

UTILIZING CRISIS INTERVENTION TEAMS IN PRISON TO IMPROVE OFFICER KNOWLEDGE, STIGMATIZING ATTITUDES, AND PERCEPTION OF RESPONSE OPTIONS

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People with mental illness (MI) are overrepresented in prisons, in part, because people with MI stay in prison longer. Correctional officers (COs) use discretion in force, violations, and segregation. Crisis intervention teams (CITs) are being used in corrections to reduce disparities in sanctioning and improve safety. This quasi-experimental, mixed-methods study includes 235 CIT COs who were surveyed before and after training on knowledge of MI, stigmatizing attitudes, and perception of response options. Non-CIT ($n = 599$) officers completed the same survey. Randomly selected CIT COs completed interviews 6 to 9 months following training ($n = 17$). CIT COs had significantly lower stigmatizing attitudes, more mental health knowledge, and better perceptions of options following CIT training compared with non-CIT COs. This preliminary work on CIT use in prison is promising; additional work is needed to determine whether these changes result in behavior change among COs and improvements in outcomes for people with MI.

Keywords: crisis intervention teams; prison; correctional officers; serious mental illness

Approximately 1.3 million people in the United States are incarcerated in state prisons (Sawyer & Wagner, 2019). Estimates of serious mental illness (MI) among the prison population range from 2% to 10% for schizophrenia, 2% to 16% for bipolar disorders, and 4% to 29% for major depressive disorder (Fazel et al., 2016; Prins, 2014). Across most studies, the prevalence of serious MI is higher among people in prison compared with the community (Bronson & Berzofsky, 2017; Fazel et al., 2016). For diagnoses such as posttraumatic stress disorder, prevalence rates among incarcerated women far outweigh community prevalence rates (up to 48% compared with 5%, respectively; National Institute of Mental Health, 2017; Prins, 2014). The overrepresentation of people with MI in the criminal justice system prompted

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implementation of jail-diversion and court-based programming aimed at diverting people with MI from incarceration and engaging them in community-based treatment rather than serving time in prison. Despite expansion of these programs and a decline in the prison population, the proportion of people with MI in prison remains higher than in community populations (Hirschtritt & Binder, 2017). Disparities in the number of people with MI in prison are one of the foci for smart decarceration strategies (Epperson & Pettus-Davis, 2017). Additional interventions at policy and program levels are needed to ethically and equitably reduce the population of people in custody without worsening already existing disparities.

One contributor to the overrepresentation of people with MI in prison is that they are spending, on average, 15 months longer in prison than people without MI, even when charged with similar crimes (Ditton, 1999). While sentence lengths are not significantly different for people with MI (Bronson & Berzofsky, 2017), they are more likely to serve their entire sentence rather than qualifying for early release or parole (Fellner, 2006; Harris & Dagadakis, 2004). This difference is, in part, due to people with MI being disproportionately impacted by institutional policies and practices. People with MI in prison receive higher rates of violations and rule infractions (Ditton, 1999; Matejkowski et al., 2010) and are 4 times more likely to receive harsher sanctions for minor infractions (Houser & Belenko, 2015).

PHYSICAL AND MENTAL HEALTH OUTCOMES FOR PEOPLE WITH MI IN PRISON

The symptoms of MI create challenges to following prison rules and complying with officer commands (Fazel et al., 2016). Specific symptoms of mental disorders vary in type and impact; across disorders, symptoms of MI impact perceptions, cognitions, behaviors, interpersonal interactions, and emotional experiences and expression (see the *Diagnostic and Statistical Manual of Mental Disorders* [5th ed.; *DSM-V*]; American Psychiatric Association, 2013). For example, a person with schizophrenia may experience hallucinations and delusions while a person with major depressive disorder may be unable to concentrate, feel fatigued, isolate, feel worthless, and have thoughts of suicide. Having these symptoms can create barriers to following rules and routines required in prison.

The prison environment poses numerous risks to physical and mental health. For the general population, life expectancy declines 2 years for every year served in prison (Patterson, 2013). Individual differences in the ability to adapt to prison, limited health care programs within prison, social isolation, segregation, and stress resulting from risk of violence and prison conditions can lead to adverse health and mental health outcomes (Nurse et al., 2003; Schnittker & John, 2007), including high risk of communicable diseases, poor treatment of chronic health conditions, and higher mortality (Macalino et al., 2004; Patterson, 2013).

The prison environment is especially risky for people with MI and can be physically and emotionally traumatic. Punitive responses to mental health events like self-injury (e.g., cutting, suicide attempts) can worsen symptoms, retraumatize people, and prolong treatment engagement (Lanes, 2011; Smith, 2014). People with MI in prison are at heightened risk of physical and sexual victimization, suicide, and being sent to segregation (Baillargeon et al., 2009; Blitz et al., 2008; Fazel et al., 2016; Fellner, 2006; Wolff et al., 2007). Segregation, particularly for extended periods, can cause mental decompensation and worsen symptoms,

extend time in prison, and often increase the risk of suicide and need for crisis services (Human Rights Watch, 2003; Metzner & Fellner, 2010). Unmet mental health needs and practices that exacerbate symptoms impact people during incarceration and when they return to the community (Hills et al., 2004).

THE ROLE OF CORRECTIONAL OFFICERS (COS)

COs are front-line staff responsible for maintaining order and security within prisons by upholding both formal and informal policies intended to prevent disturbances (e.g., fights, rule violations; Fellner, 2006). COs uphold order and control by giving infractions to people who disrupt order. Issuing violations is generally followed by a sanction, which can include a loss of canteen privileges or work, higher security clearance (e.g., less time spent outside of cell for recreation or rehabilitative programs), or segregation. The accumulation of infractions leads to loss of accumulated “good time,” ineligibility for work programs and rehabilitative services, and increased time spent in prison (Fellner, 2006).

COs have discretion in the way policies are interpreted and acted upon in many prison systems (Galanek, 2014). Attitudes, knowledge, and subjective interpretation of policies across COs impact the incarcerated population through interactions, issuing violations, use of punitive sanctions, and referral to rehabilitation. COs generally respond to disturbances based on universally applied rules and sanctions with little regard to why people are “acting out” (Camp & Daggett, 2016). People with MI are expected to follow the same rules and procedures. “Acting out” may not be disregard for rules, but rather uncontrolled symptoms or a mental health crisis (Appelbaum et al., 2001). For example, a person unresponsive to command is breaking the rules; however, he may have MI symptoms that interfere with his capacity to comply. Nonetheless, in one study, when COs recognized that MI symptoms were contributing to rule violations, they used more flexible approaches to behavior management (e.g., de-escalation; Galanek, 2014).

Officers’ views of people with MI parallel the general public in that perceptions and understanding of MI can be stigmatizing and inaccurate (Callahan, 2004). Based on attribution theory, these stigmatizing attitudes toward people with MI (e.g., the belief that people with MI are violent) can lead to biased behaviors as well as erroneous interpretations of events and sanctioning (Corrigan et al., 2004). Attribution theory suggests that signaling events (e.g., banging head on the cell wall) trigger cognitions (e.g., “This person is trying to disrupt order”), which trigger emotional reactions (e.g., frustration, fear) and ultimately impact behaviors (e.g., use of force; Corrigan, 2000). COs perceive that people with MI in prison are time-consuming, require more resources, increase workplace stress, and are scary to confront when strange or explosive behavior is exhibited (Appelbaum et al., 2001; Center for Health Policy, Planning, and Research, 2007; Human Rights Watch, 2003). As front-line staff, COs are the first to observe the escalation of symptoms and changes in behavior and often respond to events with urgency (Aufderheide, 2012). COs report they do not have adequate training regarding MI and feel they underrefer people to services (Center for Health Policy, Planning, and Research, 2007; Human Rights Watch, 2003). COs report a lack of proper training as the main obstacle they face when responding to mental health crises (Lavoie et al., 2006). Finally, officer training to maintain safety by using command and control techniques may not work well with people in crisis. Rather than taking control,

COs may escalate situations, worsen symptoms, and increase risk of injury (Center for Health Policy, Planning, and Research, 2007).

Officers' perceptions of people with MI are an important consideration given their perceived lack of adequate training, high-stress work environment, and the urgency of their response during crisis situations. A lack of knowledge of psychiatric symptoms and misperceptions of dangerousness, coupled with a high-stress and injury-prone environment, increases the risk of injury to people living in prison, COs, and other staff. Although the culture of corrections is thought to conflict with rehabilitation, most COs support rehabilitation (Appelbaum et al., 2001). Knowing how to recognize symptoms and apply de-escalation can calm disruptive and potentially violent encounters, increase appropriate referral to services, and reduce length of stay in prison (Appelbaum et al., 2001; Aufderheide, 2012; Human Rights Watch, 2003). Galanek (2014) argues COs are "crucial in heading off decompensation through communication with mental health staff" (p. 9). COs have the most interaction with people in custody, thus are well suited to observe people throughout the day and across situations. With additional training on recognizing and responding to people with MI, COs may be key in increasing access to treatment and reducing violations that restrict early release (Dvoskin & Spiers, 2004).

ADAPTATION AND IMPLEMENTATION OF CRISIS INTERVENTION TEAM (CIT) FOR CORRECTIONS

One promising intervention to address the problems COs face when interacting with people experiencing MI symptoms is the CIT model. CIT was developed following a fatal shooting of a man with MI in Memphis, TN, in 1988, by a police officer (Watson & Fulambarker, 2012). In response, a multidisciplinary task force helped create CIT, a community-based intervention to promote effective, respectful, and safe interactions between police and people with MI. Similar to COs, when police respond to events involving people with MI, they make urgent and critical decisions regarding the use of force and appropriate options to resolve conflict. Two core components of CIT are the specialized, 40-hr training on responding to mental health crisis and partnerships between police and community mental health stakeholders (Watson & Fulambarker, 2012). The specialized training involves a curriculum aimed at providing officers with knowledge about MI and response strategies through education about MI, substance use, medications, identifying symptoms, tools for effective intervention with a person exhibiting MI symptoms, and de-escalation skills to use in crisis (Watson et al., 2008). CIT establishes community partnerships available for crisis transport and/or service referral. Community partnerships allow police to have other resources to assist them when responding to people in crisis, which expands options beyond arrest.

Two decades of research has shown that CIT officers demonstrate increased preparedness to work with people with MI and improved disposition of mental health calls (Compton et al., 2006; Morabito et al., 2012; Skeem & Bibeau, 2008). CIT also increases knowledge and alters beliefs about MI (Compton et al., 2006). CIT officers conduct more thorough assessment of risk in mental health calls, demonstrate understanding of why people may exhibit certain behaviors, use de-escalation and active listening, allow sufficient time to resolve issues, and have knowledge of myriad options for disposition (Canada et al., 2012). However, across studies, CIT's impact on arrest and use of force is mixed with CIT having no effect in some jurisdictions to a medium effect in others (Taheri, 2014; Wood & Watson,

2017); there is insufficient evidence on whether CIT reduces officer injury (Taheri, 2014). Overall, CIT consistently demonstrates reductions in officer stigma and improved attitudes; it is considered an evidence-based practice for these outcomes (Compton et al., 2006; Watson et al., 2017).

CIT'S ADAPTATION FOR CORRECTIONS

Given the challenges COs face in responding to people with MI in prisons, states are implementing an adapted model of CIT for use within jails and prisons (Davidson, 2016; Tucker et al., 2012). Although CIT is effective in communities, it is unclear whether CIT is effective in promoting positive outcomes within jails and prisons. There is preliminary support for CIT's impact on officers' confidence and self-efficacy in working with people with MI in jail, recognizing MI-related behaviors, and use of de-escalation in crisis situations (Callahan, 2004; Center for Health Policy, Planning, and Research, 2007; Davidson, 2016; Petracek, 2012). In one study, most events classified as "CIT incidents" resulted in CIT COs referring to mental health services (Center for Health Policy, Planning, and Research, 2007). However, the study did not define "CIT incidents" or systematically collect data. Important to note, CIT COs in this study reported difficulty using CIT skills in practice, citing jail policy and procedures as barriers. This finding, in particular, supports the need for research on the feasibility and effectiveness of utilizing CIT within corrections. Current research on CIT for corrections also conflates data on police and jail COs (Davidson, 2016) or solely focuses on jail COs (Center for Health Policy, Planning, and Research, 2007; Petracek, 2012; Tucker et al., 2012); no peer-reviewed research has been published on CIT within prisons. Given the differences in length of stay, service provision, and roles of COs in jails and prisons, research is needed to examine the utility of CIT specifically in the prison setting.

PRESENT STUDY

The purpose of this study is twofold: (a) test the impact of CIT on officer knowledge of MI, stigmatizing attitudes, and perception of available response options; and (b) explore the experiences of using CIT in prisons. Attribution theory guided the conceptualization of how CIT is expected to impact officers' behaviors through knowledge, stigmatizing attitudes, and perception of response options (Corrigan, 2000). If COs think about people with MI differently and perceive they have multiple responses options in crisis situations, it is expected that behaviors will change in those interactions—for example, using socially integrative responses (e.g., referral for service, de-escalation) over punitive responses (e.g., violations, segregation).

