

## Use of Force Preferences and Perceived Effectiveness of Actions Among Crisis Intervention Team (CIT) Police Officers and Non-CIT Officers in an Escalating Psychiatric Crisis Involving a Subject With Schizophrenia

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**Background:** Few studies have examined police officers' use of force toward individuals with schizophrenia, despite the widely disseminated Crisis Intervention Team (CIT) model of partnership between mental health and law enforcement that seeks to reduce use of force and enhance safety of officers and individuals with mental illnesses. This study tested the hypotheses that CIT-trained officers would select a lower level of force, identify nonphysical actions as more effective, and perceive physical force as less effective in an escalating psychiatric crisis, compared with non-CIT-trained officers. **Methods:** Police officers ( $n = 135$ )—48 CIT trained and 87 non-CIT trained—completed a survey containing 3 scenario-based vignettes depicting an escalating situation involving a subject with psychosis. Data were analyzed using repeated-measures analyses of variance. **Results:** Officers escalated their preferred actions across the scenarios. A significant scenario by group interaction indicated that CIT-trained officers chose less escalation (ie, opting for less force at the third scenario) than non-CIT-trained officers. Officers reported decreasing perceived effectiveness of nonphysical action across the 3 scenarios. A significant scenario by group interaction indicated that CIT-trained officers reported a lesser decline in perceived effectiveness of nonphysical actions at the third scenario. CIT-trained officers consistently endorsed lower perceived effectiveness of physical force. **Conclusions:** Efforts are needed to reduce use of force toward individuals with psychotic disorders. These findings suggest that CIT may be an effective approach. In addition to clinical and programmatic implications,

such findings demonstrate a role for clinicians, advocates, and schizophrenia researchers in promoting social justice through partnerships with diverse social sectors.

**Key words:** Crisis Intervention Team/law enforcement/police/schizophrenia/use of force

### Introduction

Contemporary mental health professions are characterized by numerous, complicated, and multifaceted interfaces with the fields of public safety, law enforcement, and criminal justice. In some respects, police officers must sometimes serve as de facto psychiatric triage specialists. However, some officers may not always recognize a need for, or have access to, emergency psychiatric resources.<sup>1</sup> For this reason, and in an attempt to improve safety of both officers and persons with mental illnesses and effect pre-booking jail diversion, the police-based Crisis Intervention Team (CIT) model<sup>2,3</sup> of collaboration between law enforcement and mental health was developed in the late 1980s in Memphis (TN).<sup>4</sup> CIT has been widely disseminated and implemented in recent years in municipalities across the United States, including several statewide initiatives.<sup>5,6</sup>

The CIT model couples 40 h of classroom didactics and practical, experiential de-escalation training for self-selected officers with broader goals relating to reforming local mental health service systems.<sup>7</sup> Officers participating in the training aspect are typically experienced officers who volunteer for advanced training.<sup>4</sup> CIT-trained officers serve as specialized frontline responders who redirect, when appropriate, individuals with mental illnesses who are in crisis to treatment services instead of the criminal justice system. In doing so, it is assumed that the program enhances officers' interactions with individuals with serious mental illnesses like schizophrenia and reduces the risk of injury for individuals with mental illnesses and officers alike. Early research findings provide preliminary support for the effectiveness of CIT in several officer-level domains (eg, enhanced self-efficacy and reduced social distance stigma among

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CIT-trained officers).<sup>8</sup> Such changes in self-efficacy/confidence and attitudes are an important foundation on which to elucidate effects of CIT training on use of force, given that lack of confidence—and feeling uneasy, worried, or threatened—when handling calls involving individuals with mental illnesses may lead to hasty responses that actually escalate the situation and result in physical force.<sup>9</sup>

CIT and other partnerships between the mental health and law enforcement/criminal justice professions have evolved partly to address problems arising from excesses in use of force during incidents involving individuals with serious mental illnesses like schizophrenia.<sup>10</sup> In fact, the CIT model was developed as a community response to the shooting of a man with a mental illness in Memphis (TN).<sup>4</sup> The International Association of Chiefs of Police<sup>11</sup> defines *use of force* as “that amount of effort required by police to compel compliance by an unwilling subject.” Despite the high frequency of contact between law enforcement officers and individuals with serious mental illnesses, there is a concerning lack of research on the use of force during such interactions. Indeed, aside from very preliminary reports on decreased rates of arrest, officer injury, and Tactics Apprehension and Containment Team callouts after implementation of CIT<sup>4</sup>—the latter of which was not confirmed in a study of Special Weapons and Tactics callout rates<sup>12</sup>—only one published report has addressed use of force in relation to CIT. Specifically, Skeem and Bibeau<sup>13</sup> used incident reports for events handled by approximately 200 CIT-trained officers in Las Vegas (NV) to assess dangerousness (ie, violence potential) of situations and use of force among CIT officers. They found that CIT-trained officers reported using force in only 6% of events and that the severity of force used was strongly related to an event’s violence potential. However, it is unknown whether CIT-trained officers responded to potentially dangerous events with less use of force than non-CIT-trained officers.

