

Preliminary Evidence of Effects of Crisis Intervention Team Training on Self-Efficacy and Social Distance

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Published online: 27 November 2007
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Abstract *Objective* The Crisis Intervention Team (CIT) program is a collaborative model involving mental health professionals and law enforcement officers that is being implemented in a multitude of localities across the country. This study had two main objectives: (1) To assess perceptions of self-efficacy and desired social distance of control officers and officers entering CIT training with regard to individuals with psychiatric syndromes (depression and schizophrenia) and individuals with substance dependence (alcohol and cocaine), and (2) To examine the effects, if any, of CIT training on self-efficacy and social distance. *Methods* Between March and July 2006, a survey was administered to 34 control police officers, 58 officers just before a 40-h CIT training program, and 40 of these officers upon completion of the training. *Results* At baseline, pre-CIT officers did not differ from control non-CIT officers in terms of self-efficacy or social distance relating to the four disorders. Officers trained in CIT demonstrated enhanced self-efficacy for interacting with individuals with depression, cocaine dependence, schizophrenia, and alcohol dependence. Additionally, CIT-trained officers reported reduced social distance regarding individuals with these four psychiatric conditions. Regarding the schizophrenia vignette, there was a significant interaction between pre-CIT/post-CIT status and family history of psychiatric

treatment in the prediction of social distance. *Conclusions* Enhancements in self-efficacy and reductions in social distance may have important implications in terms of improving officers' interactions with people with mental illnesses and substance use disorders. Given the importance of the problem of law enforcement/criminal justice involvement among people with such illnesses, and the dearth of research on this growing collaborative service model, further research is needed on officer-level outcomes of the CIT program.

Keywords Crisis Intervention Team · Law enforcement · Mental illness · Police officers · Self-efficacy · Social distance

Introduction

Law enforcement officers frequently respond to calls involving individuals with serious mental illnesses or addictive disorders. Therefore, it is crucial that officers are equipped with knowledge about these illnesses and specialized crisis intervention and de-escalation skills. In 1988, the Crisis Intervention Team (CIT) program was developed by the Memphis Police Department in partnership with the Memphis chapter of the National Alliance on Mental Illness, the University of Memphis, and the University of Tennessee to enhance collaborations between law enforcement and mental health systems (Steadman et al. 2000). The establishment of CIT was a response to a local incident in which an armed man with a history of a mental illness was killed by a police officer (Dupont and Cochran 2000). The CIT program, which is now being widely implemented across the United States (US), provides advanced training for officers to assure the immediate

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delivery of proper care to individuals with mental illnesses or substance use disorders requiring emergency attention by public safety professionals.

The Memphis model of CIT includes 40 h of instructive and interactive training in which police officers, who are typically self-selected into the program, work with mental health professionals, advocates, and law enforcement teachers to learn, develop, and master effective crisis intervention skills (Dupont and Cochran 2000; Bower and Pettit 2001). In addition to this training component, the CIT model emphasizes developing partnerships between police departments and people with mental illnesses, advocates, and mental health providers. These relationships, in turn, permit collaboration in designing and employing responses to ensure access to appropriate services. It is hoped that the implementation of this model in various localities will produce encouraging results such that fewer persons with mental illnesses will be subjected to unnecessary incarceration, and instead, will be provided with emergency psychiatric services (Dupont and Cochran 2000; Steadman et al. 2000; Bower and Pettit 2001).

A survey by Compton and colleagues revealed that after CIT training, officers showed improved attitudes concerning aggressiveness among individuals with schizophrenia, greater knowledge about that disorder, and lower levels of social distance (Compton et al. 2006). Given the promising potential of the CIT program and its extensive and growing implementation in communities nationwide, further research related to a broader array of outcome measures (including officer-level outcomes such as enhancements in self-efficacy and reductions in stigma/social distance) is needed.

