigned by their perspective departments rather than volunteering for the training. This is a deviation from the recommendation that officers should ideally volunteer (Compton, Broussard, Hankerson-Dyson, Krishman, & Sewart-Hutto, 2011). Compton & Chien, (2008) also pointed out that volunteered responders might be more diligent and enthusiastic, and more likely to be committed to CIT in terms of conscientiousness and altruism which may help to reduce the likelihood of those overt and covert resistance often observed during some training sessions.

Second, a more precise knowledge measurement tool with less variability (e.g. multiple choice questions) rather than Likert Scale format might have influenced the outcome. This Likert Scale relied on levels of endorsements rather than a definite right or wrong response.
An endorsement scale might be influenced by personal, internal, external, or inconsistent interpretations. Third, conducting a pretest-posttest evaluation over several training programs that include post training field competency might also have a different influence on the knowledge, perception, and attitude scales. Forth, the representative sample of police from the overall community was small and did not represent all racial/ethnic groups. For example, the sample was drawn from only 3 of the 35 (8.6%) police municipalities throughout the county attended the training. If more municipalities across a wider geographical area were represented, the 75% Latino, and 17% Caucasian, and 8% African-American/Blacks would have been more diversified. A more cross sectional representation might have yield a different outcome. It is important that sociodemographic variables be represented as a covariate in future CIT studies (Compton, Broussard, Hankerson-Dson, Krishman, & Stewart-Hutto, 2011). Although the increase in knowledge, perception, and attitude scores were statistically significant, further research is needed to determine the practical meaningfulness of the differences in post-training and follow-up scores. Also, before firm conclusions can be drawn in these arenas, a randomized controlled trial is recommended to validate differences in post CIT training knowledge, perception, and attitude scores.
Participants Subjective and Objective Responses to the Training

The majority of the officers responded to the CIT training with sincere appreciation. They commented that the training was a valuable learning experience and that they gained a better understanding of mental illness and how it affects people. Two officers were taking the CIT training for the second time over a 5-7 year period and commented that they learned new information.

During the course of the 5-day training, many officers shared personal and professional experiences (privately and publicly) dealing with someone (families, friends, coworkers) with mental illness and/or substance abuse. They expressed that their attitudes toward PMI have changed. One officer’s attempt to get clarification on what constituted mental illness by asking “If I see and hear the spirits of my dead relatives, does this mean I have mental illness?” This question was answered within the contexts of culture and functionality. Other questions/clarifications include issues such as vaccinations and mental illness and “how can deaf individuals hear voices?” The majority of the offices commented favorable on the role play scenarios that emphasized de-escalation techniques. They felt they created real life situations that allow them to integrate affective, cognitive and psychomotor learning skills into future practice when they encounter someone in a mental health crisis.

Probably the most noticeable positive response to the training was toward the consumers’ panel/presentations. Several individuals accompanied by their families who are diagnosed with major depression, schizophrenia, bipolar disorder, PTSD, alcohol/drug abuse, and autism spoke about their illness and recovery process. The officers were
observed to listen with intense respect, compassion, and empathy.

There was a negligible amount of overt and covert resistance toward the CIT training that did not seem to have any significant impact on the overall outcome of the training. This could probably explained by the fact that 26 (93%) of the 28 officers consented to participate in the project. For example, while completing the pre-test, one officer commented, “I don’t think our opinion will change after this training.” Another remarked, “After 35 years on the force, it doesn’t make sense to be taking this course now; anyway, I am getting ready to retire.”

**Project Evaluative Process**

The officers who successfully completed this 40-hour CIT program were certified as specialized CIT-Officers who will now be the preferred first responders to individuals experiencing a mental health crisis throughout the community within their jurisdictions. They will be able to incorporate basic knowledge of mental illnesses signs and symptoms into their daily routine patrol. Drawing on the wealth of existing empirical evidence on CIT, the results of this project could serve to influence both health and institutional policies at the local, state and national levels; as well as to evaluate the health promotion outcomes set forth in the objectives of this unique health program.