This project examines changes in officers' knowledge, stigmatizing attitudes, and perception of response options before and after CIT training compared with officers who did not complete CIT training. Three specific research questions were addressed: (a) Does CIT training change knowledge about MI, stigmatizing attitudes, and perceptions of response options? (b) How does CIT officer knowledge, stigmatizing attitudes, and perception of response options before and after CIT training compare with non-CIT COs? (c) What is the experience of using CIT in practice 6 to 9 months following training? It is hypothesized that COs will demonstrate improvements in knowledge, stigmatizing attitudes, and perceptions of response options from pre- to post-CIT training. As an exploratory hypothesis, it is expected that post-CIT training scores will be significantly better than the scores of COs

who have not completed CIT training, yet CIT officers' pretest scores will not significantly differ from non-CIT officer scores. As a first step in exploring officer behavior change, the use of CIT in practice is examined by conducting interviews with a subsample of COs 6 to 9 months following CIT training.

METHOD

This study used a quasi-experimental, concurrent triangulation mixed-method design using a pre- and posttest (Creswell et al., 2003). Although there are limitations to internal validity using a quasi-experimental design, it was chosen because randomization of COs to CIT was not a feasible option. However, the design includes a comparison group of non-CIT COs surveyed at one time point. Research aims were addressed using multiple perspectives to explore and cross-verify study results and deepen understanding of CIT in corrections. The use of mixed-methods, multiple data sources, and triangulation is critical in this project due to the complexity of intersecting factors within prisons that impact people with MI. Survey and interview data were collected from COs between 2016 and 2018. The University Institutional Review Board reviewed and approved the study.

SETTING AND INTERVENTION ADAPTATION

Between 2001 and 2015, the Missouri Department of Corrections (DOC) estimated that the prevalence of people with MI in prison grew from 10.4% to 16.6% (Lombardi, 2015), while the total population in this timeframe remained relatively steady. Estimates of people in need of substance use treatment increased to approximately 78%, which included people having moderate to severe substance use problems upon admission to prison. The DOC includes specialized units that exclusively house people with MI, but many people with MI live in the general population. Treatment and support services provided by the DOC include medication, individual psychotherapy, group and art therapy, 12-step meetings, pet therapy, and support groups. Medical services are provided by contracted providers; all services except major surgeries are provided within DOC prisons. At the time of this study, the DOC had 22 adult institutions, including diagnostic centers and minimum to maximum security facilities.

In August 2014, the DOC received funding to adapt CIT for corrections and received support from the National Institute of Corrections to train-the-trainers in CIT. During data collection for this project, the DOC Training Center provided all CIT training for COs throughout the state. To qualify for CIT training, it was recommended that COs have at least 3 years of experience and make a 3-year commitment to the DOC after CIT graduation. A committee selected COs to complete CIT from a pool of applicants who were self-nominated or recommended. COs in the DOC can be assigned to a specific wing or unit or they may be rotated. COs were eligible for CIT regardless of wing or unit assignment.

CIT for corrections follows the original CIT training model (Watson et al., 2008) by providing an intensive, 40-hr training over five consecutive days. Upon graduation, COs are officially designated CIT. The DOC has a CIT steering committee that meets regularly to discuss CIT. They utilize CIT "coaches" (i.e., senior CIT CO who support new CIT COs) and facilitate collaboration during and after training with mental health professionals. Within the institution, CIT COs may be deployed prior to any planned use of force, be called upon to assist with people who are in crisis with whom they have intervened

successfully with in the past (within and outside assigned wings), or use CIT skills spontaneously in their daily interactions, as needed.

SAMPLING AND RECRUITMENT

CIT COs

All COs scheduled to complete CIT training during the recruitment window were invited via email to participate in the survey portion of the research. A total of 235 COs completed a pre- and/or postsurvey. In the recruitment window, 403 COs received CIT training, making the response rate approximately 58% of eligible COs, which is just under the standard threshold of 60% noted by some scholars (Johnson & Wislar, 2012). Due to staffing, changes in attendance were made, which resulted in some eligible COs not receiving the survey link prior to the training. The survey was distributed via Qualtrics to most COs; eight COs requested paper surveys, which were distributed prior to and after the CIT training. The pre- and posttest survey was distributed within 2 weeks before the start and 2 weeks after the end of the training. COs were required to complete the pretest before any part of the training began. COs completed the posttest between 1 and 4 weeks following the training. Pre- and posttests were linked with a memorable code created by the COs. Prior to completing surveys, participants were asked to read through a consent statement and click on the “I consent” button. Signatures were not required (i.e., a waiver of documentation of consent was granted). The survey took approximately 15 to 20 min to complete. At the end of the posttest, participants indicated whether they were interested in a follow-up interview. Participants were compensated US\$10 for each of the pre- and posttests (i.e., US\$20 total if pre- and postsurveys were completed) via electronic or mailed gift cards.

Randomly selected participants were chosen from the pool of interested participants between 6 and 9 months following their initial CIT training ($n = 17$). The randomization tool in Excel was used to randomize interested participant names. The top 20 people on the list were invited. Three people declined or did not respond to the email invitation. The first author met with participants in person ($n = 6$), via Zoom videoconferencing ($n = 2$), or via phone ($n = 9$) for this 45- to 60-min audio-recorded interview. The DOC Director provided permission for these interviews to take place during work hours. All interviews were transcribed for analysis. Interview participants were compensated with a US\$20 electronic or mailed gift card.

Non-CIT COs

All non-CIT COs working in DOC in March and April 2018 were invited to complete the same survey as CIT COs at one time point ($n = 599$). An average of 4,956 COs were employed by DOC during the 2-month recruitment window. The comparison group was interviewed at one time point rather than two to reduce participant burden and need for follow-up; there were no reasons to expect knowledge, stigmatizing attitudes, or perception of response options would change without intervention throughout the study period. COs were recruited through a mass email from the DOC Director’s office to all wardens. Wardens distributed the survey link to all COs. Officers who completed any part of CIT were not eligible to participate in this survey. Similar to above, a waiver of documentation of consent was obtained and participant responses were not attached to identifiable data. Surveys took

15 to 20 min to complete. Five people were randomly selected to receive a US\$20 electronic gift card. Participants who indicated they completed CIT in the survey were removed from the data set ($n = 2$).

MEASUREMENT

Multiple variables were measured as both outcomes and covariates. All variables described were collected from both CIT and non-CIT COs. Demographic variables included age, sex, education level, marital status, race and ethnicity, years in position and working for DOC, shift, facility, work assignment, and if someone close to them has an MI. These variables are used to describe the sample. Officer characteristics were also used to examine group differences resulting from nonrandomization. Change in knowledge, stigmatizing attitudes, and perception of response options were tested using multiple standardized and unstandardized measures. Unstandardized measures were only used when standardized measures were unavailable. All measures were pilot tested with three DOC staff and student volunteers.