Self-efficacy is a concept elaborated by Bandura (1977, 1986) that provides an approach to predicting behavior change by assessing an individual's belief in his or her ability to successfully perform a specific task in a particular setting. Self-efficacy can be viewed as "situation-specific confidence" that a person can overcome barriers and cope with challenges to satisfy specific situational demands (Bandura 1982; Glanz et al. 2002). Social cognitive theory, within which self-efficacy occupies a central role, predicts the initiation and adherence of a new behavior reflecting one's perception of how acquired skills/knowledge can be utilized (Bandura 1986). In relation to CIT training, officers' self-efficacy should translate into desirable behavioral interactions between themselves and individuals with mental illnesses. Unfortunately, very little research has assessed this construct among police officers, though general self-efficacy has been measured among other public safety professionals, such as firefighters (Regehr et al. 2000; Pillai and Williams 2004; Heinrichs et al. 2005).

Social distance, a form of stigma, is another construct that can be used to predict officers' interactions with

individuals with mental illnesses. Initially defined by Park (1924), social distance can be described as the degrees of understanding and intimacy that characterize social relations. Regarding mental illnesses, a measure of social distance estimates one's comfort level, or how close a person is willing to be to someone with a mental illness. One previous study demonstrated that police officers have reduced social distance toward individuals with schizophrenia following completion of CIT training, but did not assess officers' stigma in relation to other mental illnesses (Compton et al. 2006). The social distance construct has been employed extensively as a measure of one aspect of stigma in a multitude of diverse studies (Link et al. 2004).

For CIT to be promoted as an effective, evidence-based service model grounded in collaboration between law enforcement and mental health, outcomes of the program must be demonstrated. Because distal outcomes (such as reductions in unnecessary incarceration) will be more difficult to demonstrate, proximal officer-level outcomes may be a starting point for empirical research on CIT. There were two objectives of this study. First, perceptions of self-efficacy and desired social distance of control officers and officers entering CIT training were assessed with regard to individuals with psychiatric syndromes (depression and schizophrenia) and individuals with substance dependence (alcohol and cocaine). Second, the effects, if any, of CIT training on self-efficacy and social distance were examined.

Method

Setting and Sample

A multi-disciplinary collaboration began a statewide implementation of CIT training in Georgia in late 2004 (Oliva and Compton 2007). Since that time, ~1,700 law enforcement officers have been trained in multiple localities throughout the state, though the majority of trainings have been in the metropolitan Atlanta area. The training program consists of 40 h that includes structured lectures and discussions by mental health professionals and advocacy groups, site visits to local emergency receiving facilities and inpatient psychiatric units, and experiential de-escalation training using videos and role-playing. During the classroom portion of the training, 1 h is dedicated to each of the following topics: depression, substance abuse, and schizophrenia; however, a number of other topics are covered. This study focused on two psychiatric illnesses (depression and schizophrenia) and two substance use disorders (cocaine dependence and alcohol dependence) due to the fact that these conditions are commonly encountered by CIT officers, especially in urban settings.

Control group participants were sampled from in-service trainings held at a local police academy. These annual trainings, mandatory for all officers, provide continuous and updated information on the latest techniques and strategies in law enforcement, and do not deal with crisis intervention or mental illnesses. CIT officers who happened to be at these trainings were excluded from participating as controls; remaining officers were asked to complete the survey prior to the beginning of their in-service. This non-CIT control group ($n = 34$), hereafter referred to as control officers, served as a baseline comparison to the pre-CIT participants ($n = 58$). CIT officers were sampled at the beginning and conclusion of CIT training weeks. These officers, who came from a range of area precincts, self-selected to obtain training in crisis intervention. Four training courses provided pre-test data ($n = 58$), whereas post-test data were only available from three courses ($n = 40$). There were no apparent differences between the groups with and without follow-up data. The training sites and the CIT program leadership approved of and supported the study, as it served as part of the program's ongoing evaluation and research. Officers were cooperative and readily volunteered their time to the study.

Procedures

Data were collected between March and July 2006. For CIT officers, the pre-tests were distributed before instruction began on Monday mornings. The post-tests, identical to the pre-test except for the omission of demographic questions, were given to officers after completion of instruction and prior to class dismissal on Friday afternoons. Completion of surveys took ~20 min. Each class, conducted in the greater Atlanta area, included ~15–20 officers from local and predominantly metropolitan jurisdictions.