According to the Eleventh Judicial Circuit Criminal Mental Health Project (2011), there are approximately 6,500 patrol officers that make up the 35 police municipalities throughout incorporated Miami-Dade Counties. From this number, 3,700 (57%) have already been trained in CIT since the program began in the year 2000. The Eleventh Judicial Circuit Criminal Mental Health Project (2012) reported that during 2011, there
were 10,000 mental health emergency calls throughout Miami Dade Counties, while only 500 arrests were made. This statistics supports the effectiveness of a successful CIT program. Also, the Eleventh Judicial Circuit Criminal Mental Health Project (2012) reported that from 1999 to present 21 persons with mental illness have been killed by police, a marked decreased from an average 25 per year prior to the initiation of the CIT training. At any given time between 800 – 1200 people with mental illness are in Miami Dade Counties Jails. This is because Miami Dade County has the highest incidence of mental illness of the homeless population among any urban city across the United States [2-3 times the national average] (Eleventh Judicial Circuit Criminal Mental Health Project (2012).

From an evaluative standpoint, the primary investigator of this project was unable to obtain data on the actual cost of the CIT program either to individual police department or the Eleventh Judicial Circuit Criminal Mental Health Project since sponsoring the program in 2000. However, there is data suggesting the following achievements: (1) fewer people with mental illness are being killed by police, (2) fewer psychiatric patients are being arrested and booked to overcrowded jails where there is a less emphasis on treatment, (3) more patients are being diverted to psychiatric facilities for treatment rather than to jail, and (4) there are several models of “Jail Diversion Programs” that emphasize treatment rather than criminalization. These programs operate under the auspices of the Eleventh Judicial Circuit Criminal Mental Health Project which is being funded in part by grants from the National Institute of Mental Health (NIMH).

The data generated from this project provides evidence that CIT is a valid evidence-
based program with all the elements of best-practice across disciplines. This could have significant influence on policy makers and stakeholders to conduct cost-benefit analysis in an effort to validate and secure future grant funding. There is also grant opportunities for other nursing scholars to consider incorporating the concept of CIT into theory, research, education, advanced practice, leadership and health policy.

**Implications for Advanced Practice DNPs**

Given the complexities of mental health crisis events, special expertise is needed for planning and implementing specialized skills training on how to care for persons who are experiencing any form of emotional and behavioral disturbances that resulted in a psychiatric crisis. In this regard, advanced practice nurses with expertise in working with persons with mental illness can be catalysts for change. These changes need to be centered on evidence-based practice guidelines around a transformative process model such as CIT. As a blending of planning and implementation resources, nurses, other health care professionals are influencing, leading, facilitating practice change, and assessing outcomes. As a facet of professional health services, caring for people in crisis is an enduring feature of the nurse’s role in the community. The APN/DNP is well positioned to contribute their specialty and leadership expertise to contemporary community-based health programs such as CIT. Nurses, through their compassionate and highly competent practices; do have the capacity to positively influence the practice of other professionals through examples. This includes professionals such as law enforcement to improve officers’ self-efficacy and reduce social distance stigma. As front-line health care providers, hospital and community nurses are in a unique position to teach and educate a wide range of professionals, including
police officers, community leaders, and the general public about the benefit of CIT (RNAO, 2002). In some CIT 40-hour training curricula, nurses are represented as expert clinical instructors, consult/liaison, and preceptor/mentors. The end result of these joint efforts is that persons experiencing a psychiatric crisis in the community will be better served. From a nursing practice perspective, the CIT model is represents a process change idea.

**Summary and Conclusions**

The complexities of mental health crisis events require special expertise in planning and implementing specialized skills-training on how to care for persons who are experiencing these forms of emotional and behavioral disturbances. APN-DNPs are well positioned to contribute their various levels of expertise (education, research, practice, and policy) to contemporary evidence based community health programs such as CIT. Nurses have the capacity to influence the practice of other disciplines such as law enforcement. Several studies on the topic of CIT highlighted lack of knowledge, misperceived perceptions, and negative attitudes among police officers toward persons with mental illness (Ellis, 2011). This often results in adverse effects that include the use of unnecessary force, taking mentally ill persons to jail instead of psychiatric hospitals, and a growing number of ligations being sanctioned against police departments.