Knowledge of MI

Knowledge of MI refers to officer understanding of MI, identification of symptoms, and how symptoms impact a person's behaviors. Officer knowledge was measured using a survey developed by the National Alliance on Mental Illness (NAMI). This survey does not have an official name; it is a 14-item multiple-choice survey that NAMI developed for CIT evaluation with police. This is an unstandardized survey that has not been psychometrically tested but was the best measure of CIT knowledge the authors could find at the time of this project. It was adapted for this study for use with COs (e.g., "What is the approximate percentage of the population who has a mental illness?"). All questions included three or four possible choice options. Correct answers were scored with one point (i.e., if the item was answered correctly one point was scored); knowledge scores are the sum of all correct survey items (range = 0–14).

Stigmatizing Attitudes

Stigmatizing attitudes about MI are defined as cognitions, emotions, and beliefs about people with MI, as well as the negative stereotypes and beliefs about MI (Callahan, 2004; Corrigan, 2000). Three measures were used to assess stigmatizing attitudes. The Attitudes Toward Disorder and non-Disordered Offenders Scale (Lavoie et al., 2006) was used to measure beliefs and thoughts about people with MI in prison (e.g., "It is not wise to trust prisoners with mental illnesses"). Although this scale was developed and used in prior studies (Kropp et al., 1989; Lavoie et al., 2006), it has not been psychometrically tested. In pilot testing, feedback was given that the 36-item scale was long and redundant. As such, authors modified the scale to include 19 items. Items are measured on a 5-point scale from *strongly agree* to *strongly disagree* with possible scores varying from 19 to 95; higher scores indicate more positive attitudes toward people with MI in prison. This scale performed with adequate reliability in this study ($\alpha = .68$ [pre] and $.76$ [post]; Iacobucci & Duhachek, 2003).

The second measure used to assess stigmatizing attitudes toward people with MI is a modified version of the Attribution Questionnaire (AQ; Corrigan et al., 2002). The modified AQ includes 14 items answered on a 9-point agreement scale (e.g., “I would feel unsafe around persons with mental illness”) from *no agreement at all* to *very much or completely in agreement*. The AQ measures MI stigma through attitudes, beliefs, and negative emotion regarding people with MI, in general, rather than for an incarcerated population; participants noted answers using a slider. Higher scores indicate more stigma toward MI. This scale performed with adequate reliability ($\alpha = .74$ [pre] and $.78$ [post]). However, more data were missing from this single measure than any other measure, possibly due to the use of the slider. In other studies, the AQ was found to be an adequate measure of stigma and to have adequate test–retest reliability with interclass correlations (ICCs) greater than $.70$ for all factors (Brown, 2008).

The third measure of stigmatizing attitudes is the Social Distance Scale (SDS; Link et al., 1987). The SDS is a seven-item scale with responses answered on a 4-point scale ranging from *definitely willing* to *definitely unwilling*. Higher scores indicate more stigma (e.g., “How would you feel about renting a room in your home to someone with an MI?”). This scale is reliable (test–retest ICC = $.84$) with good internal consistency ($\alpha = .84$) in previous studies (Brown, 2008) and performed adequately in this study ($\alpha = .86$ [pre] and $.87$ [post]).

Perception of Response Options and Preparedness

This construct was assessed with three measures used in similar studies (Lavoie et al., 2006; Morabito et al., 2013) and one single question on preparedness. These measures were designed to assess perceived options for working with people with MI, disposition options, how efficiently and effectively the mental health system within the prison responds to needs, the adequacy of resources during crisis and noncrisis situations, and officer preparedness in these encounters. However, these measures have not been psychometrically tested. At the time of this project, these were the best available measures. The Officer Perception of Mental Health Services Scale was used in a previous CIT study with police with good reliability ($\alpha = .89$; Morabito et al., 2013). It was adapted for this project to be relevant for a prison context. This scale includes 10 items measured on a 5-point agreement scale from *strongly disagree* to *strongly agree* (e.g., “The mental health system in this prison is cooperative with officers”). Higher scores indicate more positive perceptions. This scale performed with adequate reliability in this study ($\alpha = .80$ [pre] and $.85$ [post]).

The Interactions with Mental Health Staff Scale was developed in previous work to assess officer perceptions of working with mental health staff in prison (Lavoie et al., 2006). It is a five-item measure scored on a 5-point scale from *strongly disagree* to *strongly agree*. Greater scores indicate more collaboration with staff (e.g., “I find the mental health staff are open to information I provide about my knowledge of inmates”). This scale performed with adequate reliability in this study ($\alpha = .72$ [pre] and $.78$ [post]) but has not been psychometrically tested in other studies.

Finally, one item, created by the authors, was used to measure preparedness to work with a person in prison having a mental health crisis. Responses were noted on a 4-point scale from *not at all prepared* to *very prepared*. Higher scores indicated more perceived preparedness.

Semi-Structured Interview Questions

The use of CIT skills in practice was measured through questions in the semi-structured interviews. Researchers used a flexible guide with questions and probes that facilitated discussion of CIT. The first author and research assistant conducted all interviews to ensure consistency across participants (Turner, 2010). Questions were focused on exploring experiences of using CIT since the training (e.g., “Talk about using your CIT training in the field”). Probes were used to explore barriers, facilitators, and specific examples of CIT use (e.g., “Provide a couple examples of when you used CIT. What barriers have you encountered? What successes have you experienced? How often are you using CIT?”).

ANALYSIS

Quantitative

A combination of approaches was used to analyze variables. The mean, median, skewness and kurtosis, distributions of all variables, and correlations were calculated. Given COs were not randomly assigned to CIT, differences in demographics, work characteristics, and personal contact with people who have MI, we analyzed between CIT and non-CIT COs using analysis of variance (ANOVA) and Pearson chi-square. Within-group differences were analyzed using paired-sample *t* tests to examine changes in officer stigmatizing attitudes, knowledge of MI, and perception of response options for the sample of COs who completed CIT. ANOVA was used to explore differences between CIT and non-CIT COs in all dependent variables. Analysis of covariance (ANCOVA) was utilized to discern differences between pre-CIT scores compared with non-CIT scores and post-CIT scores compared with non-CIT scores while controlling for covariates. All statistical analyses were conducted using IBM SPSS version 25.