Informed consent was obtained using a participant information document, which notified participants that completion of the survey implied consent to use their information. Respondents were informed that their signatures would not be required, in order to maintain anonymity. Pre-test and post-test surveys were matched using a unique identifier based on three items reported by the officers, such as the first letter of the street of the participant's home address. All documents and instruments were approved by the university's institutional review board.

Materials

The first portion of the survey instrument assessed a number of basic demographic characteristics, including age, gender, race/ethnicity, marital status, educational

attainment, yearly income, and number of years having worked as a police officer. Several variables also assessed past exposure to psychiatric treatment for either the officer or his or her family members.

Due to the unavailability of a scale assessing officers' self-efficacy for skills acquired in CIT training, a ten-item scale was developed specifically for this study. Items were constructed around four slightly adapted vignettes taken from the MacArthur Mental Health Module of the 1996 General Social Survey. These vignettes, whose exact wording was available from Link et al. (1999), were written to represent four individuals with symptoms reflecting *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) descriptions of two psychiatric illnesses (depression and schizophrenia) and two substance use disorders (cocaine dependence and alcohol dependence). The four vignettes, to which the self-efficacy and social distance items referred, described four hypothetical individuals: David, a 28-year-old male with a depressive syndrome; Jessica, a 32-year-old female with cocaine addiction; John, a 26-year-old male with psychosis consistent with schizophrenia; and Karen, a 36-year-old female with alcohol dependence. These individuals varied in gender and age; however, race/ethnicity, educational level, and other sociodemographic characteristics were not described, in an attempt to avoid any influence of these characteristics on officers' responses.

Self-efficacy items relating to the vignettes, present in both the pre-test and the post-test, asked officers to respond to questions such as "How confident would you feel de-escalating a conflict involving someone like (John)?" and "How confident would you feel talking to someone like (John) about his medications?" A four-point Likert scale ranging from "not at all confident" to "very confident" was used to assess officers' responses. Individual item responses were summed to create a total score (ranging from 10 to 40) for each vignette-associated condition, with higher scores indicating greater self-efficacy. Internal consistency reliability was examined for the self-efficacy scales that followed each of the four vignettes (depression, cocaine dependence, schizophrenia, and alcohol dependence). These Cronbach's α -values were 0.87, 0.88, 0.90, and 0.92, respectively.

Five items, adapted from the Social Distance Scale (Bogardus 1925; Link et al. 2004), were utilized to assess officers' stigma/social distance toward the hypothetical individuals depicted in the four vignettes. This modified scale measured officers' levels of comfort in increasingly close personal relationships with individuals with a mental illness. Sample items included "How willing would you be to live next door to (John)?" and "How willing would you be to have (John) marry into your family?" Police officers were asked to rate their level of comfort on a four-point

Likert scale ranging from “very willing” to “very unwilling.” Again, individual item responses were summed to create a total score, ranging from 5 to 20, for each vignette-associated condition, and higher scores indicated greater desire for social distance. Internal consistency reliability was ascertained for the adapted Social Distance Scale that followed the four vignettes. These Cronbach’s α -values were 0.89, 0.89, 0.90, and 0.89 for the vignettes depicting depression, cocaine dependence, schizophrenia, and alcohol dependence, respectively.

Data Analysis

Data cleaning and basic descriptive statistics revealed little missing data, likely due to both the officers’ cooperation and the ease of completing the relatively brief survey. To be conservative, missing data values were not imputed and analyses were conducted excluding cases with missing data on the respective variables included in hypothesis tests. Descriptive statistics were calculated to summarize demographic and background characteristics of the participating officers. Using independent samples Student’s *t*-tests for continuous variables and chi-square tests for categorical variables, control officers were compared with CIT officers with regard to a number of demographic characteristics and variables assessing past exposure to psychiatric treatment. Then, the following hypothesis tests were conducted: (1) Independent samples Student’s *t*-tests to compare mean self-efficacy scores in control officers and pre-CIT officers, (2) paired samples Student’s *t*-tests to compare self-efficacy scores before and after CIT training, (3) independent samples Student’s *t*-tests to compare mean social distance scores in control officers and pre-CIT officers, and (4) paired samples Student’s *t*-tests to compare social distance scores before and after CIT training. Then, 2×2 mixed design analyses of variance (ANOVAs) were used to control for other variables that were associated with self-efficacy or social distance scores. In these analyses, within-subjects effects (pre-CIT/post-CIT) and between-subjects effects (e.g., significant demographic correlates), as well as any interaction effects, were examined. All analyses were conducted using the SPSS Version 14.0 software package for Windows.