The results of this project contribute to the growing body of knowledge about CIT as an evidence-based mental health best practice initiative program that may promote safety for the officer as well as the person experiencing the mental health crisis. From a program evaluation standpoint, stakeholders and funders might gain useful information about the program’s worth and therefore continue to support it well into the future. The information
gathered from this project might also provide answers to the question of whether the CIT program is achieving its community objectives from a performance evaluation standpoint. Outcomes of this project could serve as a decision-making tool for clinical practice, administrative/management processes, policy-makers, and for other health officials whose aim is to promote social change for the betterment of society.
References


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308.


Crisis Prevention Institute, Inc. (2011). *Instructor manual for the nonviolent crisis intervention training program.* Brookfield, WI.


*Eleventh Judicial Circuit Criminal Court, Miami Dade County Florida.*


*Eleventh Judicial Circuit Criminal Court, Miami Dade County Florida.*


Hails, J. & Broum, R. (2003). Police training and specialized approaches to respond to


Table 1.

*Standard Crisis Intervention Team (CIT) 40 – Hour Course*

<table>
<thead>
<tr>
<th>Summary of Standard CIT 40 – Hour Class Didactics Model</th>
<th>Summary of Standard CIT 40 – Hour Course Content Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Mental Health Disease Processes</td>
<td>• Signs &amp; Symptoms of Mental Illness</td>
</tr>
<tr>
<td>• Signs &amp; Symptoms of Mental Illness</td>
<td>• Schizophrenia and Psychotic Disorders</td>
</tr>
<tr>
<td>• De-Escalation Techniques</td>
<td>• Mood – Depressive &amp; Bipolar Disorders</td>
</tr>
<tr>
<td>• Situational Role Play Scenarios</td>
<td>• Cognitive Disorders</td>
</tr>
<tr>
<td>• Film Vignettes</td>
<td>• Substance Abuse &amp; Co-Occurring Disorders</td>
</tr>
<tr>
<td>• Live Testimonials from CIT Officers &amp; Consumers/Families</td>
<td>• Anxiety &amp; Other Brain Disorders – PTSD</td>
</tr>
<tr>
<td>• Field Trips to Local Jails</td>
<td>• Disorders in Children &amp; Adolescents</td>
</tr>
<tr>
<td>• Field Trips to Local Psychiatric Facilities</td>
<td>• Risks to Self &amp; Others</td>
</tr>
<tr>
<td></td>
<td>• Psychotropic Medications</td>
</tr>
<tr>
<td></td>
<td>• Involuntary Treatment</td>
</tr>
<tr>
<td></td>
<td>• Community Resources</td>
</tr>
<tr>
<td></td>
<td>• Communication Techniques</td>
</tr>
<tr>
<td></td>
<td>• Needs of Mental Health Consumers</td>
</tr>
<tr>
<td></td>
<td>• Community Perspective</td>
</tr>
<tr>
<td></td>
<td>• Resiliency for the Officers on how to prevent PTSD</td>
</tr>
<tr>
<td></td>
<td>• Cultural Sensitivity &amp; Mental Illness</td>
</tr>
</tbody>
</table>
Table 2.

*General Demographic of Participants*

<table>
<thead>
<tr>
<th>Values</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>female</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>male</td>
<td>20</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black/African American</td>
<td>2</td>
<td>8%</td>
</tr>
<tr>
<td>Hispanic/ Latino</td>
<td>18</td>
<td>72%</td>
</tr>
<tr>
<td>White/ Caucasian</td>
<td>4</td>
<td>16%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Highest level of education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed grade 12</td>
<td>2</td>
<td>8%</td>
</tr>
<tr>
<td>Some college</td>
<td>10</td>
<td>40%</td>
</tr>
<tr>
<td>Completed college</td>
<td>12</td>
<td>48%</td>
</tr>
<tr>
<td>Graduate training after college</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Current rank</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Police</td>
<td>18</td>
<td>72%</td>
</tr>
<tr>
<td>Sergeant</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>Lieutenant</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Commander</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Years as police officer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 5</td>
<td>10</td>
<td>40%</td>
</tr>
<tr>
<td>5 to 10</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>10 to 15</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>15 to 20</td>
<td>3</td>
<td>12%</td>
</tr>
<tr>
<td>More than 20</td>
<td>6</td>
<td>24%</td>
</tr>
</tbody>
</table>
Table 3.

