Developing, Implementing and Evaluating a Mental Health Training Program for Police Officers

by

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Abstract

Interactions between police and individuals suffering from mental illness are very frequent. Police forces are regularly first responders to those with mental illness. Unfortunately, on occasion interactions are violent and sometimes fatal. Despite this, training police how to best interact with individuals who have a mental illness is poorly studied. The research in this thesis primarily examines a newly developed training program, which used professional actors in a role-play based training approach. Training was a one-day, 8-hour session, with feedback from senior officers, mental health specialists and actors. Latter feedback enforced how the officer can best approach and speak to individuals when they interact. Explicit goals were to improve officer empathy, communication skills, and ability to de-escalate stressful situations. This unique training program led to improvements in police officer behaviour which were still present 6-months after completion. More specifically, after training officers had (1) more confidence (23%) in interacting with those suffering from mental illness; (2) demonstrated behavioural improvements in empathy, communication and de-escalation strategies (determined by their supervising sergeant); (3) increased their ability to recognize mental illness, shown through increases in mental health call numbers as well as (4) increased efficiency in the time it required officers to begin and finish a mental health call. These changes led to cost savings of over $80,000 over 6 months.

In contrast to changes in behaviour, attitudes did not change 6-months after training. We then conducted a 2.5 year follow up of police attitudes in officers who took training and found that officer confidence continued to increase up to 2.5 years after training (32%), however, longitudinal changes in attitudes were mixed with the majority of attitudes not changing. These

findings illustrate that the link between attitudes and behaviours is complex, and one that requires further research to fully explain.

Another topic of study was how demographic factors affected police attitudes. Initially older officers had increased stigma towards the mentally ill, but after training this changed with younger officers exhibiting higher levels of stigma. In keeping with studies from a range of other areas, female officers were found to show decreases in authoritarian attitudes, and increases in compassion and empathy towards those with mental illness when compared to their male colleagues. In regards to officer location, officers in high crime areas, namely North and Downtown Division were found to have increases in social distance towards individuals with depression compared to Southeast Division (lower crime area). Of importance, North Division officers who received the mental health training had stronger attitudes of compassion and empathy towards individuals suffering from mental illness compared to those that did not take part in the mental health training. This latter finding is supportive of the overall success of this training program, and implies the existence of subtle factors that influence attitudes.

The final research piece examined attitudes of the homeless community in Edmonton, since they have frequent interactions with police. Homeless members were surveyed to determine how police interactions affected their attitudes towards police. Interestingly, individuals arrested or handcuffed had significantly greater negative views towards police than if they were not arrested or handcuffed. This novel finding may allow police policy to change in this population. Additionally, it was clear that many individuals in the homeless population do not believe police treat them with an appropriate level of fairness and respect. These findings allow us to conclude that more training is necessary for police officers in this area.

Key findings for future police training relate to the benefits of training utilizing realistic "hands-on" scenarios, focusing primarily on verbal and non-verbal communication, increasing empathy, and de-escalation strategies. We recommend organizations provide training that is properly measured for effectiveness and urge training to focus on changing behaviours and not attitudes, because there is little evidence to demonstrate that changing attitudes relates directly to positive behavioural changes. Lastly, we believe that mental health training programs need to be implemented on a repeated basis over the longer-term to maximize its impacts. It is likely that a training program given on a single occasion is not sufficient to improve interactions over the career of a police officer. Future police training needs to address these issues.

Preface

The research project, of which this thesis is apart, has received research ethics approval from the University of Alberta Research Ethics Board, Project Name "Can a novel form of police training alter behaviour towards those with addictions and other psychiatric problems?", No. 20616, February 18, 2014.

Parts of section 1 and 6 of this thesis has been published as Krameddine, Y. I., & Silverstone, P. H, "How to improve interactions between police and the mentally ill," Frontiers in Psychiatry, 5, 186. I was responsible for concept formation and manuscript composition. Silverstone, P.H was the supervisory author and was involved with concept formation and contributed to manuscript edits.