Results

Demographic and Background Characteristics of Non-CIT and CIT Officers

Officers ranged in age from 22 to 61 years, with a mean of 40.8 ± 8.2 years. One-quarter (25.3%) of the officers were

female. Approximately half (53.8%) self-identified as Black/African American, 42.9% as White/Caucasian, and 3.3% as other. Half (51.1%) of officers had completed high school or some college, whereas 47.9% reported completing college and/or graduate school. Participants reported having worked as an officer on average for 14.3 ± 8.7 years. As shown in Table 1, these and other basic demographic characteristics did not differ between the groups of control police officers and officers enrolled in CIT training ($p > 0.05$ for all comparisons).

Control officers and those participating in CIT were compared with regard to several variables assessing past exposure to psychiatric treatment. Although not statistically significant, 8.8% of control officers reported ever having received or currently receiving psychiatric treatment (such as therapy, counseling, or medicine for emotional problems), compared to 22.4% of CIT officers ($\chi^2 = 2.76$, $df = 1$, $p = 0.10$). Similarly, control officers were less likely to report a family member having ever received or currently receiving psychiatric treatment compared to CIT officers (11.8% vs. 25.9%). Control officers were also less likely to report having a family member or friend in the mental health profession (26.5% vs. 44.8%), though these comparisons failed to reach statistical significance ($\chi^2 = 2.60$, $df = 1$, $p = 0.11$ and $\chi^2 = 3.06$, $df = 1$, $p = 0.08$, respectively). It should be noted, however, that samples sizes were relatively small for these analyses.

Table 1 Demographic characteristics of controls and CIT officers

Variable	Controls (<i>n</i> = 34)	CIT (<i>n</i> = 58)
Age, years	41.3 \pm 7.7	40.5 \pm 8.5
Gender, female	7 (21.2%)	16 (27.6%)
Race/ethnicity		
Black/African American	15 (46.9%)	34 (60.7%)
White/Caucasian	17 (53.1%)	22 (39.3%)
Other	1 (0.03%)	2 (0.04%)
Marital status		
Single/never married	6 (18.2%)	12 (20.7%)
Married/with partner	19 (57.6%)	36 (62.1%)
Separated, divorced, or widowed	8 (24.2%)	10 (17.2%)
Educational attainment		
Completed high school or some college	17 (50.0%)	31 (53.4%)
Completed college and/or graduate school	44 (50.0%)	27 (46.6%)
Yearly income		
\leq \$60,000	15 (45.5%)	28 (49.1%)
$>$ \$60,000	18 (54.5%)	29 (50.9%)
Number of years working as an officer	16.8 \pm 8.5	13.8 \pm 8.1

Mean Item Responses for Self-Efficacy and Social Distance

The items of the self-efficacy scale, along with mean item responses are shown in Table 2. For the total sample, self-efficacy scores ranged from 21 to 40 for the depression vignette (mean 32.7 ± 4.7), 19–40 for the cocaine dependence vignette (32.3 ± 5.3), 15–40 for the schizophrenia vignette (31.3 ± 6.0), and 15–40 for the alcohol dependence vignette (33.1 ± 5.7).

Social Distance Scale items and the officers' mean item responses are shown in Table 3. Combining controls and pre-CIT officers, the range of social distance scores was: 6–20 for the depression vignette (mean 13.7 ± 3.3), 10–20 for the cocaine dependence vignette (17.5 ± 2.7), 10–20 for the schizophrenia vignette (16.9 ± 3.1), and 8–20 for the alcohol dependence vignette (15.5 ± 3.0).

Self-Efficacy

Comparisons between CIT Officers and Control Officers and Correlates of Self-Efficacy

Self-efficacy scores, linked to each of the four vignettes, did not significantly differ between officers beginning CIT training and officers in the control group (Table 4).