The purpose of this study was to assess use of force and perceived effectiveness of both nonphysical actions and physical force among both CIT-trained and non-CIT-trained (control) officers using a series of vignettes depicting an escalating situation involving an individual with psychosis in a psychiatric crisis. It was hypothesized that, compared with non-CIT-trained (traditional) police officers, CIT-trained officers would (1) select a lesser use of force across a series of 3 escalating scenarios, (2) identify nonphysical actions (eg, issuing verbal commands, negotiating with the suspect) as more effective, and (3) perceive physical force (eg, grabbing the suspect, using pepper spray, or physically engaging the suspect) as a less effective means of handling the situation in order to reach a desirable or appropriate outcome. Such research on use of force is prominently lacking and seriously needed; further, it has implications not only for

reducing physical and emotional trauma to individuals with serious mental illnesses who commonly interact with police officers but also for demonstrating clinicians’, advocates’, and schizophrenia researchers’ potential to promote adaptive social change through partnerships with other social sectors, typified by the CIT model.

## Materials and Methods

### *Setting and Sample*

Data were collected from 135 police officers in a large, urban police department in the southeastern United States, including 48 CIT-trained officers and 87 non-CIT-trained officers. The research team gained access to both types of officers through a CIT officer who served as a liaison for the study. Surveys were administered at routine training sessions (not related to mental health) at the police academy. Officers received a \$15 gift card for completing the 5-part survey. The university’s institutional review board approved the study, and written informed consent was obtained from all participants.

### *Measures*

The first portion of the self-administered survey gathered basic demographic information (age, gender, race/ethnicity, marital status, educational attainment, yearly household income, and years having worked as a police officer), as well as data on 6 characteristics indicating the officer’s level of personal exposure to psychiatric illnesses and treatments. These variables were considered potentially important confounders or factors to examine in analyses of use of force if they were related to CIT-trained vs non-CIT-trained officer status and the outcomes of interest. Regarding personal exposure to psychiatric illnesses and treatments, officers were asked: (1) Have you personally ever received, or are you currently receiving, psychiatric treatment (such as therapy, counseling, or medicine for emotional problems)? (2) Have any of your family members ever received, or are they currently receiving, psychiatric treatment (such as therapy, counseling, or medicine for emotional problems)? (3) Are any of your family members or friends a mental health professional (eg, in the fields of counseling, therapy, psychiatry, or psychology)? (4) Have you ever dealt with someone with an obvious mental illness while on duty as a police officer? (5) Have you ever arrested someone with an obvious mental illness while on duty as a police officer? (6) As a police officer, how many people with an obvious mental illness do you deal with during an average month while on duty?

Second, the survey gave a detailed, 1-paragraph vignette (see table 1, scenario 1). Development of this vignette was guided by prior vignette-based survey research, such as portions of the MacArthur Mental Health Module of the 1996 General Social Survey.<sup>14</sup>

**Table 1.** Vignettes of Escalating Scenarios Presented to Police Officers

Scenario 1: You are called to the home of a 26-year-old man, John, who is wandering around his neighborhood talking to himself. Upon arrival at his home, his mother (who he lives with) meets you in the front yard. She says that a year ago, John started thinking that people around him were talking about him behind his back. John was convinced that people were spying on him and that they could hear what he was thinking. John lost his drive to participate in his usual activities and started spending most of the day in his room. John was hearing voices even though no one else was around. He has been living this way for 6 months. His mother is upset because John had evidently taken a knife to the couch around 4 hours ago, "looking for tape recorders." While you are talking to his mother, John returns to the house. He is unkempt and wearing dirty clothes. He is whispering to himself at times and asks why the police officer is here.