Missing Data

Available-case analysis was used to manage missing data (Gelman & Hill, 2006). Imputation was not used. Missing data were managed by omitting variables from the analysis and using only the available cases. In cases where a dependent variable was computed, missing data were omitted prior to computation so only cases with full data were included in the analysis. Most measures were missing minimal data; however, there was extensive data missing for the general stigma measure (i.e., AQ). Missing data were extensive across CIT and non-CIT COs; 74 CIT COs and 161 non-CIT COs completed the entire modified AQ.

Qualitative

Semi-structured interviews were analyzed using Braun and Clarke’s (2006) approach to thematic analysis. Thematic analysis is used to identify, organize, analyze, and interpret themes within data. Themes capture important components of the data in relation to research questions. Data were deconstructed into components through thematic coding by first using open coding and then grouping themes together based on similarities. Once chunks of data were grouped, they were compared, contrasted, and synthesized into overarching themes. The first author and research assistant conducted the analysis. Data were organized using Nvivo 12.

RESULTS

The majority of COs identified as White and male. Most CIT COs (72.4%) were between 19 and 44 years old, while just over half of non-CIT COs fell in this age range (60.3%). Table 1 details the demographics of CIT and non-CIT COs. At the time of the survey, non-CIT COs were in their current positions, on average, 2 years longer than CIT COs, $F(1,756) = 17.57, p < .001$. No statistically significant differences existed between groups on number of years working for the DOC, $F(1,760) = 1.31, p = .25$. There was a statistically significant difference between CIT and non-CIT COs across age ranges, $\chi^2(5, N = 768) = 17.87, p < .001$. A greater percentage of CIT COs were 35 to 44 at the time of the survey compared with non-CIT COs (31.6% vs. 21.4%), while a greater percentage of non-CIT COs fell in the 19 to 24 age group compared with CIT COs (12.6% vs. 8.6%). No other statistically significant group differences exist in demographic or background factors. No differences existed in the percentage of CIT (64.9%) and non-CIT COs (60.5%) who know someone close to them with MI. Table 1 also details the demographics of CIT COs who took part in the semi-structured interviews.

CIT COS: WITHIN-GROUP DIFFERENCES

CIT COs were surveyed before and after the CIT training. All variables demonstrated statistically significant changes in the hypothesized direction with the exception of perspectives of interactions with mental health staff, $t(96) = 1.7, p = .09, d = 0.18$. Although CIT COs perceived more collaborative opportunities at the posttest, this change did not reach statistical significance. Mental health knowledge significantly increased at the posttest, $t(91) = 2.3, p = .02, d = 0.23$, and stigmatizing attitudes toward prisoners with MI improved, $t(84) = 4.2, p < .001, d = 0.43$. Other measures of stigmatizing attitudes demonstrated significant reductions in stigma following the CIT training: (a) AQ: $t(33) = 2.8, p = .01, d = 0.57$; and (b) SDS: $t(99) = 4.6, p < .001, d = 0.44$. Participants perceived greater effectiveness of the mental health system following CIT, $t(93) = 3.6, p < .001, d = 0.34$, and felt significantly more prepared to manage a mental health crisis, $t(101) = 10.4, p < .001, d = 1.10$. All results are displayed in Table 2.

CIT AND NON-CIT COS: BETWEEN-GROUP DIFFERENCES

CIT officer pre-CIT scores were compared with non-CIT officer scores to determine group differences prior to the training. There were no statistically significant differences in pre-CIT and non-CIT officer scores in knowledge of MI, stigmatizing attitudes, or preparedness. Pre-CIT officer perceptions of the mental health system, $F(1,652) = 7.99, p = .01, \eta^2 = .01$, and interactions with mental health staff, $F(1,615) = 9.63, p < .01, \eta^2 = .02$, were stronger than non-CIT COs at a statistically significant level. Table 2 displays all between-group results.

CIT officer post-CIT scores were also compared with non-CIT officer scores (see Table 2). Non-CIT COs were in their current position, on average, longer than CIT COs, so this variable was added as a control in all ANCOVA models. CIT COs displayed significantly greater knowledge of MI, $F(1,587) = 21.67, p < .001, \eta^2 = .04$, and less stigmatizing attitudes, $F(1,532) = 23.12, p < .001, \eta^2 = .04$, at the posttest compared with non-CIT COs. CIT COs also demonstrated significantly less stigmatizing attitudes using the SDS at the

TABLE 1: Demographics and Variable Averages

Variable	CIT COs (<i>n</i> = 235)		CIT COs ^a (<i>n</i> = 17) ^b		Non-CIT COs (<i>n</i> = 599)	
	% ^c	<i>n</i> ^d	% ^c	<i>n</i> ^d	% ^c	<i>n</i> ^d
Age						
19–24	8.6	15	0.0	0	12.6	75
25–34	32.2	56	35.7	5	26.3	156
35–44	31.6	55	35.7	5	21.4	127
45–54	20.7	36	14.3	2	24.2	144
55+	6.9	12	14.3	2	15.5	92
Female	32.2	56	29.4	5	36.8	218
Highest education level						
High school	34.3	59	14.3	2	36.3	215
Some college	43.6	75	42.9	6	39.3	233
Associate's degree	14.5	25	28.6	4	13.5	80
Bachelor's degree	5.8	10	14.3	2	9.3	55
Graduate degree	1.7	3	0.0	0	1.7	10
Marital status						
Single	16.8	29	14.3	2	23.4	139
Married	59.0	102	57.1	8	51.3	304
In a relationship, not married	13.3	23	28.6	4	12.8	78
Divorced	10.4	18	0.0	0	10.8	64
Widowed	0.6	1	0.0	0	1.7	10
Race: White	91.8	156	94.1	16	95.5	553
Ethnicity: Latino/a	1.7	3	5.9	1	2.4	14
Shift						
First	24.1	42	21.4	3	22.6	134
Second	44.3	77	14.3	2	47.6	282
Third	31.6	55	64.3	9	29.7	176
Maximum or mixed security level	31.8	76	41.2	7	36.5	217
Women's facility	13.8	33	23.5	4	29.4	175
Someone close has a mental illness	64.9	113	35.7	5	60.5	356
Received mental health training (only non-CIT)	—	—	—	—	47.9	287
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Years worked in current position	4.25	3.88	3.08	2.44	6.27	5.97
Years worked in DOC	7.07	5.70	6.75	4.82	7.71	6.62

Note. CIT = crisis intervention team; DOC = Missouri Department of Corrections; COs = Correctional Officers. ^aThis includes the subsample of COs who took part in semi-structured interviews. ^b Some demographic data were missing for three participants. ^c Categories may not equal 100% due to rounding; percentages calculated based on number of respondents for that question. ^d Data were not complete for all participants; missing data addressed as described in the "Method" section.