Potential associations between self-efficacy scores and demographic variables were explored. Self-efficacy scores were not associated with: age, gender, race/ethnicity, marital status (married or living with a partner versus single/never married, separated, divorced, or widowed), educational attainment, or number of years working as an officer (all $p > 0.05$). However, self-efficacy scores for two of the four clinical conditions (depression and alcohol dependence) were significantly associated with yearly income

Table 2 Items of the self-efficacy scale and mean \pm SD item responses

Item	Depression	Cocaine dependence	Schizophrenia	Alcohol dependence
How confident would you feel interacting with someone like (John)?	3.20 \pm 0.71	3.02 \pm 0.86	2.93 \pm 0.83	3.25 \pm 0.71
How confident would you feel talking to someone like (John) about his symptoms?	3.15 \pm 0.73	3.22 \pm 0.83	2.77 \pm 0.93	3.27 \pm 0.67
How confident would you feel calming down someone like (John)?	3.26 \pm 0.64	3.22 \pm 0.68	3.00 \pm 0.86	3.38 \pm 0.61
How confident would you feel bringing in someone like (John) to a mental health facility?	3.41 \pm 0.63	3.18 \pm 0.86	3.45 \pm 0.78	3.30 \pm 0.82
How confident would you feel interacting with family members of someone like (John)?	3.44 \pm 0.58	3.35 \pm 0.72	3.29 \pm 0.76	3.44 \pm 0.69
How confident would you feel talking to someone like (John) about his illness?	3.08 \pm 0.77	3.21 \pm 0.75	2.88 \pm 0.88	3.32 \pm 0.74
How confident would you feel de-escalating a conflict involving someone like (John)?	3.30 \pm 0.66	3.31 \pm 0.66	3.19 \pm 0.83	3.38 \pm 0.63
How confident would you feel making a referral to services for someone like (John)?	3.56 \pm 0.60	3.53 \pm 0.69	3.51 \pm 0.74	3.42 \pm 0.67
How confident would you feel talking to someone like (John) about his medications?	3.00 \pm 0.90	2.95 \pm 0.91	2.86 \pm 0.97	2.99 \pm 0.94
How confident would you feel discussing someone like (John) with a mental health professional?	3.34 \pm 0.71	3.32 \pm 0.77	3.45 \pm 0.69	3.33 \pm 0.82

Table 3 Items of the social distance scale and mean \pm SD item responses

Item	Depression	Cocaine dependence	Schizophrenia	Alcohol dependence
How willing would you be to live next door to (John)?	2.56 \pm 0.83	3.45 \pm 0.62	3.35 \pm 0.72	3.00 \pm 0.75
How willing would you be to spend an evening socializing with (John)?	2.73 \pm 0.83	3.35 \pm 0.77	3.31 \pm 0.81	2.96 \pm 0.73
How willing would you be to make friends with (John)?	2.58 \pm 0.75	3.41 \pm 0.67	3.22 \pm 0.77	2.95 \pm 0.74
How willing would you be to work closely with (John) on the job as a colleague?	2.67 \pm 0.83	3.53 \pm 0.66	3.42 \pm 0.72	3.19 \pm 0.71
How willing would you be to have (John) marry into your family?	3.17 \pm 0.78	3.71 \pm 0.53	3.62 \pm 0.59	3.36 \pm 0.68

Table 4 Comparison of self-efficacy and social distance scores in controls and pre-CIT officers ($n = 92$)

	Controls ($n = 34$)	Pre-CIT ($n = 58$)	t -test statistic (df), p
Self-efficacy			
Depression	33.2 ± 5.3	32.5 ± 4.4	0.66 (87), $p = 0.51$
Cocaine dependence	33.0 ± 5.8	31.9 ± 5.1	0.95 (89), $p = 0.35$
Schizophrenia	31.3 ± 6.7	31.3 ± 5.7	0.01 (87), $p = 0.99$
Alcohol dependence	33.5 ± 6.2	32.9 ± 5.4	0.46 (89), $p = 0.64$
Social distance			
Depression	14.2 ± 3.2	13.4 ± 3.4	1.17 (90), $p = 0.24$
Cocaine dependence	17.8 ± 2.4	17.2 ± 2.9	1.05 (89), $p = 0.30$
Schizophrenia	17.3 ± 2.7	16.7 ± 3.3	0.84 (89), $p = 0.40$
Alcohol dependence	15.5 ± 2.4	15.4 ± 3.3	0.16 (89), $p = 0.88$