Scenario 2: After you talk to John and his mother for some time, John starts getting agitated and paranoid. He is verbally aggressive, stating "Stay away from me! I know you're here to help her poison me! You can't take my liberty flame." He is no longer cooperative with you. It is obvious that John is talking to himself and is hearing voices. John starts pacing back and forth across the yard and is not listening to requests or commands to come back.

Scenario 3: In an attempt to take control of the situation, you slowly approach John to have him stop pacing. When you are about 30 feet from John, he picks up a tennis-ball-sized rock off the ground and holds it in his palm high over his head, not moving. Standing like the Statue of Liberty, he then starts to slowly walk closer to you.

The use of vignettes is a common methodological approach to study stigma/attitudes about mental illnesses, having been used in the United States since 1950.<sup>15</sup> Scenario-based written vignettes have been used previously in research with law enforcement officers<sup>16–18</sup> and have been used in this setting to measure self-efficacy and social distance stigma among CIT-trained and non-CIT-trained officers.<sup>19</sup> As discussed by Link and colleagues,<sup>15</sup> vignettes allow the researcher to present a more elaborate stimulus to respondents than is afforded by measures that simply ask about "a person with a mental illness." After the investigative team developed the present vignette (and the 2 shorter escalating vignettes described below), a lieutenant at the police department and a state-level law enforcement officer were consulted to review and provide feedback on the vignettes to ensure appropriateness and relevance to law enforcement officers.

The vignette was followed by the question: "If you could take only one action in this situation, what action best fits with how you would handle this situation"? To measure preferred actions, officers were given the following response options: 1 = My physical presence and authority as a police officer is enough to handle the situation; 2 = I would call another officer for back-up to handle the situation; 3 = I would issue verbal commands to handle the situation; 4 = I would negotiate with the suspect to handle the situation; 5 = I would grab the suspect in order to handle the situation; 6 = I would use mace or pepper spray on the suspect in order to handle the situation; 7 = I would push, hit, or otherwise physically engage the suspect to handle the situation; and 8 = I would use a police baton to physically engage the suspect to handle the situation. These options were slightly modified from those used in a prior study (R. Morgan, unpublished data), which had been based on the use of force continuum<sup>20,21</sup> that starts at one end with the officer's physical presence and authority being enough to handle a situation and ends with the officer discharging a firearm (the latter response option was

not used in the present study as it was deemed unreasonable given the scenarios). Again, a lieutenant at the police department and a state-level law enforcement officer were consulted to review and provide feedback on the preferred action response options to ensure appropriateness and relevance to officers.

In the third portion of the survey, the officers were asked to rate 8 items on a 4-point Likert scale (1 = not at all effective, 2 = a little effective, 3 = somewhat effective, 4 = very effective) in response to questions about how effective each action would be to handle the situation in order to reach a desired/appropriate outcome. For example, the first item read, "Officer's physical presence and authority is enough to handle the situation." For data analyses, items 1–4 of this measure were categorized as capturing perceived effectiveness of nonphysical actions, while items 5–8 addressed perceived effectiveness of physical force. Scores for perceived effectiveness of nonphysical actions and perceived effectiveness of physical force—each with a possible range of 4–16—were derived by summing the 4-point Likert scores for the 4 items in each respective category.

To allow for repeated measures pertaining to an escalating psychiatric crisis situation, 2 additional vignettes were then presented (the fourth and fifth parts of the survey), describing the same male with psychosis who becomes more agitated, uncooperative, and potentially dangerous (table 1, scenarios 2 and 3). Those vignettes were again followed by the question to assess preferred actions, as well as the 8-item, Likert-scaled measure of perceived effectiveness of nonphysical actions and perceived effectiveness of physical force.

#### *Data Analyses*

Distributional properties of all variables were examined, and basic descriptive statistics were used to summarize sample characteristics. Mean scores ( $\pm$ SDs) were computed for preferred action, perceived effectiveness of nonphysical actions, and perceived effectiveness of physical

force across the 3 scenarios. CIT-trained and non-CIT-trained officers were compared on sociodemographic and psychiatric exposure variables using independent-samples Student *t* tests and chi-square analyses as appropriate. A repeated-measures analysis of variance (ANOVA) was conducted to assess progression of mean preferred action scores across the 3 escalating scenarios. Similar repeated-measures ANOVAs were used to examine perceived effectiveness of both nonphysical and physical measures across the scenarios. Additional independent variables were considered as necessary based on bivariate comparisons. All analyses were conducted using SPSS 16.0 (SPSS Inc., Chicago, IL).

Regarding preferred action scores, calculating means and SDs implies an assumption that the response options represent interval data. However, it could be argued that the 8 response options may not represent a clear linear progression of escalating interventions, and even if the response options are accepted as a progression, the different actions do not represent equal intervals (eg, the difference between issuing a verbal command and negotiating may not be equal to the difference between

negotiating and grabbing). Thus, given possible violations of assumptions of interval data, and because the ordering of response options is debatable (eg, Is negotiating with a subject more forceful than issuing commands?), data pertaining to preferred actions were analyzed secondarily using cross-tabulations and chi-square tests. For these analyses, the 8 response options were divided into those indicating nonphysical actions (options 1–4) and physical force (options 5–8).

**Results**

Sociodemographic characteristics of CIT-trained officers (*n* = 48) and non-CIT-trained officers (*n* = 87) are shown in table 2. There was a higher proportion of female officers in the CIT group (15, 31.2%) than the non-CIT-trained group (14, 16.3%;  $\chi^2 = 4.07$ , *df* = 1, *P* = .04). However, the 2 groups did not differ in terms of age, race/ethnicity, marital status, educational attainment, yearly household income, or years having worked as a police officer. Among the CIT-trained officers, 25 provided their month and year of CIT training; among these, the

**Table 2.** Sociodemographic Characteristics of the Study Sample (*n* = 135) and Prior Exposure to Psychiatric Treatment and Individuals With Mental Illnesses

|   | CIT-Trained Officers ( <i>n</i> = 48) | Non-CIT-Trained Officers ( <i>n</i> = 87) |
|---|---------------------------------------|---|
| Age (y)   | 39.8 ± 8.4                            | 38.0 ± 8.4                                |
| Gender, male <sup>a</sup>   | 33 (68.8%)                            | 72 (83.7%)                                |
| Race/ethnicity  |                                       |   |
| White/Caucasian   | 11 (23.4%)                            | 23 (26.7%)                                |
| Black/African American  | 33 (70.2%)                            | 56 (65.1%)                                |
| Other   | 3 (6.4%)                              | 7 (8.1%)                                  |
| Marital status  |                                       |   |
| Single, never married   | 6 (12.5%)                             | 19 (22.1%)                                |
| Married or living with a partner  | 29 (60.4%)                            | 48 (55.8%)                                |
| Separate, divorced, or widowed  | 139 (27.1%)                           | 198 (22.1%)                               |
| Educational attainment  |                                       |   |
| ≤2 y of college   | 20 (41.7%)                            | 46 (54.8%)                                |
| >2 y of college   | 28 (58.3%)                            | 38 (45.2%)                                |
| Yearly household income   |                                       |   |
| ≤\$50,000   | 12 (25.5%)                            | 24 (27.9%)                                |
| >\$50,000   | 35 (74.5%)                            | 62 (72.1%)                                |
| Years having worked as a police officer   | 11.7 ± 7.8                            | 12.3 ± 7.8                                |
| Personal history of psychiatric treatment   | 2 (4.4%)                              | 3 (3.4%)                                  |
| Family history of psychiatric treatment <sup>b</sup>                                    | 8 (17.0%)                             | 3 (3.4%)                                  |
| Family member or friend is a mental health professional                                 | 13 (37.5%)                            | 18 (20.7%)                                |
| Ever dealt with someone with an obvious mental illness                                  | 47 (97.9%)                            | 84 (96.6%)                                |
| Ever arrested someone with an obvious mental illness                                    | 45 (93.8%)                            | 79 (90.8%)                                |
| Number of people with an obvious mental illness interacted with during an average month | 12.4 ± 10.4                           | 10.3 ± 16.6                               |

Note: CIT, Crisis Intervention Team.

<sup>a</sup>Significant gender difference between groups, *P* = .04.

<sup>b</sup>Significant difference between groups in terms of family history of psychiatric treatment, *P* = .006.

**Table 3.** Descriptive Statistics for Preferred Action, Perceived Effectiveness of Nonphysical Actions, and Perceived Effectiveness of Physical Force, by CIT-Trained vs Non-CIT-Trained Officer Status, Across the 3 Escalating Scenarios

|   | Scenario 1   | Scenario 2   | Scenario 3   |
|---|--------------|--------------|--------------|
| Preferred action <sup>a</sup>                               |              |              |              |
| CIT-trained officers  | 3.07 ± 1.00  | 3.18 ± 1.05  | 4.22 ± 1.68  |
| Non-CIT-trained officers                                    | 2.79 ± 1.05  | 2.93 ± 1.31  | 5.25 ± 2.01  |
| Perceived effectiveness of nonphysical actions <sup>b</sup> |              |              |              |
| CIT-trained officers  | 11.85 ± 2.20 | 10.15 ± 2.69 | 10.00 ± 3.14 |
| Non-CIT-trained officers                                    | 11.59 ± 2.04 | 9.51 ± 2.78  | 8.49 ± 2.84  |
| Perceived effectiveness of physical force <sup>c</sup>      |              |              |              |
| CIT-trained officers  | 5.15 ± 2.21  | 6.40 ± 2.74  | 9.05 ± 3.43  |
| Non-CIT-trained officers                                    | 7.34 ± 3.85  | 8.28 ± 3.68  | 10.77 ± 3.63 |

Note: CIT, Crisis Intervention Team.

<sup>a</sup>Scores range from 1 to 8, where 1 = My physical presence and authority as a police officer is enough to handle the situation and 8 = I would use a police baton to physically engage the suspect to handle the situation. Significant within-subjects effect for scenario ( $P < .001$ ) and the scenario by group interaction term ( $P < .001$ ).

<sup>b</sup>Scores range from 4 to 16, derived by summing the 4-point Likert scores for the 4 items pertaining to nonphysical actions. Significant within-subjects effect for scenario ( $P < .001$ ) and the scenario by group interaction term ( $P = .048$ ).

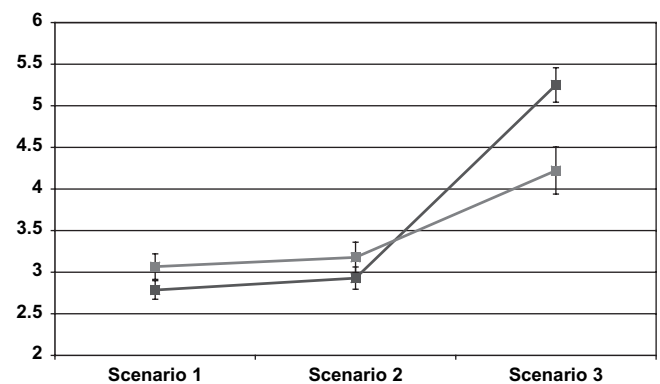
<sup>c</sup>Scores range from 4 to 16, derived by summing the 4-point Likert scores for the 4 items pertaining to physical force. Significant within-subjects effect for scenario ( $P < .001$ ) but not the scenario by group interaction term; significant between-subjects effect (CIT-trained vs non-CIT-trained officers,  $P = .002$ ).

mean number of months since CIT training was 19.2 ± 11.4 (range, 3–44). Table 2 also shows characteristics indicating prior exposure to psychiatric treatment and to individuals with mental illnesses in the 2 groups of officers. A significant difference was noted pertaining to having a family member who has received, or is currently receiving, psychiatric treatment. Specifically, CIT-trained officers were more likely to report a family history of psychiatric treatment (8, 17.0%) than non-CIT-trained officers (3, 3.4%;  $\chi^2 = 7.46$ ,  $df = 1$ ,  $P = .006$ ).

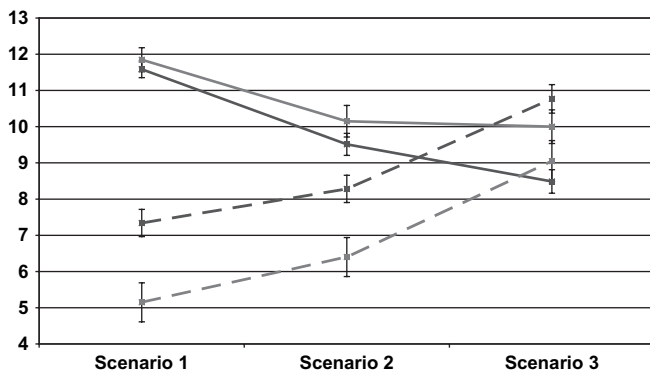
Because the 2 groups of officers differed in terms of proportions of female officers and proportions with a family history of psychiatric treatment, these 2 variables were examined in relation to the key dependent variables—preferred actions, perceived effectiveness of nonphysical actions, and perceived effectiveness of physical force across all 3 scenarios. Gender was associated with only one of the dependent variables; female officers had a significantly lower mean score for perceived effectiveness of physical force at the third scenario (8.79 ± 3.02) compared with male officers (10.46 ± 3.75;  $t = 2.20$ ,  $df = 127$ ,  $P = .03$ ). Thus, gender was used as a factor in the repeated-measures ANOVA pertaining to perceived effectiveness of physical force. Officers endorsing a family history of psychiatric treatment did not differ from those without a family history on any of the outcome variables.

Mean preferred action scores of both CIT-trained and non-CIT-trained officers are shown in table 3. For both groups, scores increased numerically (indicating an increasing preferred level of force) across the 3 scenarios. Tests of within-subjects effects indicated a significant effect for scenario ( $F = 79.29$ ;  $df = 1.82, 231.46$ ;  $P < .001$ ) and a sig-

nificant effect for the scenario by group interaction term ( $F = 10.83$ ;  $df = 1.82, 231.46$ ;  $P < .001$ ). For this repeated-measures ANOVA, the Huynh-Feldt correction was applied ( $\epsilon$  was  $>0.75$ ) to correct the  $df$  due to a significant Mauchly test of sphericity. Means and SEs are shown in figure 1, which depicts the increased mean preferred action scores from scenario 2 to scenario 3, though a more pronounced increase in preferred use of force occurred among non-CIT-trained officers. Of note, mean preferred action scores did not differ significantly between CIT-trained and non-CIT-trained officers at scenario 1 or scenario 2. The mean preferred action score pertaining to scenario 3 for non-CIT-trained officers (5.25 ± 2.01) roughly equated to “I would grab the suspect in order to handle the situation” (a form of physical force), whereas the mean score for CIT-trained officers (4.22 ± 1.68) approximately



**Fig. 1.** Patterns of Mean Preferred Action Scores Across 3 Escalating Scenarios (CIT Officers in Red, Non-CIT Officers in Blue; Error Bars Represent SEs).



**Fig. 2.** Patterns of Mean Preferred Effectiveness of Nonphysical Actions (Solid Lines) and Physical Force (Dashed Lines) Across 3 Escalating Scenarios (CIT Officers in Red, Non-CIT Officers in Blue; Error Bars Represent SEs).

equated to “I would negotiate with the suspect to handle the situation” (a nonphysical action).

When approached from a categorical perspective (preferred action response options dichotomized as nonphysical actions vs physical force) given the aforementioned potential violations of assumptions of interval data, the findings did not differ. At scenario 1, all officers of both groups opted for a nonphysical action (relying on physical presence and authority as a police officer, calling another officer for back-up, issuing verbal commands, and negotiating), and the groups did not differ in proportions choosing these 4 actions ( $\chi^2 = 2.55$ ,  $df = 3$ ,  $P = .47$ ). At scenario 2, 13 officers chose an action involving physical force, and the proportions of officers doing so did not differ by group (6.4% of CIT-trained officers vs 11.6% of non-CIT-trained officers;  $\chi^2 = 0.95$ ,  $df = 1$ ,  $P = .38$ ). At scenario 3, 77 officers opted for a form of physical force (13 stating that they would grab the suspect, 37 indicating the use of mace or pepper spray, 11 opting to push, hit, or otherwise physically engage the suspect, and 16 stating that they would use a police baton to physically engage the suspect). There was a significant difference in nonphysical action vs physical force by group at this scenario—43.5% of CIT-trained officers compared with 63.1% of non-CIT-trained officers chose a physical action ( $\chi^2 = 4.65$ ,  $df = 1$ ,  $P = .03$ ).

Mean scores on perceived effectiveness of nonphysical actions and perceived effectiveness of physical force, for both CIT-trained and non-CIT-trained officers, are shown in table 3. For both groups, scores decreased numerically in terms of perceived effectiveness of nonphysical actions, while scores for perceived effectiveness of physical force increased across the 3 scenarios. Regarding perceived effectiveness of nonphysical actions, a significant within-subjects effect was observed for scenario ( $F = 55.55$ ;  $df = 2$ , 244;  $P < .001$ ), as well as a significant effect for the scenario by group interaction term ( $F = 3.07$ ;  $df = 2$ , 244;  $P = .048$ ) (figure 2).

In contrast, also shown in figure 2, non-CIT-trained officers rated physical force measures as more effective

across all 3 scenarios, suggesting greater acceptance of using physical force. A significant within-subjects effect was observed for scenario ( $F = 41.84$ ;  $df = 1.72$ , 209.28;  $P < .001$ ), but no significant effect was found for the scenario by group interaction term. Significant effects also were not observed for 2 other interaction terms: scenario by gender and scenario by group by gender. Again, for this repeated-measures ANOVA, the Huynh-Feldt correction was applied to correct the  $df$  due to a significant Mauchly test of sphericity. The test of between-subjects effects (CIT-trained vs non-CIT-trained officers) was significant ( $F = 9.69$ ;  $df = 1$ , 122;  $P = .002$ ).

## Discussion

CIT training of police officers—and the broader CIT model—is being swiftly and broadly disseminated in law enforcement agencies across the United States, and local volunteer mental health professionals are typically involved in both the didactic and experiential aspects of the curriculum.<sup>4-7</sup> A main goal of CIT training is to reduce force toward and injury of individuals with a serious mental illness like schizophrenia, in addition to being a form of pre-booking jail diversion. However, only one prior published study has examined use of force by CIT-trained officers.<sup>13</sup> The present study yielded 3 key findings. First, although preferred actions escalated across the 3 scenarios in both groups, in an increasingly uncertain situation involving a psychotic and agitated subject (scenario 3), CIT-trained officers selected actions characterized by a lower use of physical force than non-CIT-trained officers. Results were unchanged when analyses were approached from a categorical perspective (ie, use of nonphysical actions vs physical force). Second, CIT-trained officers identified nonphysical actions as more effective than did non-CIT-trained officers, especially at scenario 3. Third, CIT-trained officers consistently perceived physical force measures as less effective than non-CIT-trained officers across all 3 scenarios. These findings provide the first empirical evidence that CIT-trained officers may be more likely to use nonphysical actions (less force), and to perceive them as more effective, than non-CIT-trained officers during interactions involving an agitated individual with a psychotic disorder. These survey-based findings should be followed by studies using other research designs.

Through the CIT curriculum, officers develop a deeper understanding of their own ability to positively impact the behavior of a person in crisis, moving toward de-escalation and away from use of force<sup>4</sup>; the present findings suggest that CIT-based de-escalation training may achieve this goal. However, it should be noted that de-escalation training is only one aspect of the 40-h CIT curriculum; for example, officers receive several hours of teaching on symptoms and treatment options. Furthermore, officers entering CIT training may have

more personal experience related to psychiatric conditions and their treatments (eg, a greater likelihood of having a family history of psychiatric treatment) and may generally represent a different type of officer in other respects (eg, psychological mindedness). Thus, the present findings are likely driven by baseline and exposure characteristics, the de-escalation training received, and other content of the CIT curriculum that increases knowledge and improves attitudes and skills.

That preferred actions reflected an increasing use of force in both groups from scenario 1 to scenario 3 was not surprising given that the suspect's use of force is obviously the most salient predictor of the officers' use of force.<sup>22,23</sup> However, these results indicate that CIT training may slow the advance toward forceful measures, ultimately lessening the risk of physical confrontation, injury, and perhaps even death. Ruiz and Miller<sup>9</sup> suggested that at least 5 catalysts foster physical confrontations between officers and persons with mental illnesses: (1) fear on the part of persons with mental illnesses, which may be reasonable given that such encounters place them in the hands of unfamiliar police officers and result in taking them from their homes to a place that most do not want to go, (2) potential reluctance of persons in a mental health crisis to cooperate or comply with police orders, (3) fear due to the police uniform or the overpowering attitude of some officers, (4) lack of understanding and empathy by officers for the plight of persons with mental illnesses, and (5) fear that officers harbor themselves toward persons with mental illnesses, often related to perceptions of unpredictability or dangerousness. Each of these factors would be crucial to address in future studies of determinants of use of force in both CIT-trained and non-CIT-trained officers.

The CIT model, which combines specialized response capacity for psychiatric crises with partnerships that promote system change for enhancing psychiatric services, explicitly focuses on "issues such as the use of force and police response protocols, while requiring the mental health emergency system to respond in an efficient, user-friendly manner".<sup>4(p339)</sup> Yet, use of force has been largely neglected as a topic of research. Though studied in the criminal justice literature, discussions of use of force are nearly absent in the medical, mental health, and schizophrenia literature. This is despite the fact that physicians in emergency departments report managing police force-related injuries (eg, blunt trauma by fists or feet, handcuffs being too tight, hitting with night sticks or flashlights)<sup>24</sup> and anecdotal but not empirically studied notions among mental health professionals that police encounters are often psychologically and physically traumatizing for persons with serious mental illnesses.

The International Association of Chiefs of Police<sup>11</sup> defines *excessive* use of force as "the application of an amount and/or frequency of force greater than that re-

quired to compel compliance from a willing or unwilling subject," and the Bureau of Justice Statistics<sup>25</sup> notes that the legal test of excessive force relates to "whether the police officer reasonably believed that such force was necessary to accomplish a legitimate police purpose." In 1989, the U.S. Supreme Court, in *Graham v. Connor*, held that "all claims that law enforcement officials have used excessive force—deadly or not—in the course of an arrest, investigatory stop, or other 'seizure' of a free citizen are properly analyzed under the Fourth Amendment's 'objective reasonableness' standard" as judged from the perspective of a reasonable officer on the scene, acknowledging that officers must often make split-second decisions about the amount of force necessary in a particular situation.<sup>26</sup> Future research should examine occurrences of excessive use of force—an admittedly sensitive and controversial issue given prominent media reports in recent decades—in addition to preferred actions and perceived effectiveness. It has been noted that populations that have experienced police-perpetrated abuse may hesitate to summon police assistance, fearing that police officers might exacerbate the violence or further traumatize victims.<sup>27</sup> It is reasonable to assume that individuals with serious mental illnesses may comprise one such particularly vulnerable population. Of note, the voice of these individuals remains largely unstudied, though some efforts are underway to remedy that shortage of research with persons with mental illnesses who have had interactions with law enforcement officers.<sup>28</sup>

The present findings should be interpreted in light of several methodological limitations. First and foremost, this study addressed use of force using a survey methodology, which obviously captures self-report rather than actual behavior. Having time to think through one's responses in a dispassionate manner could yield quite different preferred actions than would be seen in acute, crisis situations in which one's safety could be jeopardized. Data could not be collected on officers' previous use of force. Although administrative data could be useful in addressing this research question, many agencies do not keep research-quality use of force information<sup>29</sup> and others maintain reports only if there are injuries, potential injuries, or verbal complaints (of involved suspects or citizens) as a result of a confrontation. Due to the lack of appropriate administrative data, a vignette-based survey design was deemed most appropriate to begin examining both preferred actions and perceived effectiveness of force among police officers. Other approaches to addressing related research questions include the use of encounter forms or action/incident reports completed by officers after interactions<sup>13</sup> or qualitative (observational) or ethnographic designs involving real-time follow-up with officers regarding encounters. Research also should focus on the persons with mental illnesses with whom they interact; this is



suggested by one prior qualitative study documenting that such individuals sometimes experience encounters with police officers very negatively, including perceptions of unnecessary use of force, verbal abuse, and disrespect.<sup>28</sup>

Three other limitations are noteworthy. First, there may be important baseline differences between officers who elect or are assigned to CIT training and those who do not go through the training; those differences could account for the findings rather than the training per se. Regarding CIT officers in particular, prior research from this setting has revealed that approximately three-fourths report having volunteered for CIT training and about one-fourth report having been assigned to it<sup>30</sup>; differences in officers' characteristics related to these 2 modes of entry into CIT would be of interest for future research. Second, the Hawthorne effect or social desirability bias could have influenced responses. However, there is no obvious reason to suspect that a systematic bias (due to differential effects across the 2 groups) accounts for the findings. Third, generalizability may be limited given that all officers were recruited from a single police department in a large, metropolitan area. The culture within select law enforcement agencies (which is substantially influenced by leadership within the department) could influence the nature of findings, and community socioeconomic characteristics are associated with police behavior in terms of arrests, use of force, and police misconduct.<sup>31</sup>

The present results support the hypotheses that CIT-trained officers select a lower level of force in terms of their preferred actions in the context of an escalating situation and perceive greater effectiveness of nonphysical actions as well as lesser effectiveness of physical force. Given the fact that police officers frequently interact with persons with serious psychiatric signs and symptoms, additional research is clearly needed. In terms of broader considerations, although this line of research is primarily important for its clinical implications (eg, potentially reducing physical and emotional trauma to individuals with serious mental illnesses, possibly reducing arrest rates while facilitating referral to psychiatric services) and programmatic implications (eg, the need to proactively collect use of force data, justification for funding CIT implementation), broader social implications are fathomable. For example, clinicians', advocates', and schizophrenia researchers' role in promoting social justice could be strengthened through partnerships with other diverse professions, including, but not limited to, public safety, law enforcement, and criminal justice.

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