*Participants Perception and Interaction with Mentally Ill Individuals*

<table>
<thead>
<tr>
<th>Values</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience with PMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>25</td>
<td>100%</td>
</tr>
<tr>
<td>Experience arresting someone with PMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>20</td>
<td>80%</td>
</tr>
<tr>
<td>no</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>Frequency dealing with PMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>daily</td>
<td>4</td>
<td>16%</td>
</tr>
<tr>
<td>2 to 3 times weekly</td>
<td>8</td>
<td>32%</td>
</tr>
<tr>
<td>weekly</td>
<td>3</td>
<td>12%</td>
</tr>
<tr>
<td>every 2 weeks</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>monthly</td>
<td>3</td>
<td>12%</td>
</tr>
<tr>
<td>less than monthly</td>
<td>4</td>
<td>16%</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>8%</td>
</tr>
<tr>
<td>Perceived aggression of PMI versus non-PMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less aggressive than the average person</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>About the same as the average person</td>
<td>13</td>
<td>52%</td>
</tr>
<tr>
<td>More aggressive than the average person</td>
<td>10</td>
<td>40%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Perceived level of violent crime in PMI versus non-PMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less aggressive than the average person</td>
<td>4</td>
<td>16%</td>
</tr>
<tr>
<td>About the same as the average person</td>
<td>14</td>
<td>56%</td>
</tr>
<tr>
<td>More aggressive than the average person</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>Much more aggressive than the average person</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Average number of monthly contact with PMI</td>
<td>8.86</td>
<td>10.43</td>
</tr>
</tbody>
</table>
Table 4.

Results of Knowledge, Perception and Attitude Pre and Post

<table>
<thead>
<tr>
<th>Questionnaire Type</th>
<th>Pre</th>
<th>Post</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>η²</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>30.46</td>
<td>37.02</td>
<td>2.841</td>
<td>24</td>
<td>.009</td>
<td>.2517</td>
<td>0.80</td>
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<tr>
<td>Perception</td>
<td>15.33</td>
<td>18.79</td>
<td>3.900</td>
<td>23</td>
<td>.001</td>
<td>.3981</td>
<td>1.13</td>
</tr>
<tr>
<td>Attitude</td>
<td>7.50</td>
<td>9.33</td>
<td>3.456</td>
<td>23</td>
<td>.002</td>
<td>.3418</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Table 5.

*Mean Knowledge Component Scores Comparison between Pre and Post Training*

<table>
<thead>
<tr>
<th>Knowledge Type</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>p</th>
<th>$\eta^2$</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal</td>
<td>Pre</td>
<td>15.61</td>
<td>7.48</td>
<td>2.459</td>
<td>.022</td>
<td>.201</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>18.88</td>
<td>8.33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inconsistent</td>
<td>Pre</td>
<td>4.44</td>
<td>4.87</td>
<td>1.948</td>
<td>.063</td>
<td>.137</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>5.72</td>
<td>5.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External</td>
<td>Pre</td>
<td>8.32</td>
<td>3.91</td>
<td>1.533</td>
<td>.138</td>
<td>.089</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>9.53</td>
<td>4.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological</td>
<td>Pre</td>
<td>3.48</td>
<td>1.33</td>
<td>2.221</td>
<td>.036</td>
<td>.170</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>4.20</td>
<td>1.56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* df = 24, all effect sizes are RMPE
Figure 1. Mean Differences of each Measurement between Pre and Post Training