posttest, $F(1,599) = 16.61, p < .001, \eta^2 = .03$, compared with non-CIT Cos, but posttest scores were not significantly different using the AQ, $F(1,205) = 3.48, p = .06, \eta^2 = .02$. CIT COs perceived they were more prepared to manage mental health crises following CIT compared with non-CIT COs, $F(1,621) = 78.88, p < .001, \eta^2 = .11$. As noted above, CIT COs perceived significantly more interaction with mental health staff and a more effective mental health system prior to CIT compared with non-CIT COs. Differences between CIT COs following the CIT training and non-CIT COs remained statistically significant:

TABLE 2: Within- and Between-Group Differences

Construct and measure	Pre-CIT <i>M</i> (<i>SD</i>)	Post-CIT <i>M</i> (<i>SD</i>)	<i>t</i> (<i>df</i>) ^a Cohen's <i>d</i>	<i>P</i>	Non-CIT <i>M</i> (<i>SD</i>)	<i>F</i> (<i>df</i>) ^b η^2	<i>p</i>
Knowledge							
MI knowledge (range = 0–14)	8.86 (2.05)	9.46 (2.07)	<i>t</i> (91) = 2.3 0.23	.02	8.54 (1.99)	<i>F</i> (1,587) = 21.67 .04	<.001
Stigmatizing attitudes							
Attribution Questionnaire (range = 1–126)	43.77 (11.07)	39.99 (12.01)	<i>t</i> (33) = 2.8 0.57	.01	45.17 (13.41)	<i>F</i> (1,205) = 3.48 .02	.06
Social distance (range = 4–28)	16.09 (3.90)	15.20 (3.73)	<i>t</i> (99) = 4.6 0.44	<.001	16.80 (4.63)	<i>F</i> (1,599) = 16.61 .03	<.001
Attitudes (range = 14–70)	61.68 (6.63)	64.88 (6.58)	<i>t</i> (84) = 4.2 0.43	<.001	61.11 (7.68)	<i>F</i> (1,532) = 23.12 .04	<.001
Perception of response options							
Perception of mental health system (range = 10–50)	33.28 (5.60)	34.70 (6.04)	<i>t</i> (93) = 3.6 0.34	<.001	31.54 (6.05)	<i>F</i> (1,545) = 24.74 .04	<.001
Interactions with mental health staff (range = 5–25)	17.56 (3.06)	18.24 (3.23)	<i>t</i> (96) = 1.7 0.18	.09	16.48 (3.56)	<i>F</i> (1,552) = 17.43 .03	<.001
Prepared to respond to MI (range = 1–4)	2.90 (0.69)	3.53 (0.53)	<i>t</i> (101) = 10.4 1.10	<.001	2.81 (0.81)	<i>F</i> (1,621) = 78.88 .11	<.001

Note. CIT = crisis intervention team; MI = mental illnesses; ANCOVA = analysis of covariance.

^aPaired *t* test conducted on CIT pre- and postdata. ^b ANCOVA utilized to test differences between post-CIT and non-CIT data; pre-CIT and non-CIT data are not presented in this table.

interaction with mental health staff, $F(1,552) = 17.43, p < .001, \eta^2 = .03$, and perceptions of the mental health system, $F(1,545) = 24.74, p < .001, \eta^2 = .04$.

USING CIT IN PRACTICE

Themes across COs interviews suggest CIT COs perceived changes in their own behaviors following the CIT training. They also experienced support and barriers when utilizing CIT in practice. Salient themes regarding officer behaviors in practice include using a new skill set informed by CIT that includes rapport building, collaboration with mental health staff, and de-escalation strategies. CIT COs reported that using their CIT skills helped to reduce their use of force and de-escalate crisis situations effectively. The use of force reductions since implementing CIT was also facilitated by new institutional policy that requested CIT COs intervention prior to planned uses of force. Across interviews, COs found this new policy to be effective in improving the disposition of planned uses of force; CIT COs are called to the scene to use de-escalation skills to resolve the conflict as an initial point of intervention. For example, CO 12 reported,

She was very volatile, and I was afraid we were gonna have to use force to get anything done, so I just went and listened to her and let her explain to me what was going on, and within 7 minutes, 'cause I timed it, within 7 minutes she was brought back down. She wasn't yelling, screaming, kicking things, and it worked very—but she was having a lot of voices telling her certain things. They were still telling, but she was focusing on something other than them at that moment.

COs also perceived CIT skills to be helpful in preventing escalation. COs noted their own changes in responding to people in crisis to include explaining processes so people

know what to expect, giving people space, exploring the underlying issues of behaviors (e.g., someone had a bad phone call that day), and slowing down. From their perspective, these changes helped to prevent people from escalating in situations where escalation was common. Officers also discussed the benefits of building rapport and how their behaviors have changed to include using CIT to help develop rapport. For example, CO 01 reported,

I feel like I am very successful in it, just because the offenders down there have been there a little bit, so you get to build a rapport with them. So when you are talking to them, they know, “Oh, he’s actually trying to help.”

Officer self-assessment of their own work changed since completing the CIT training. COs talked about feeling more equipped to handle crises and had more tools to use, which increased their perceptions of safety and work satisfaction. CO 02 reported,

[I] . . . notice the confidence more so because I know I have the skills to use, and that makes me feel good. It makes me feel like at least I have an edge for not going in and having to worry about safety so much . . . We’re not having to go in and take a chance of getting hurt, and other officers. That’s always a worry that’s in the back of your mind. So you’ve got these skills, you know, that’s a big deal in this setting.

COs found support from leaders helped facilitate using CIT skills in practice. Participants benefit from talking with CIT liaisons about why CIT did not work in an incident or how to improve their use of skills. This built confidence and reinforced when and how to use these skills.

Collaboration with mental health staff and openness of staff to collaborate facilitated the use of CIT. CIT COs found increased workplace satisfaction through collaboration with mental health staff, as well. For some COs, having more collaboration with mental health staff increased the tools they felt they had when a person was in a mental health crisis. As an example, CO 04 explained that he tries to be preventive when he knows a situation may put stress on a person:

I know he’s going to refuse to do something, and me and their counselor get along all right, I will tell the counselor, “Hey, this is going to happen. And this is going to happen regardless if he’s cooperative or not. You might want to talk to him.” And hopefully—because we did that this week—This offender, (next) Friday, he will go ahead and go without the use of force.

However, the perception of collaboration varied across interviews depending on which institutions COs worked within and which shifts. COs working within institutions that house more people with MI had more access to collaboration with mental health staff, particularly when they worked the day shifts. COs working overnight shifts discussed ways of relaying information to mental health staff but did not perceive the relationship with staff as collaborative. COs working on evening shifts when mental health staff are not onsite found a lack of direct communication to be frustrating when they saw behaviors changing. They wanted an opportunity to communicate these changes to staff and were not always able to do so. CO 12 said,

. . . it’s much nicer to be able to pick up a phone and say, “Hey, this is what I have going on. Your thoughts, your—you know where in the evenings and the graveyard shift, you’re just out there, and it’s an uncomfortable feeling, honestly.”

COs can submit referrals to mental health staff but they wanted to collaborate in more meaningful ways. COs perceived that they had important information about symptoms and changing behaviors, but clear channels for communication with mental health staff was missing in some institutions. Officers perceived meaningful collaboration with mental health staff to be beneficial and important to carrying out their role as COs.

Participants identified common barriers that hampered their use of CIT in practice: lack of support from supervisors, “use to doing it the old way” or prison culture, intervening with CIT when someone is “too” escalated, and poor collaboration with mental health. Although COs noted general support from supervisors, they also find that having a supervisor who was not supportive restricts the use of CIT. CO 12 suggests as a supervisor, “If I didn’t believe in this, I would have the power to ruin it.” This was echoed by others suggesting that some supervisors may rush them or not give them permission to intervene. This is complicated by their peers when they are “use to doing it the old way.” Some people found CIT to be a radical shift from how the prison operates. This resistance to change or cultural shift within the prison created barriers for CIT COs in the amount of time they had to de-escalate a person and identify solutions. CIT COs suggested that even when their peers were not supportive of CIT, they were still able to utilize CIT when they perceived a need, but their process may be rushed or not supported by their peers.

Prison culture was a salient barrier to institutional acceptance of CIT from participant perspectives. As CO 17 pointed out,

[a] few that are CIT [officers] at the camp have to defend ourselves to that. And basically say that we’re not “hugging thugs.” We’re not just going to give them what they want. That’s not the point of being a CIT member. It’s to help prevent a use of force.

Across interviews, COs identified the phrase “hug-a-thug” as something non-CIT COs say to degrade CIT. This term, not one that was condoned by CIT COs in this study, may be a verbal act of resistance from officers who perceive changes or shifts in prison culture as threatening. Participants suggested it is just something “you ignore” but it remained part of the culture.

Another barrier identified by COs related to their self-assessment of the effectiveness of CIT across situations. COs found that CIT skills did not work in all situations. COs perceived that some people are too escalated for their CIT skills to de-escalate. Arriving to the scene at the right time was important to success. As CO 16 notes,

. . . if they haven’t gone past that point we’re going to give it [CIT] a try but if they go past a point they may still try it but sometimes like I said if it’s past that point it forces a spontaneous use [of force].

COs discussed other factors like whether people are in a cell or freely moving about the yard as key factors in their ability to use CIT and its success. Although CIT provides additional skills, COs discussed the ongoing assessment of safety to staff and residents when determining how to intervene during crises.

DISCUSSION

This study tested the hypothesis that COs participation in CIT training would change officer knowledge about MI, stigmatizing attitudes, and perceptions of response options.

This research also aimed to examine differences in CIT and non-CIT COs in two ways: pre-CIT compared with non-CIT officers' scores and post-CIT compared with non-CIT scores. There was partial support for study hypotheses. CIT COs had significantly more mental health knowledge and better attitudes toward people with MI and perceptions of response options following CIT training. CIT officer pre-CIT scores were not significantly different than non-CIT officer scores, except in perceptions of interactions with mental health staff and effectiveness of the mental health systems. However, CIT officer post-CIT scores reflected CIT COs having significantly more knowledge and better attitudes compared with non-CIT CO. CIT COs noted the use of CIT in practice and perceived that it helped divert use of force and prevent escalation. COs found that CIT use facilitated rapport building with people living in prison, which may be something unique to the prison environment given the length of time people spend in prison. Although not tested in this study, changes in stigmatizing attitudes, knowledge, and response options are thought to impact behaviors taken during crisis events; therefore, identified changes in this study following CIT should lead to improvements in officer responses to people with MI, including the use of more socially integrative responses (e.g., referral for services, de-escalation) rather than punitive responses (e.g., conduct violations, segregation; Callahan, 2004; Corrigan, 2000).

Although some COs found CIT implementation improved collaboration with mental health staff, others wanted to see more collaboration at their facilities. Through CIT, officers learn more about mental health services and policies within their facilities regarding mental health care. This information is important for COs to learn but findings from this study suggest that cross-training mental health staff to perceive ways to collaborate more effectively with COs is warranted. Cross-training mental health and criminal justice staff is identified as one of the guidelines for promoting successful transition for people with MI from incarceration to the community (Substance Abuse and Mental Health Services Administration, 2017). COs perceive they have important information about mental health and changing behaviors; finding solutions to utilize officer resources to promote mental health care is an important policy and programmatic shift for prisons. Although few differences were found between pre-CIT and non-CIT officers, the desire for and benefit of interactions with mental health staff was significantly stronger for CIT COs before and after the CIT training compared with non-CIT COs. Additional research is needed to determine whether these differences influence people to volunteer for CIT.

Findings suggest that CIT may promote change in officer knowledge, stigmatizing attitudes, and perception of response options. These changes should theoretically lead to officer behavior change in encounters involving people displaying MI symptoms or having mental health crises. Based on attribution theory and previous research, CIT-trained COs may alter use of force, change practices related to use of segregation and conduct violations, and increase collaboration with mental health staff and service referrals, all of which would improve the outcomes of people with MI in prisons. Given the negative impacts of prison on people with MI, these behavior changes could ultimately lead to decreases in the number of people with MI in high-risk prison environments. In research on CIT with police, CIT implementation increased collaboration among law enforcement and behavioral health providers and promoted connection with mental health crisis providers (Kubiak et al., 2017). This, too, could occur within the prison environment. Additional research employing randomization and testing the impact of CIT on behaviors and outcomes for the incarcerated population is an important next step for research.

In an era of mass incarceration, the need for smart decarceration strategies (Epperson & Pettus-Davis, 2017) is essential in equitably reducing the population of people in custody without worsening already existing disparities. CIT within corrections is a promising strategy for reducing the number of people with MI in prisons by increasing officer understanding of the cause of exhibited behaviors, gestures, and noncompliance and increasing officers' toolkit for responding to these situations. The DOC trains CIT COs to recognize MI and associated symptoms and behaviors; they also help COs recognize the right skills to use to manage any person's crisis, regardless of whether or not there is an underlying MI. Given COs do have discretion in how they respond to people in prison (Galanek, 2014), having specialized understanding of crises and an expansion of skills to use in these events has the potential to enhance positive officer engagement with people in prison overall.

IMPLICATIONS FOR PRACTICE, POLICY, AND RESEARCH

Practice and Policy

CIT targets change in officers' behaviors during their interactions with people exhibiting MI symptoms. When COs respond to events, they can (a) intervene with action promoting social integration (e.g., using de-escalation skills) and rehabilitation (e.g., referral for treatment); (b) sanction with punitive responses (e.g., transfer to segregation); or (c) take no action. These outcomes directly impact mental health and indirectly impact people's length of stay in prison. Intervening with punitive sanctions can result in restricted access to programming, social exclusion, longer stays in prison, and injury. Helping COs understand the nature of behaviors they see among people in prison through CIT and improving their skills to respond may improve outcomes for people living in prison and enhance office safety. However, best practice standards are needed to help guide the use of CIT in correctional settings.

Findings from this study complement findings from other studies suggesting COs are supportive of collaboration with mental health staff and can play an important role in mental health care in corrections (Appelbaum et al., 2001; Schaefer, 2018). Developing best practices for mental health and custody staff, like we have for people living in the community, will offer guidance to prison administrators and providers about models to facilitate effective collaboration (Lamberti, 2016). Practice models and policy creating a structure for increased collaboration with mental health staff within the institution and upon reentry is needed. COs see people in prison every day and are sources of information that may be critical to identifying changing mental health or emergence of new symptoms (Galanek, 2014). COs in this study wanted more collaboration. CIT COs have the skills to work closely with behavioral health staff to make sure clinical professionals are connected with people who are in need of services. These practices may also improve officer job satisfaction and preparedness to engage with people in crisis, as participants in this study suggested. It is important for prisons to examine existing policy and revise policies that restrict or interfere with the ability of COs to use CIT in practice.

COs need to be supported in finding ways to use their CIT skills. In this study, COs identified the importance of policy on using CIT before any planned uses of force. Having CIT built into the fabric of the institution through policy helps to decrease barriers. A salient theme from officer interviews following the CIT training was the role of prison policy in their ability to use CIT skills. CIT COs noted that policy requires a CIT officer to intervene

prior to planned uses of force, including people being removed from their cell. Participants discussed how making CIT a part of prison policy helped to ensure officer skills were being utilized across the institution.

Research to Promote Smart Decarceration

Given the nascent state of research on CIT in corrections, there is substantial opportunity to investigate its utility in the smart decarceration movement toward reducing disparities faced by people with MI in prisons. In particular, a guiding outcome of smart decarceration is reducing the disproportionate burden of incarceration people with MI face (Epperson & Pettus-Davis, 2017). When intervention is enacted, it is critical to examine whether the outcomes are beneficial across racial, ethnic, and economic groups to mitigate further disproportionality. Building on the current research, it is important to examine whether changes in stigmatizing attitudes, knowledge of MI, and response options lead to behavior changes and ultimately outcomes for people with MI. Based on attribution theory, these changes should prompt behavior change that will ultimately lead to reduced use of force, unnecessary application of conduct violations, increases in treatment referral, and appropriate early release for people with MI. This research relied on self-report data; future research should include observable measures or administrative data. Research is needed to examine whether CIT does effectively impact behaviors, whether changes in officer behaviors can lead to reduced numbers of people with MI living in prisons and facing disparate lengths of stay, and whether this works across subpopulations of people with MI (e.g., across race and gender).

Future research is also needed to examine CIT's utility in promoting COs and clinician collaboration to identify people who are symptomatic, have changes in symptoms, and who are experiencing mental health crises. As front-line responders, COs get to know the people living in their institution and have the opportunity to intervene as they see emergent or changing symptoms (Appelbaum et al., 2001). This role may improve outcomes for people with MI by promoting equal access to rehabilitative treatment. COs may also find benefit in increased safety and job satisfaction with more people in prison accessing the care they need. However, rigorous research is needed to answer these questions and build knowledge for best practices in prisons.

Finally, future research is important in understanding how the prison environment impacts the use of CIT. Results from this study indicate that COs do not perceive significant barriers to using CIT in practice; however, studies on the effectiveness of CIT in communities with police highlight the key role the environment and resource availability play in the use of CIT (Peterson & Densley, 2018). Additional research on CIT is needed to examine how various prison policies, availability of resources, and influential stakeholders (e.g., wardens) interfere or facilitate the use of CIT. It may be that race, nature of one's charges, or types of MI symptoms (e.g., psychosis) interfere with whom, how, and when COs decide to use CIT skills. Differences in the way COs use these skills could lead to further disparity if bias interferes with use of CIT.

LIMITATIONS

Several limitations are important to consider. First, a quasi-experimental design was utilized because randomly assigning COs to CIT was not possible. There is the possibility of

selection bias as COs choose to participate in CIT; however, officer differences were examined and included in analyses. Having non-CIT COs complete the survey at one time point only may also be viewed as a limitation, although there is no reason to presume officer knowledge, stigmatizing attitudes, or response options would change without intervention during data collection. The response rate for the CIT survey was 58%, so there is a potential for nonresponse bias. There was also quite a bit of missing data for the general stigma measure (i.e., AQ) for CIT and non-CIT COs. Data were not missing from any other measure to this extent. One possible reason for this nonsystematic missing data is that this measure used a sliding bar, the only question structured in this way. During the last quarter of data collection, a participant contacted the first author and reported the survey did not work for that question. It is possible that the usability of this particular tool was poor, leading to missing data. Alternatively, COs may not have been comfortable answering AQ questions; however, the SDS had minimal missing data.

CIT COs work alongside non-CIT COs. It is possible that CIT COs could impact non-CIT COs (i.e., contamination). This work was conducted in the social environment, so contamination was not preventable. Contamination could be positive if CIT changes the general response of non-CIT COs or the overall prison culture. It is also possible that social desirability played a role in participant responses. Responses were collected online; regardless, this bias might impact findings. Future research should utilize a measure examining the extent and impact of contamination and social desirability. Finally, CIT is being implemented in a prison. There is limited flexibility and resources, which may create barriers for using CIT. The interviews were a helpful data source to explore this, but additional data are important for future research.

CONCLUSION

The overarching goal of this research was to test an adapted model of CIT for corrections to build the very limited evidence base for CIT's feasibility and utility in prisons. People with MI in prisons face a multitude of risks while living in prison. Providing COs with additional training and support to more accurately respond to people with MI improves officer interactions with people experiencing MI. If future research finds CIT to be an effective intervention for changing behaviors, the health and well-being of people with MI in prison can be improved through more opportunity for treatment and service, increasing safety in interactions with COs, and reducing violations that lead to extended prison stays. Given the overrepresentation of this population in the criminal justice system and the negative risks they face in prison, CIT has the potential to significantly impact the short- and long-term mental health of people living in prison.

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