Section 2 of this thesis has been published as Silverstone, P. H., Krameddine, Y. I., DeMarco, D., & Hassel, R. (2013), "A Novel Approach to Training Police Officers to Interact with Individuals who may have a Psychiatric Disorder," The Journal of the American Academy of Psychiatry and the Law, 41, 344-355. Section 3 of this thesis has been published as Krameddine, Y. I., Demarco, D., Hassel, R., & Silverstone, P. H. (2013), "A Novel Training Program for Police Officers that Improves Interactions with Mentally Ill Individuals and is Cost-Effective," Frontiers in Psychiatry, 4, 9. For both of these publications, I was responsible for survey development, program development, program implementation, data analysis and manuscript composition. Demarco, D. & Hassel, R assisted with program development, program implementation and data collection, while Silverstone, P. H was the supervisory author and was involved with concept formation, program development and contributed to manuscript edits.

It is intended that Section 4 of this thesis will be published in a peer-reviewed journal in the future as Krameddine, Y. I, & Silverstone, P. H, "Police Officer Attitude And Behavioural Changes 2.5 Years Following Implementation of a Novel Mental Health Training Program." I was responsible for data collection, data analysis concept formation and manuscript composition. Silverstone, P. H was the supervisory author and was involved with concept formation and contributed to manuscript edits.

Section 5 of this thesis has been submitted for publication and is in review as Krameddine, Y. I, & Silverstone, P. H, "Police use of handcuffs in the homeless population leads to long-term negative attitudes within this group," International Journal of Law and Psychiatry. I was responsible for survey development, data collection, data analysis and manuscript composition. Silverstone, P. H was the supervisory author and was involved with concept formation and contributed to manuscript edits.

Dedication

I dedicate this thesis to all police officers, community members and their families.

It is my hope that training will promote positive interactions, so that the tragic outcomes that have occurred in the past when police have interacted with those who have a mental illness may be prevented from happening again.

Say not, "I have found the truth," but rather, "I have found a truth."

- Khalil Gibran (1883-1931)

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1 Introduction

1.1 Mental Illness

Mental illness is defined as a "mental or bodily condition marked primarily by sufficient disorganization of personality, mind, and emotions to seriously impair the normal psychological functioning of the individual" (Merriam-Webster, 2014). Persistent increases in prevalence and lifetime rates of mental illness globally have contributed to widespread concerns. The World Health Organization has classified depression as a leading cause of disability world-wide (W.H.O, 2012), with reports stating that significant mental health distress will affect 1 in 6 individuals in the United Kingdom (Putman, 2008), and that lifetime mental illness in European countries is reported in 1 out of 4 individuals (Alonso et al., 2004) with 12 month prevalence estimates reaching as high as 30% (Chisholm et al., 2007). In the USA each year 25% of adults experience symptoms related to a diagnosable mental illness (Kessler et al., 2005). Furthermore, a recent survey by the National Survey on Drug Use and Health found that on average, 18.2% of Americans over 18 years old experienced a mental illness in the years 2011 and 2012 (Substance Abuse and Mental Health Services Administration, 2014). In Canada, 1 in 5 individuals will be faced with a mental illness in their lifetime (CMHA, 2014a), which was further confirmed by a University of Alberta study finding that in the last year, 20.9% of Albertans met one or more conditions signifying a mental health issue (Wild et al., 2014). Lifetime prevalence rates of specific mental illnesses in Canada have been found to be 21.6% (substance use disorder), 12.6% (mood disorder), 8.7% (general anxiety disorder) (Pearson et al., 2013) and 1% (schizophrenia) (CMHA, 2014a). It is also well stated that depression can lead to suicide. Suicide is the second largest cause of death in 15-29 year olds, with over 800,000 individuals dying by suicide every year (W.H.O, 2014). In Canada, suicide is the leading cause of death amidst 15 to 44 year olds, responsible for a shocking 24% of all deaths in those aged 15-24 years and for 16% of all deaths in those aged 25-44 (CMHA, 2014a). It is clear that mental illness impacts many lives each year. Often the first responders to those who have a mental illness are police officers, and increasing their understanding of this issue is therefore paramount.

1.2 Importance of police research

1.2.1 The police officer role

The role of the police officer in society varies widely depending upon circumstances. Thus, police officer responsibilities can fluctuate between keeping the peace, mediating and de-escalating situations, arresting and transporting individuals, solving crimes, and accompanying individuals to a hospital or community facility. Police officers provide a 24-hour service and it is because of their high level of availability that police and other law-enforcement officers are frequently the first-line responders to those suffering a psychiatric crisis. This has led to significant increases in contact between police and persons with mental illness (Lamb et al., 2002; Watson et al., 2004), with studies showing significant amounts of police calls being classified as mental health, varying from 5% (Brink et al., 2011; Smetanin et al., 2011), to 10% (Cordner, 2006; Deane et al., 1999), with some estimates making them at 20% (Kaminski et al., 2004) and 25% (Litzcke, 2003) of all police interactions. Clearly, there are large numbers of interactions between the police and persons with mental illness, however, part of the variability may depend upon the definition of mental illness (i.e. somebody who is suicidal, suffering from substance abuse, or in distress from more well known mental illnesses such as depression or schizophrenia etc.).

Increased levels of contact likely stem from increased prevalence of mental illness (including addictions) in society, increased levels of homelessness and unemployment in the mental health population (Cotton, 2004), the need for more adequate support, and the reality that those with mental illness are more likely to be victims, suspects, offenders or witnesses (Godfredson et al., 2011). As well, it has been argued that increased contact has resulted from the improved ability of police officers to recognize mental illness and classify it as such (Coleman & Cotton, 2014b). It is in this context of increased contact that it is important to understand the relationship between police and persons with mental illness.

1.2.2 Police interactions

Reports from the 1980's found that persons with mental illness are 20% more likely to be arrested (Teplin, 1984). Another Canadian study analyzing police logs found that there is an increased level of arrest when police interact with mentally ill individuals who commit a minor

offense, as opposed to individuals who commit a minor offense and do not show signs of mental illness (Charette et al., 2014). Other studies find drug impairment to be the greatest influential factor of arrest (Kaminski et al., 2004). However, it should also be recognized that other findings argue the opposite, in that persons with mental illness are less likely to be arrested (Engel & Silver, 2001; Novak & Engel, 2005; Peterson et al., 2010).

Another way of exploring this issue is to examine the prevalence rates of persons with mental illness in prisons and jails. In the USA, prevalence of persons with mental illness in the prison system range from 6-15% (Hails & Borum, 2003), with another study finding 16% (Connecticut Alliance to Benefit Law Enforcement, 2008). In marked contrast, a report by the United States Department of Justice in 2002 found 64% of inmates in local jails to have a mental illness (Justice, 2012). As well, in Canada, there are three times more mentally ill individuals in the federal correctional system, as inmates, than there are in the reported Canadian population (House of Commons, 2010). Some have suggested, rather ironically, that in the USA there are a greater total number of mentally ill individuals in correctional facilities than in psychiatric institutions (Sigurdson, 2000). This prevents persons with mental illness from getting adequate treatment. Taken together, these findings confirm that persons with mental illness and police officers are in frequent contact.

1.2.3   Negative interactions

Unfortunately, negative interactions between persons with mental illness and law enforcement officers are widely reported and frequently tragic. Researchers predict that this emanated from the increase in aggressive behaviours in those with mental illness (Engel & Silver, 2001; Novak & Engel, 2005). Interviews of 942 arrested persons in an Arizona police department found that those with mental illness have higher physical resistance to arrest by police, even when controlling for criminal history and substance abuse, individuals were found to behave in a manner that got the police's attention, and which ended in arrest much more frequently (Mulvey & White, 2014). In this study they reported that high resistance to arrest occurred in 6.9% of interactions between police and persons with mental illness, compared to 1.4% of interactions when no mental illness was present. Lower levels of resistance from persons with mental illness occurred in 22.2% of interactions, while no resistance occurred in 70.8% of mental health calls.

Even though persons with mental illness have increased resistance towards police, the association between mental illness and violence is complex (Elbogen & Johnson, 2009; Fisher et al., 2006).

Other studies suggest that having a history of violence and a mental disorder diagnosis was not to be correlated with violence, while alcohol intoxication and police perception of current mental state were found to significantly correlate with violence towards the police (Kesic & Thomas, 2014). It has been suggested that if police believe that someone is mentally unstable, they are likely to use more force because they view the risk of greater violent behaviour from mentally ill individuals as significant (Johnson, 2011b) This has been further supported with findings that police officers associate violence occurring in the context of mental illness more frequently than they associate usual symptoms of mental illness (Godfredson et al., 2011; Pinfold et al., 2003; Ruiz & Miller, 2004). Such perceptions of violence have been found to impact police officer decision making to a significant extent (Godfredson et al., 2010). Thus, it is conceivable that a "self-fulfilling prophecy" occurs whereby a police officer expects persons with mental illness to be violent, and inadvertently the police officer behaves in a way to provoke more violent behaviour. This in turn then confirms the police officer's expectations. On the other hand, some researchers have found that mental illness does not increase the use of force in police calls (Johnson, 2011b; Kaminski et al., 2004; Mulvey & White, 2014; Terrill & Mastrofski, 2002).

Regardless of how and why increased violence occurs between police and persons with mental illness, and if this is significantly raised, there appears consistent findings that this complex interaction frequently contributes to tragic outcomes. Although police shooting deaths are rare, persons with mental illness have been found to be fatally shot by police 4 times more than individuals without mental illness (Lurigio et al., 2008), while another study finds persons with mental illness to be much more likely to be victims of police shootings (Smetanin et al., 2011). Adding to the negative outcomes of these interactions we must not ignore the secondary negative consequences that occur after a tragic occurrence. There is high probability that police officers that are involved in tragic interactions suffer emotional side effects. These side-effects have been found to further extend to the police officer's family, as well as the victims family (Reuland & Schwarzfeld, 2008). This information informs us of the crucial need for officers to be better

versed in dealing with persons with mental illness, individuals they frequently come in contact with.

1.2.4 Successful solutions

Training police officers to interact better with persons with mental illness has been found to decrease violence in mental health interactions (Dupont & Cochran, 2000). Mental health training is considered an essential component to reduce the number of undesirable outcomes between law-enforcement officers and persons with mental illness. Research finds that a lack of training can lead to an escalation in violence (Prenzler et al., 2013) as well as increased rates of injury and death (Brink et al., 2011; Munetz et al., 2006; Patch & Arrigo, 1999; Ruiz & Miller, 2004; Teplin, 2000). Improved training offers the potential that with appropriate police officer training, particularly focusing on better communication and the ability to more easily de-escalate emotions during these interactions, that this will reduce the frequency of these negative interactions (Coleman & Cotton, 2010a; Keram, 2005).

1.3 Police mental health training

Training police on how best to interact with individuals who may have a mental illness is not new. Mental health training originated in Memphis Tennessee in 1988 (Dupont & Cochran, 2000), and was coined Crisis Intervention Team (CIT) training. Since 1988, more than more than 1000 CIT programs have been developed worldwide (Compton, Broussard, Munitz, et al., 2011). CIT and other mental health training programs aim to improve the interaction and safety between police officers and those suffering from a mental health crisis (Compton et al., 2008) and includes training on verbal communication, de-escalation skills and the improvement in partnerships between community providers (Watson et al., 2008). A recent study looking at Canadian law enforcement organizations found that entry-level training on mental illness occurs widely and provides a strong groundwork for positive interactions, as well as noting significant increases in different crisis intervention training in the last decade in many countries, including Canada, the United States, the United Kingdom, and Australia (Coleman & Cotton, 2014a). Nonetheless, although training has increased, there continues to be a number of issues that remain. Key recommendations from a literature review emphasize the need for training programs

to include individuals with mental illness as well as mental health specialists in program construction and delivery (Coleman & Cotton, 2014b).

Without training, officers feel that they lack adequate training needed to interact with persons with mental illness and are frustrated by the time consuming nature of mental health calls, therefore resulting in more frequent arrests (Hails & Borum, 2003). Training provides alternate solutions to this obstacle (Loch, 2008).

1.4 Key findings

Although frequent, training officers to interact with persons with mental illness has been found to be inconsistent in design and procedure (Laan et al., 2013). Importantly, the vast majority of training programs do not measure effectiveness. Even in those that do, the methodology of these measurements have poor quality research designs, making effectiveness of each program difficult to assess (Coleman & Cotton, 2010a). It is for this reason that there is a wide variance in the outcomes in terms of police improvements between programs. Nonetheless, there is a general consensus that it is important to measure changes in knowledge, confidence, attitudes, and behaviours of police officers both before and after training; however, there are no current standard procedures for measuring such changes.

Regardless of the lack of specific measurements, many changes have been reported after institution of mental health training programs. Specifically, after implementation of an information based training, police officers were found to improved their knowledge and were better able to identify mental illness (Steadman et al., 2000; Wells & Schafer, 2006). Another group (Hatfield, 2014) found improvements in mental health knowledge, a decrease in stigma, and a positive change in self-reported behaviours (although there were no external observations of behaviour assessed). Testing occurred directly after a 3-week CIT training course where 151 police officers were trained. Another program found that CIT training improved knowledge, perception of mental illness and attitudes in 25 police officers (Ellis, 2014). Programs also reported improvements in mental health knowledge directly after training (Hansson & Markstrom, 2014; Hatfield, 2014; Watson et al., 2008), and that these lasted up to 22 months

after training (Compton et al., 2014a). Others have found increased confidence of police officers when interacting with those suffering from mental illness (Krameddine et al., 2013; Watson et al., 2008), an increase in both confidence and perception (Borum et al., 1998; Dupont & Cochran, 2000; Ritter et al., 2010; Wells & Schafer, 2006), and a self-reported improvement in self-efficacy (compared to non-police officers) when dealing with mental illness (Loch, 2008).

In regards to attitude measurements, CIT training was found to improve attitudes of police officers (Watson et al., 2008; Wundsam et al., 2007), and decrease social distance towards those with mental illness 22 months after training (Compton et al., 2014a; Reuland & Schwarzfeld, 2008). Other successful programs found a decrease in social distance following classroom sessions (Mann & Himelein, 2008; Ritter et al., 2006), a reduction in stigma (Kolodziej & Johnson, 1996), improvements in attitudes 6-months after training (Hansson & Markstrom, 2014), and improvements in officer attitudes 4-weeks after training about how to improve personal interactions with persons with mental illness (Pinfold et al., 2003). Another study found that CIT trained officers had lower scores on authoritarian measures and higher ones on self-efficacy in mental health dealings (Loch, 2008). However, caution is needed since it is very possible to increase knowledge without changing attitudes, and this has been found by others (Hails & Borum, 2003).

Changes in behaviour have been much less frequently analyzed, and are harder to measure. Many studies have only examined self-reported behavioural changes, which are of course open to multiple issues. Thus, when examining police behaviour one group assessed 586 officers, 251 of whom were CIT trained on average 22-months before the assessment, and found CIT officers to have significantly improved behavioural changes in self-reported de-escalation skills and in referral decision questionnaires compared to non-CIT trained officers (Compton et al., 2014b). However, it was recognized that measuring transferability of reported behaviour to actual behaviour was difficult to assess. Nonetheless, some studies have used indirect measures and have found improvements in lower arrest rates (Dupont & Cochran, 2000; Steadman et al., 2000) and decreased use of force post-training (Compton et al., 2014b; Herrington, 2009; Morabito et al., 2012; Teller et al., 2006) however, when comparing these changes to those in officers not trained, no statistical differences were found. Other studies finding no differences in those trained

and not trained find no significant differences in number of injuries (Kerr et al., 2010), time to find a solution to a mental health call (Herrington, 2009) difference in relationship building (Herrington, 2009) and no difference in empathy (Compton, Broussard, Hankerson-Dyson, et al., 2011). There continues to be confounding variables from lack of control groups or a lack of randomization of control groups if control groups are present. Since members are often allowed to choose if they want to take CIT training or not, and the differences between CIT trained and not trained individuals are not provided before training occurs, it is difficult to assess difference in those trained and not trained (Compton et al., 2008). