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Development and Validation of the Mental Health Attitude Survey for Police

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Abstract Police officers often lack sufficient mental health training and knowledge of mental illness to manage the risks associated with emotionally disturbed person (EDP) encounters. Still, it is not clear how much mental health training police officers actually need and, to date, there are no measures for police departments to use to determine officer attitudes toward dealing with EDPs. This led to the development of the Mental Health Attitude Survey for Police (MHASP), a modification and compilation of previously developed and newly developed items, which can be used to measure the effectiveness of mental health crisis training curricula in improving police attitudes toward persons with mental illnesses. A sample of 412 police officers from a major city police department in the northeast anonymously completed the MHASP. The results provide good evidence that the MHASP is a reliable and initially validated measure of police attitudes toward persons with mental illnesses.

Keywords Mental illness · Mentally ill · Police · Attitude survey · Emotionally disturbed persons · EDP · Mental health attitudes · Mental health training · Crisis intervention training

Introduction

It is a common perception that the public, by and large, has negative attitudes about persons with mental illnesses. These attitudes may be the result of a lack of accurate information about individuals with mental illnesses or the lack of contact with such individuals (Hahn 2002). Studies have found that having more knowledge about mental illness results in less negative and stigmatizing attitudes, as well as less fear toward such persons (Corrigan et al. 2001; Penn et al. 1994; Penn et al. 1999).

Many police officers who respond to calls involving persons with mental illnesses in crisis, more commonly referred to in police terminology as "emotionally disturbed person" or "EDP" calls, often lack sufficient mental health training and knowledge of mental illness to manage the risks associated with such encounters. With continued cutbacks to social services, these encounters have become more and more commonplace. According to the New York Times, the New York City Police Department, for example, reported an increase in responses to EDP calls of 209.1% between 1980 and 1998 (as cited in Treatment Advocacy Center, 2007). A lack of understanding and training may result in police officers making improper decisions when responding to EDP calls (Hylton 1995), and it is a common perception that if police officers believe there is a heightened sense of risk among persons with mental illnesses, they may react more aggressively when responding to certain EDP calls, escalating the situation and evoking unnecessary violence (Watson et al. 2004). As a result, numerous requests have been voiced for "training police" to help address the issues created when persons with mental illnesses become entangled with the criminal justice system. Still, it is not clear how much mental health training police officers actually need and, to date, there are no measures for police departments to use to determine officer attitudes toward dealing with individuals with mental illnesses, or even if officer attitudes improve as a result of mental health training.

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In most states, police officers have the discretion to determine what action to take when they encounter an emotionally disturbed person. They can arrest, apply for emergency commitment, or they can handle the call informally, resulting in a "no action" disposition (Green 1997; Teplin 1984). In having to decide whether the mental health system or the criminal justice system is the most appropriate disposition for an EDP call, "law enforcement officers may have assumed the role of 'street-corner' psychiatrist" (Lamb et al. 2002, p. 1266). "In these instances, the officers act freely and solve the problem in whichever way they deem appropriate, on the basis of their particular attitudes toward, perceptions of, and assumptions about persons with mental illness" (Lamb et al., 2002, p. 1267).

Police are often alarmed by the unpredictability of EDP calls and frustrated by the amount of time it takes to resolve such calls and provide persons with mental illnesses access to treatment (Sellers et al. 2005). In fact, police officers may choose to charge a person with a misdemeanor, a practice often referred to as "mercy booking," if they determine that "psychiatric treatment may be more accessible in jail than in the community" (Lamb et al. 2002, p. 1267). Yet, despite these frustrations, police officers do accept such encounters with EDPs as part of their normal police role (Gillig et al. 1990).

Public perception of police attitudes toward persons with mental illnesses has tended to be negative, viewing police as intolerant toward such persons in crisis, and as more likely to use excessive force when dealing with such individuals. In fact, Cotton (2004) contends that there is good reason to be concerned about police officer attitudes, since the negative view of the public toward individuals with mental illnesses has been well documented, and it is widely accepted that stigma remains one of the biggest barriers to successful community integration of those with mental illnesses. Still, while Cotton's research found that police had attitudes very similar to those of the general public, the majority of officers expressed an interest in obtaining more information about working with and understanding persons who have a mental illness.

Indeed, attitudes can have some bearing on a person's behavior. "Attitudes involve the integration of both beliefs and values, which combine to exert varying degrees of influence on an individual's behavior" (Bailey et al. 2001, p. 344). Stigma, prejudice, and lack of accurate information all can play a part in shaping one's attitude toward a particular person or group of persons, such as those suffering with mental illnesses. If a police officer has the belief that all persons with mental illnesses are dangerous, there is an increased possibility that the officer may respond in a negative way. If we can change a person's attitude, then we are in a position to influence his or her behavior. Compton et al. (2006) found a reduction in stigmatizing attitudes of police officers toward individuals with schizophrenia after officers received Crisis Intervention Team (CIT) training; a comprehensive 40-h mental health training developed in Memphis, Tennessee, that provides officers with knowledge and skills to improve their responses to calls involving persons with mental illnesses in crisis (see Dupont et al. 2007).

Police mental health training curricula might well dispel preconceived notions and myths about mental illness, particularly where such ideas may have an impact on a police officer's actions, but as yet it has not been possible to measure changes in police officer attitudes in order to gauge how such curricula impact officer attitudes. It would thus be beneficial to have a reliable and valid measure that accurately assesses police officer attitudes toward persons with mental illnesses. Such a measure may also help to determine how much mental health crisis training is needed, and help to tailor such curricula to target certain counterproductive attitudes held by police.

Because the authors are involved in training police to deal effectively with emotionally disturbed persons (EDPs), they sought to examine what police attitudes toward EDPs actually are, as well as whether their training curriculum had any effect on modifying officer attitudes. A literature review revealed a few measures of community attitudes toward persons with mental illnesses. However, these measures did not adequately capture questions related to police work specifically involving these persons. This led to the development of the Mental Health Attitude Survey for Police (MHASP).

Methods

Measures

The Mental Health Attitude Survey for Police

An initial pool of 37 items was developed to assess attitudes of police officers toward persons with mental illnesses. Items were derived from a number of sources, especially studies examining attitudes toward persons with mental illnesses (Cotton 2004; Green 1997; Taylor and Dear 1981), as well as from our own research and experiences working with and training police officers. The majority of items (26) come from the Community Attitudes Toward the Mentally Ill (CAMI) scale (Taylor and Dear 1981), from which we selected only those items that correlated highest within each of four scale dimensions: *authoritarianism*—reflecting a view of persons with mental illnesses as an inferior class requiring coercive handling (e.g., as soon as a person shows signs of mental disturbance, he should be hospitalized); *benevolence*—a paternalistic, sympathetic view of persons

with mental illnesses based on humanistic and religious principles (e.g., More tax money should be spent on the care and treatment of the mentally ill); *social restrictiveness*—viewing persons with mental illnesses as a threat to society (e.g., The mentally ill should be isolated from the rest of the community); and *community mental health ideology*—a medical model view of mental illness as an illness like any other (e.g., Residents have nothing to fear from people coming into their neighborhood to obtain mental health services).

We also included six items created by Cotton (2004) to inquire about police views of persons with mental illnesses in the community and the role police have in their management (e.g., Responding to calls involving the mentally ill is not really part of a police officers' role). We revised the wording of these items and the items taken from the CAMI to incorporate police terminology regarding offenders with mental illnesses (e.g., instead of "persons with mental illnesses," we use "emotionally disturbed persons" or "EDPs"). In addition, we developed two items to assess results found by Green (1997) who discovered that police deal with many more calls involving EDPs than are officially reported (e.g., There is pressure from my department to solve the problems associated with emotionally disturbed persons on an informal basis). Green found that 72% of police involvement with EDPs, who violate the law, was nonofficial and resulted in no-action dispositions. He attributed these findings to institutional pressures officers felt from both their own departments and the local emergency room personnel to deal with these types of calls on an informal basis—resulting in neither arrest nor hospitalization.

Finally, we developed three additional items to ascertain whether or not police: (1) feel they have adequate knowledge to interact with emotionally disturbed persons (EDPs); (2) feel confident in the current mental health system and in their own ability to handle EDP calls; and (3) whether they believe that they have been adequately trained or are in need of specific training to handle situations involving EDPs. Utilizing a panel of mental health community advocates and consumers to review all of our initial 37 MHASP items, we modified certain items to reflect the kind of attitudinal inquiry that our panel believed to be important. Items were rated on a forced-choice, 6-point, Likert-type scale indicating *Strongly Agree, Moderately Agree, Slightly Agree, Slightly Disagree, Moderately Disagree* or *Strongly Disagree* with each item, with higher scores associated with more disagreement with the item.

Demographic Questions

Respondents also were asked to indicate their age, gender, highest level of education completed, race/ethnicity, number of years employed in law enforcement, if they had received past training on dealing with EDPs, if they had personal experience with someone who has mental illness outside of work, and how many days per week in the past month they responded to an EDP call.

Vignette Attitudinal Items

In order to examine the potential validity of the MHASP, officers were asked to respond to 17 questions about the following vignette, derived from the work of Martin et al. (2000) who found among a representative sample of Americans that individuals who attach the label of "mental illness" to the person described in the vignette were less willing to interact with that individual:

> John/Mary is a man/woman who has completed high school. Up until a year ago, life was pretty okay for John/Mary. But then things started to change. He/she thought that people around him/her were making disapproving comments and talking behind his/her back. John/Mary was convinced that people were spying on him/her and that they could hear what he/she was thinking. John/Mary lost his/her drive to participate in his/her usual work and family activities and retreated into his/her home, eventually spending most of his/her day in his/her room. John/Mary became so preoccupied with what he/she was thinking that he/she skipped meals and stopped bathing regularly. At night, when everyone else was sleeping, he/she was walking back and forth in his/her room. John/Mary was hearing voices even though no one else was around. These voices told him/her what to do and what to think. He/she has been living this way for six months.

A random half of the surveys used John as the subject of the vignette and half used Mary, in order to assess the impact of the gender of the main character in the vignette on officer responses. Officers were asked how willing they would be to do each of the following based on this vignette: move next door to a person described as having a mental health problem, make friends with that person, spend an evening socializing with that person, have that person start working closely with them on the job, have a group home for people like John or Mary opened in their neighborhood, and have that person marry into their family. Possible responses varied from *definitely willing*, *probably willing*, *probably unwilling*, or *definitely unwilling*, with higher scores associated with greater unwillingness. They were also asked to rate how likely they thought it was, in their opinion, that John/Mary would do something violent to other people, with possible responses of *not likely at all*, *not very likely*, *somewhat likely*, or *very likely*. Finally, they

Table 1 Demographics

Demographic	Statistics
Age ($n = 394$)	Mean = 41.34 (SD = 9.09)
	Median = 40.5 (range 23–64)
Male ($n = 402$)	90.8% ($n = 374$)
Highest level of education completed	
High school	4.2% ($n = 17$)
Some college/special training	27.0% ($n = 110$)
Bachelor's degree	38.6% ($n = 157$)
Master's degree or higher ($n = 407$)	30.2% ($n = 123$)
Race/ethnicity	
White/Caucasian	83.0% ($n = 302$)
Hispanic/Latino	8.0% ($n = 29$)
African American	6.3% ($n = 23$)
Asian/Pacific Islander	1.1% ($n = 4$)
Native American/Alaskan native	0.8% ($n = 3$)
Other ($n = 364$)	0.8% ($n = 3$)
Years employed in law enforcement	Mean = 15.51 (SD = 8.73)
	Median = 14.00 (range 0.5–39)
Received some past training on dealing with EDPs ($n = 400$)	81.8% ($n = 327$)
Personal experience with someone who has mental illness outside of work ($n = 405$)	79.0% ($n = 320$)
Day per week in past month responded to an EDP call ($n = 369$)	
0 days	44.4% (164)
1 day	9.8% ($n = 36$)
2 days	11.4% ($n = 42$)
3 days	9.2% ($n = 34$)
4 days	4.9% ($n = 18$)
5 days or more	20.3% ($n = 75$)

were asked to suppose that John/Mary "had the sort of help you think is most appropriate for his/her health problems," and to then indicate how likely, in the long run, they would be to do each of the following things compared to other people in the community: be violent, drink too much, take illegal drugs, have poor friendships, attempt suicide, be understanding of other people's feelings, have a good marriage, be a caring parent, be a productive worker, and be creative or artistic. Each behavior was rated as either *more likely*, *just as likely*, or *less likely*, with higher scores associated with less likelihood. Scores on each item were coded for final analysis such that when summed, higher total vignette scores would indicate more negative attitudes.

Subjects

In spring 2008, a sample of 412 police officers from a major city police department located in the northeast completed the Mental Health Attitude Survey for Police (MHASP). The MHASP scale was administered to police officers at morning roll call over the course of the police department's annual in-service training. Officers were informed that their participation was completely voluntary. They were instructed not to put their names on the survey, and that their responses would remain anonymous. Of the 412 participants, 379 responded to all 37 items in the MHASP, and the responses of these 379 officers were used in the factor analysis. Because of missing values, the final *n* values in the statistical analysis of the demographic items of the MHASP varied, as detailed in Table 1.

Data Analysis

Exploratory factor analysis was conducted separately for the MHASP items, based on polychoric correlations and using a robust weighted least squares estimator, as is appropriate for ordinal, categorical data. This was particularly important because some of the items had skewed distributions. Factor loadings were computed using probit regressions. The scree plot of the eigenvalues was used to determine the number of factors to extract and rotate. Factors were rotated using promax rotation, an oblique

factor rotation appropriate for correlated factors. Items that loaded at least 0.40 on either the pattern or the structure matrix and at least 0.35 on the other matrix were considered as candidates for inclusion on a subscale based on that factor. The internal consistency of each of these subscales was maximized through item analysis. Items that increased the Cronbach's alpha associated with the subscale items when the item was dropped, and which did not correlate at least 0.20 with the rest of the items in that subscale, were dropped from the subscale. Resultant subscales were then submitted to a higher order factor analysis, based on Pearson correlations, using Principal Axis estimation and promax rotation.

This survey research study was given a University of Massachusetts Medical School Institution Review Board (IRB) exemption, since this study utilized survey procedures in which the information was recorded in a manner that the subjects cannot be identified. In addition, all authors certify responsibility for this manuscript, and that there are no known conflicts of interest.

Results

Demographics

Respondents ranged in age from 23 to 64 years, with a median age of 40.5 and an average age of 41.34 years (SD = 9.09; Table 1). They were predominantly male (90.8%) and white (83.0%). Very few (4.2%) had only a high school education. A little more than a quarter (27.0%) had some college or special training, more than a third (38.6%) had a bachelor's degree, and a little less than a third (30.2%) had a master's degree or higher. Their years employed in law enforcement ranged from half a year to 39 years, with a median of 14.0 years and a mean of 15.51 years (SD = 8.73).

Whether or not officers reported that they had received past training on dealing with EDPs was not related to age ($t_{(391)} = 1.16$, $P = 0.25$, ns). Nor was training associated with gender ($\chi^2_{(1)} = 0.04$, $P = 0.85$, ns). The number of days officers reported they had responded to EDP calls in the past month differed by age ($F_{(5,347)} = 8.22$, $P < 0.001$), with those taking no calls being older than those taking three or more calls. Women officers also were more likely to take fewer calls than men (Fisher's exact = 0.024), with most of them taking no calls (72.0%, $n = 18$) or 1 call (16.0%, $n = 4$) or 2 calls (4.0%, $n = 1$), and only two (8.0%) taking more than that (5 or more calls).

Although the gender of the person in the vignette was varied so that half of the officers received male (John) and half received female (Mary) related vignettes, no differences in responses were found based on the gender of the main character. Therefore, the gender of the character in the vignette was not taken into account in the analysis of total vignette scores.

Factor Analysis of the MHASP

Examination of the scree plot of eigenvalues indicated that four or five factors should be rotated. The extraction of four factors resulted in a simpler factor structure with more reliable subscales based on the items in those factors, so the four-factor solution was chosen as the most appropriate. The resulting loadings on both the promax rotated pattern matrix and the factor structure matrix of each item on the four rotated factors are shown in Table 2. The four factors accounted for 20.84, 9.76, 7.47, and 6.06% of the variance, respectively, for a total of 44.13% of the variance accounted for by the four factors.

Items on each subscale that were loaded negatively were reversed coded to match the direction of attitude (negative or positive) indicated by the majority of items on the subscale. Items were then analyzed within each of the four separate subscales. Three items did not load on any of the factors and were dropped from further consideration (Table 2). This resulted in initial item pools of 15 items for Factor I, seven items for Factor II, three items for Factor III, and 10 items for Factor IV. Item analysis indicated that one item from the first factor did not contribute to the internal consistency, so this item ("I feel more comfortable responding to EDP calls involving males in crisis") was dropped from that subscale, resulting in 14 items for the subscale based on Factor I. No items were dropped from the subscales based on the other three factors. One item is shared by Factors I and IV ("Emotionally disturbed persons should be isolated from the rest of the community"), making for a total of 33 unique items comprising the MHASP scale.

The four subscales were named based on the items loading on the associated factors. Factor I resulted in a subscale titled, "Positive Attitude Toward EDPs." An example item reads, "Emotionally disturbed persons take up more than their share of police time." Although this item is worded in a manner indicative of a negative attitude, higher responses indicate disagreement, thus indicating a positive attitude. The adjusted Cronbach's alpha for the 14 items of this subscale was 0.780. The subscale based on Factor II was titled, "Negative Attitude Toward Community Responsibility for EDPs." An example item reads, "We have a responsibility to provide the best possible care for emotionally disturbed persons." In this case, the item is worded in a manner indicative of a positive attitude, but since higher responses indicate disagreement, higher scores indicate a negative attitude. The adjusted Cronbach's alpha for the seven items of this subscale was

Table 2 Factor loadings of the items of the Mental Health Attitude Survey for Police (MHASP)

Item	Factor pattern (Regression coefficients)/factor structure (correlations)			
	Factor I Positive attitude toward EDPs	Factor II Negative attitude toward community responsibility for EDPs	Factor III Not adequately prepared to deal with EDPs	Factor IV Positive attitude toward EDPs living in the community
EDPs take up more than their share of police time	**0.424/0.464**[a]	0.022/−0.115	0.032/−0.037	0.200/0.295
Persons who show signs of mental illness should be hospitalized	**0.453/0.453**	0.175/0.055	−0.021/−0.059	0.109/0.157
Wellness and recovery are achievable for EDPs	−0.115/−0.205	0.234/0.325	0.202/0.271	−0.082/−0.201
EDPs need control and discipline	**0.460/0.425**	0.125/0.068	0.024/−0.019	−0.043/0.023
Residents should accept mental health facilities in their neighborhood	0.121/−0.040	0.122/0.309	−0.036/−0.007	**−0.598/−0.611**
Is frightening to think of EDPs living in residential neighborhoods	0.111/0.254	0.158/−0.107	−0.099/−0.107	**0.631/0.605**
More tax money should be spent on care and treatment of EDPs	0.056/−0.027	**0.876/0.775**	−0.154/0.012	0.166/−0.129
We have responsibility to provide best possible care for EDPs	−0.035/−0.156	**0.719/0.725**	−0.041/0.114	−0.026/−0.291
Police officers need specialized training in dealing with EDPs	−0.140/−0.193	**0.481/0.463**	0.021/0.137	0.127/−0.080
Is best to avoid anyone emotionally disturbed	**0.362/0.457**	−0.358/−0.392	−0.082/−0.197	0.157/0.340
A main cause of mental illness is lack of discipline and will power	**0.612/0.630**	−0.145/−0.241	0.094/−0.032	0.035/0.232
Would be foolish to marry an EDP	**0.399/0.460**	0.046/−0.194	0.117/−0.032	0.292/0.402
I would not want to live next door to an EDP	0.269/0.402	−0.001/−0.242	0.028/−0.034	**0.561/0.626**
Residents have nothing to fear from people coming to their neighborhood to obtain mental health services	0.098/−0.078	0.084/0.304	0.063/0.089	**−0.623/−0.632**
Mental health facilities should be kept out of residential neighborhoods	−0.013/0.170	0.036/−0.241	0.036/0.016	**0.799/0.782**
EDPs should be isolated from the community	**0.415/0.546**	−0.042/−0.292	−0.054/−0.144	**0.473/0.591**
Mental health facilities in residential areas downgrades the neighborhood	0.102/0.266	0.051/−0.222	0.069/0.036	**0.754/0.758**
Dealing with EDPs should be an integral part of community policing	−0.183/−0.286	**0.408/0.487**	0.131/0.245	−0.058/−0.254
I am adequately trained to handle situations/calls involving EDPs	0.019/−0.095	−0.140/0.042	**0.855/0.824**	−0.023/0.001
EDPs should not be given any responsibility	**0.529/0.559**	−0.113/−0.217	−0.078/−0.183	−0.004/168
There is something about EDPs that makes it easy to tell them from normal people	**0.474/0.474**	0.009/−0.075	0.044/−0.029	0.038/0.149
Responding to calls involving EDPs is not really part of a police officer's role	**0.596/0.636**	−0.263/−0.353	−0.176/−0.317	−0.131/0.116
We need to adopt a more tolerant attitude toward EDPs in our society	0.045/−0.101	**0.403/0.509**	0.081/0.167	−0.269/−0.406
EDPs are a disadvantaged group who deserve special consideration from the police	0.122/0.017	**0.380/0.420**	−0.010/0.056	−0.175/−0.281

Table 2 continued

Item	Factor pattern (Regression coefficients)/factor structure (correlations)			
	Factor I Positive attitude toward EDPs	Factor II Negative attitude toward community responsibility for EDPs	Factor III Not adequately prepared to deal with EDPs	Factor IV Positive attitude toward EDPs living in the community
Mental health services in residential neighborhoods does not endanger local residents	0.038/−0.156	0.014/0.289	0.011/0.037	**−0.778/−0.775**
I feel more comfortable responding to EDP calls involving females in crisis	**0.534/0.493**	−0.092/−0.100	0.006/−0.087	−0.226/−0.063
I have confidence in the mental health system to adequately care for EDPs	0.228/0.142	0.103/0.164	0.056/0.051	−0.244/−0.228
Local residents have good reason to resist the location of mental health services in their neighborhood	−0.007/0.159	0.006/−0.240	0.074/0.049	**0.734/0.727**
Increased spending on mental health services is a waste of tax dollars	0.252/0.354	**−0.703/−0.724**	0.105/−0.079	0.002/0.311
I know when to implement an application for emergency commitment	−0.143/−0.197	−0.014/0.080	**0.625/0.638**	0.165/0.112
EDPs living within residential neighborhoods might be good therapy but the risks to residents are too great	0.174/0.359	0.097/−0.229	−0.022/−0.059	**0.814/0.823**
There is pressure from my department to solve problems associated with EDPs on an informal basis	**0.503/0.514**	0.025/−0.080	−0.114/−0.186	−0.009/0.108
I feel confident in my ability to handle situations involving EDPs	0.006/−0.115	−0.090/0.090	**0.886/0.866**	0.005/0.006
I feel more comfortable responding to EDP calls involving males in crisis	***0.410/.328***[b]	0.015/0.060	0.126/0.075	−0.245/−0.155
A large percentage of calls involving EDPs who violate the law are informal (e.g., no official record, no action disposition)	0.266/0.221	0.079/0.076	0.172/0.148	−0.019/0.011
If mental health services were adequate, police would not have to deal with EDPs	**0.465/0.487**	0.076/−0.054	0.060/−0.003	0.179/0.263
There is pressure from emergency room personnel to solve problems associated with EDPs on an informal basis	**0.446/0.456**	0.074/−0.035	0.007/−0.051	0.100/0.181
Eigenvalue	7.710	3.613	2.764	2.242
% Variance accounted for	20.84	9.76	7.47	6.06
Factor determinancy	0.924	0.926	0.932	0.960
Internal Consistency				
Raw/Adjusted Cronbach's alpha	0.778/0.780	0.751/0.753	0.777/0.780	0.889/0.890

Items have been abbreviated for the sake of space. In particular, EDP is usually not abbreviated. Positive items in a positive factor will have a negative loading because lower responses indicate agreement. Conversely, negative items in a positive factor will have positive loadings because higher score responses equal disagreement

Bolded items were considered for inclusion in subscales, depending upon item analysis

Bolded and italicized items were initially considered for inclusion in subscales but dropped after item analysis indicated they did not contribute to the overall alpha of the subscale

0.753. Factor III produced a subscale titled, "Not Adequately Prepared to Deal with EDPs." An example item reads, "I feel that I am adequately trained to handle situations/calls involving emotionally disturbed persons." The adjusted Cronbach's alpha for the three items of this subscale was 0.780. The subscale based on Factor IV was titled, "Positive Attitude Toward EDPs Living in the Community." An example item reads, "It is frightening to think of emotionally disturbed persons living in residential neighborhoods." The adjusted Cronbach's alpha for the ten items of this subscale was 0.890.

Subscale scores were computed by adding together the scores for the items included in each subscale. These four subscale scores were submitted to a higher order factor analysis, using Principal Axis extraction and promax rotation. This resulted in two factors with eigenvalues of 1.746 and 1.015, accounting for 43.61 and 24.36% of the variance, respectively, for a total of 68.98% of the variance overall. The first factor consisted of the original Factor I, Positive Attitude Toward EDPs (pattern loading = 0.584, structure loading = 0.646), Factor II, Negative Attitude Toward Community Responsibility for EDPs (pattern loading = −0.463, structure loading = −0.453), and Factor IV, Positive Attitude Toward EDPs Living in the Community (pattern loading = 0.805, structure loading = 0.785). Factor III, Not Adequately Prepared to Deal with EDPs did not load on the first higher order factor (pattern loading = 0.048, structure loading = −0.053); however, it did load on the second higher order factor (pattern loading = 0.370, structure loading = 0.358). The only other original factor to load at all on the second higher order factor was Factor I (pattern loading = −0.233, structure loading = −0.390). Since the content of the three items on Factor III appeared to be qualitatively different from the other factors, a total score for the MHASP was computed using the 30 items contained in the subscales based on the other three factors after changing the direction of relevant items so that higher scores indicated more positive attitudes, and the scale based on the third factor was treated as a separate scale. The total score for the 30 items is referred to as the MHASP Total score. Cronbach's raw alpha for the MHASP Total score was 0.872; adjusted alpha was 0.871.

Correlations among the four subscale totals were small to medium (0.014 to 0.460; Table 3). The third subscale, Not Adequately Prepared to Deal with EDPs, correlated significantly with only one of the other subscales, Positive Attitude Toward EDPs ($r = -0.104$, $P < 0.001$). The other three subscales, however, correlated significantly with each other (−0.282 to 0.460, all P's < 0.001), with the two positive subscales correlating positively (0.460, $P < 0.001$), and the negative attitude subscale correlating negatively with the other two (−0.282 and −0.365).

Demographics and the MHASP

The older an officer, the more positive are the attitudes they report regarding emotionally disturbed persons (EDPs; between age and MHASP Total score $r = 0.244$, $P < 0.001$). The older the officer, the more likely they were to report they did not feel adequately prepared to deal with EDPs ($r = 0.164$, $P = 0.001$). Female officers were more likely to report positive attitudes toward EDPs ($t_{(382)} = 2.98$, $P = 0.003$) and toward their living in the community ($t_{(394)} = 3.01$, $P = 0.003$). Whites reported more negative attitudes than nonwhites about EDPs living in the community ($t_{(307)} = -3.71$, $P < 0.001$). Education level was not associated with attitudes. The more years officers were employed in law enforcement, the more positive their

Table 3 Inter-correlations among the four subscales of the MHASP

	Positive attitude toward EDPs	Negative attitude toward community responsibility for EDPs	Not adequately prepared to deal with EDPs	Positive attitude toward EDPs living in the community
Positive attitude		−0.282	−0.104	0.460
Toward EDPs		$P < 0.001$	$P < 0.001$	$P < 0.001$
		$n = 390$	$n = 389$	$n = 389$
Negative attitude	−0.282		0.023	−0.365
Toward community	$P < 0.001$		$P = 0.646$	$P < 0.001$
Responsibility for EDPs	$n = 390$		$n = 404$	$n = 400$
Not adequately	−0.104	0.023		0.014
Prepared to deal with EDPs	$P < 0.001$	$P = 0.646$		$P = 0.772$
	$n = 389$	$n = 404$		$n = 404$
Positive attitude	0.460	−0.365	0.014	
Toward EDPs living in the community	$P < 0.001$	$P < 0.001$	$P = 0.772$	
	$n = 389$	$n = 400$	$n = 404$	

attitudes were ($r = 0.246$ with the total 30 MHASP items, $P < 0.001$).

Past training in how to deal with EDPs was associated with feeling more adequately prepared to deal with EDPs ($t_{(397)} = -4.03$, $P < 0.001$), providing preliminary evidence of the construct validity of this subscale. Officers with past training also had significantly more positive attitudes toward EDPs, as assessed by the Factor I subscale ($t_{(381)} = 2.59$, $P = 0.01$). The more days in the past month officers reported responding to EDP calls, the more negative their attitudes ($r = -0.280$ with the MHASP Total, $P < 0.001$) but the more likely they were to feel adequately prepared to deal with EDPs ($r = -0.221$, $P < 0.001$). Having personal experience with someone with a mental illness outside of work was only associated with feeling more adequately prepared to deal with EDPs (experience $M = 6.51$, SD = 2.63 vs. no experience $M = 7.32$, SD = 3.28; $t_{(114.92)} = -2.09$, $P = 0.039$).

Correlations Among MHASP and Total Vignette Score

The internal consistency of the total vignette score was good (raw and adjusted alpha both = 0.840). Only the MHASP's Not Adequately Prepared to Deal with EDPs subscale did not correlate significantly with the total vignette score ($r = 0.009$, $n = 366$, $P = 0.859$). The correlations of the three other MHASP subscales (and the MHASP Total score) with the total vignette score were all significant and in the directions to be expected by the valence of each subscale (whether or not higher scores on the respective scales indicated positive or negative attitudes). Positive Attitude Toward EDPs correlated negatively with the vignette total ($r = -0.294$, $n = 354$, $P < 0.001$). Conversely, a Negative Attitude Toward Community Responsibility for EDPs correlated positively with the vignette total ($r = 0.304$, $n = 364$, $P < 0.001$). The magnitude of the correlation of scores on the MHASP subscale Positive Attitude Toward EDPs Living in the Community with the total vignette score was higher than any of those of the other three MHASP scales (-0.535, $n = 363$, $P < 0.001$). The total of the 30 items of the three MHASP subscales (the MHASP Total score) correlated -0.503 with the total vignette score ($n = 347$, $P < 0.001$). These patterns of correlations are consistent with the meaning of the two scales and thus provide evidence of the validity of the three primary MHASP subscales, excluding the subscale Not Adequately Prepared to Deal with EDPs.

Discussion

The results provide good evidence that the Mental Health Attitude Survey for Police (MHASP) is a reliable measure of the attitudes of police toward persons with mental illnesses, with good initial validity. Exploratory factor analysis derived four factors, from which four subscales were obtained by summing the scores for the items most relevant to each factor. The adjusted Cronbach's alphas for the four subscales of the MHASP ranged from 0.753 to 0.890 demonstrating good internal consistency among the items comprising each subscale. A higher order factor analysis of scores on the four subscales revealed two higher order factors, with three of the subscales falling on one factor and the fourth falling in a factor of its own. Thus, the three items comprising the Factor III subscale "Not Adequately Prepared to Deal with EDPs" appear to be qualitatively different from the 30 items included in the other three MHASP subscales, measuring perceived knowledge rather than attitudes per se. However, these items have been retained due to the authors' interest in knowing officer *perceptions* of preparedness in responding to calls involving emotionally disturbed persons. The 30 items contained in the three related subscales were recoded so that higher scores indicated more positive attitudes and summed to create the MHASP Total score, which had an adjusted Cronbach's alpha of 0.871. Based on these results, the MHASP appears to be a reliable measure of police attitudes toward persons with mental illnesses.

The results also provide initial evidence for the validity of the MHASP and its subscales. MHASP subscale Factors I (Positive Attitude Toward EDPs), II (Negative Attitude Toward Community Responsibility for EDPs), and IV (Positive Attitude Toward EDPs Living in the Community), and the MHASP Total score all correlated significantly and in the expected direction with the total vignette score, demonstrating good preliminary convergent validity. In addition, police officers who report having received previous training on dealing with emotionally disturbed persons (EDPs) reported lower scores on Factor III of the MHASP (Not Adequately Prepared to Deal with EDPs), providing initial evidence of convergent validity for that subscale.

The results also demonstrate initial evidence of good divergent validity. MHASP subscales I, II, and IV, differ from MHASP subscale III. The results also showed that females, nonwhites, and more experienced officers all appear to have more positive attitudes toward EDPs. While the number of females in our sample was small, it is representative of the gender breakdown typically found in the majority of police departments. The fact that more experienced officers appear to have better attitudes toward EDPs may be more of a reflection of the primary duties of these officers (e.g. more administrative-type duties), which may limit their encounters with EDPs. As a result, one additional demographic item will be added to future assessments of the MHASP to assess each officer's primary

job duty. Not surprisingly, greater exposure to EDP calls during the most recent past month was associated with more negative attitudes toward EDPs. Paradoxically, it was also associated with feeling adequately prepared to deal with EDPs, suggesting that officers' initial perceptions of adequate training may be misguided. On the other hand, greater exposure to EDP calls (and the difficulties these types of calls pose) may reflect officer frustration with these types of calls while, at the same time, this greater exposure leads these officers to feel they are better equipped to handle EDP calls, regardless of training.

While the reliability of this measure is good, the initial validation of this measure poses a limitation due to the fact that the comparison measure—the vignette—and corresponding attitudinal items were not worded in terms of policing as were the MHASP items, and that the attitudes the MHASP assesses are geared more toward viewing mental illness through a law enforcement lens. Further validation of this measure is warranted, and the authors are in the process of collecting additional data on this measure by using it as a pre- and post-measure of police attitudes to gauge the effectiveness of their crisis intervention and risk management training curriculum in modifying officer attitudes toward dealing with emotionally disturbed persons.

The MHASP provides the ability to assess attitudes of police officers toward persons with mental illnesses that are relevant to their training and experience in the field. Mental health program directors and advocates, to whom the training of police often falls, should find the MHASP useful in several ways, especially in providing information about topics that officers will particularly benefit from in police training. The authors are also working to adapt this survey measure for use in other mental health trainings we are conducting with other first responders (e.g., firefighters, emergency medical technicians, emergency department personnel), since these first responders also often deal with persons with mental illnesses in crisis and, like police officers, most receive very little training to manage this population.

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