($t = 1.96$, $df = 85$, $p = 0.05$ and $t = 2.13$, $df = 86$, $p = 0.04$, respectively), and self-efficacy scores for the other two conditions (cocaine dependence and psychosis) were associated with yearly income at a trend level ($t = 1.80$, $df = 86$, $p = 0.08$ and $t = 1.67$, $df = 84$, $p = 0.10$, respectively). In each case, officers with an income of $> \$60,000$ per year had higher self-efficacy scores than those with a yearly income of $\leq \$60,000$. Self-efficacy scores were not associated with personal history of ever having received or currently receiving psychiatric treatment, having a family member who has ever received or is currently receiving psychiatric treatment, or having a family member or friend in the mental health profession (all $p > 0.05$).

Changes in Self-Efficacy after CIT Training

Self-efficacy scores significantly increased following completion of CIT training for the vignettes describing each of the four conditions (Table 5).

Table 5 Comparison of self-efficacy and social distance scores in pre-CIT and post-CIT officers ($n = 40$)

Variable	Pre-CIT ($n = 40$)	Post-CIT ($n = 40$)	t -test statistic (df), p
Self-efficacy			
Depression	31.9 ± 4.4	35.4 ± 3.8	5.13 (37), $p < 0.001$
Cocaine dependence	31.2 ± 4.9	34.9 ± 4.5	4.60 (38), $p < 0.001$
Schizophrenia	30.8 ± 5.7	35.0 ± 4.4	4.65 (38), $p < 0.001$
Alcohol dependence	32.3 ± 5.4	35.2 ± 4.1	3.82 (37), $p < 0.001$
Social distance			
Depression	13.1 ± 3.4	10.8 ± 3.3	3.32 (38), $p = 0.007$
Cocaine dependence	16.9 ± 2.8	14.4 ± 3.0	5.98 (38), $p < 0.001$
Schizophrenia	16.3 ± 3.3	13.2 ± 2.9	5.45 (38), $p < 0.001$
Alcohol dependence	14.9 ± 2.9	13.4 ± 3.5	3.43 (36), $p = 0.002$

Because of the potential effect of yearly income, 2×2 mixed design ANOVAs were then conducted to examine within-subjects effects (pre-CIT/post-CIT) and between-subjects effects (yearly income), as well as any interaction effects. Findings of these four ANOVAs are shown in Table 6. Post-CIT status and higher yearly income were both predictive of higher self-efficacy scores pertaining to depression and schizophrenia. For cocaine dependence and alcohol dependence, yearly income was not a statistically significant correlate, though scores increased from pre-CIT to post-CIT survey administrations. There were no significant interaction terms in any of the four ANOVAs.

Social Distance

Comparisons between CIT Officers and Control Officers and Correlates of Social Distance

Social distance did not significantly differ between officers at the beginning of CIT training and control officers in relation to any of the four vignettes (Table 4).

Potential associations between social distance scores and demographic variables were explored. Social distance scores were not associated with the following variables: age, race/ethnicity, dichotomized marital status, educational attainment, yearly income, or number of years working as an officer (all $p > 0.05$). However, social distance scores for two of the four clinical conditions (depression and alcohol dependence) were nearly significantly or significantly associated with gender ($t = 1.94$, $df = 88$, $p = 0.06$ and $t = 2.09$, $df = 87$, $p = 0.04$, respectively). In both instances, female officers had lower social distance scores than male officers. Social distance scores were not associated with personal history of ever having received or currently receiving psychiatric treatment, or having a family member or friend in the mental health profession (both $p > 0.05$). However, officers reporting having a family member who has ever received or is currently receiving psychiatric treatment had, at a trend level of significance, lower social distance scores on the vignettes pertaining to depression ($t = 1.78$, $df = 89$, $p = 0.08$), psychosis ($t = 1.98$, $df = 88$, $p = 0.05$), and alcohol dependence ($t = 1.74$, $df = 87$, $p = 0.08$).

Changes in Social Distance after CIT Training

As shown in Table 5, social distance scores significantly decreased following completion of CIT training for the vignettes describing each of the four conditions.

Because of the potential effect of gender and having a family member who had received psychiatric treatment,

Table 6 Results of 2×2 mixed design ANOVAs

Self-efficacy	
Depression	
Pre-CIT/post-CIT	$F(1,35) = 24.03, p < 0.001$
Yearly income	$F(1,35) = 4.53, p = 0.04$
Interaction	ns
Cocaine dependence	
Pre-CIT/post-CIT	$F(1,36) = 20.85, p < 0.001$
Yearly income	ns
Interaction	ns
Schizophrenia	
Pre-CIT/post-CIT	$F(1,36) = 21.03, p < 0.001$
Yearly income	$F(1,36) = 5.65, p = 0.02$
Interaction	ns
Alcohol dependence	
Pre-CIT/post-CIT	$F(1,35) = 12.64, p = 0.001$
Yearly income	ns
Interaction	ns
Social distance	
Depression	
Pre-CIT/post-CIT	$F(1,35) = 9.20, p = 0.005$
Gender	ns
Family history of treatment	ns
Interactions	ns
Cocaine dependence	
Pre-CIT/post-CIT	$F(1,35) = 24.90, p < 0.001$
Gender	ns
Family history of treatment	ns
Interactions	ns
Schizophrenia	
Pre-CIT/post-CIT	$F(1,35) = 21.11, p < 0.001$
Gender	ns
Family history of treatment	ns
Interactions	$F(1,35) = 5.80, p = 0.02^*$
Alcohol dependence	
Pre-CIT/post-CIT	$F(1,33) = 6.11, p = 0.02$
Gender	ns
Family history of treatment	ns
Interactions	ns

* Significant interaction term: Pre-CIT/post-CIT \times family history of treatment

2×2 mixed design ANOVAs were then performed to examine within-subjects effects (pre-CIT/post-CIT) and between-subjects effects (gender and family history of psychiatric treatment), as well as any interaction effects. Findings of these four ANOVAs are shown in Table 6. For the depression, cocaine dependence, and alcohol dependence vignettes, scores were significantly associated with pre-CIT/post-CIT status only (the effects of gender and family history of psychiatric treatment were not

significant). For schizophrenia, scores again decreased from pre-CIT to post-CIT survey administrations, but there also was a significant interaction between pre-CIT/post-CIT status and family history of psychiatric treatment. Whereas officers with a family history of psychiatric treatment had some decline in social distance scores (pre-/post-estimated marginal means: 14.8 and 13.6, respectively), those without a family history of psychiatric treatment had higher initial scores and greater decrements in social distance as a result of the training (pre-/post-estimated marginal means: 16.9 and 12.8, respectively).

Discussion

By assessing the change in self-efficacy and social distance/stigma among officers who participated in the CIT program, this study begins to address the very limited empirical research on CIT in the existing literature (Compton et al. 2007) and provides further knowledge about the attitudinal changes that may occur as a result of CIT training. This study revealed three key findings: (1) despite similar demographic characteristics, CIT officers appear to have a greater number of personal and familial experiences with mental illnesses compared to control officers (though this finding requires testing in larger samples); (2) after participating in CIT training, self-efficacy increased with regard to all four conditions assessed (two of which were psychiatric illnesses and two were substance use disorders); and (3) social distance decreased after CIT training for each of the four disorders that were assessed. This study also demonstrated that some background characteristics of officers may influence these variables, as demonstrated by the significant effects of yearly income on self-efficacy scores. Additionally, there was some evidence that CIT officers may start out with greater sensitivities than non-CIT officers, as demonstrated by the significant interaction term between pre-CIT/post-CIT status and family history of psychiatric treatment with respect to social distance toward the individual depicted in the vignette on schizophrenia.

This is the first study to address self-efficacy among CIT officers. Overall, the findings highlight the relevance of CIT training in enabling police officers to have greater confidence in their ability to interact with people who have mental illnesses and substance use disorders. Furthermore, post-CIT officers reported greater comfort with closeness to individuals with mental illnesses. It seems reasonable to assume that enhancements in self-efficacy and reductions in social distance may have important implications in terms of improving officers' interactions with people with mental illnesses. This may, in turn, lead to greater safety for subjects and officers, more appropriate triage decisions

(e.g., referral to a treatment facility when indicated rather than incarceration), and better satisfaction on the part of subjects and their family members with regard to the crisis interaction. These testable hypotheses deserve further research attention.

Several methodological limitations should be considered when interpreting these findings. First, the sample size was relatively small and future research on officer-level outcomes of CIT programs should rely on larger samples. Nonetheless, very little research exists on CIT training, and the study objectives were accomplished using this relatively small sample. Second, given the self-report nature of the survey, self-efficacy and social distance measures may have been influenced by social desirability bias. This type of bias is possible despite the wide use of self-report scales on self-efficacy and the long tradition of using the Social Distance Scale for research. Police officers may mistrust “anonymous” surveys and may have difficulty noting a lack of confidence about their job. In future research, it may be important to develop questions for officers that do not use the term “confidence” but rather ask them to indicate actions that would show confidence (such as how likely they would be to call for back up or notify a supervisor). Furthermore, more work must be done to develop valid scales to measure self-efficacy, social distance, and other constructs in a police sample. This is particularly salient due to the nature of police work; for example, officers must have self-confidence to succeed, and officers cannot choose who to interact with or respond to in their daily work. Third, this study focused on four specific conditions—two psychiatric illnesses (depression and schizophrenia), and two substance use disorders (alcohol and cocaine dependence)—because they are commonly encountered by public safety officials, especially in urban settings. Future research should consider a broader spectrum of illnesses that may be encountered by officers, including dementia, personality disorders, post-traumatic stress disorder, and developmental disabilities. Additionally, this study presented vignettes that featured subjects of both genders. Given that the majority of participants were male, future research should consider and explore the impact of gender on officers’ responses to vignette-based questionnaires. Fourth, the control officers were not re-tested, though doing so would help to exclude the possibility that any form of officer training results in changes in self-efficacy and social distance scores. However, this seems unlikely given that control officers were engaged in in-service trainings that were completely unrelated to mental health issues.

This survey—one of the few studies on the CIT program, which is being implemented in a multitude of localities across the country—suggests that the training curriculum is effective at enhancing self-efficacy and

reducing stigma/social distance among police officers. As such, the study demonstrates that the training program affects officers’ attitudes; however, it does not address changes in behaviors as a result of the training. Future research should examine officer-level outcomes in behavioral domains above and beyond attitudinal change, as well as attitudinal and behavioral changes in the months and years following training. CIT is a complex collaborative service enhancement implemented at the local level. For the program to flourish, partnerships must be built between the advocacy community, administration and leadership within the local mental health system, and administration and leadership within the local law enforcement community. Involving academic partners (e.g., students and faculty at local colleges and universities) will promote the growth of empirical research on this collaborative model, especially in light of the dearth of research on CIT to date (Compton et al. 2007).

Future research efforts studying CIT should assess additional officer-level outcomes using larger sample sizes, as well as outcomes of subjects with whom officers interact (including fewer arrests, improved pathways to mental health care, and enhanced treatment engagement), family level outcomes (such as satisfaction with officers’ responses and triage decisions), as well as systems outcomes (e.g., increased collaboration between public safety/criminal justice and mental health services, improved efficiency of emergency receiving facilities in terms of accepting referrals from law enforcement officers). Ultimately, preliminary research focusing on officer-level attitudinal changes such as this will set the stage for more comprehensive assessments of the impact of CIT training on officers’ attitudes and behaviors. This would then provide a foundation for studying consumer-level outcomes, and even systems-level outcomes, so that an evidence base for the CIT model can be established. Such research will, in turn, lead to improvements of the CIT model and other collaborations between law enforcement/criminal justice and mental health.

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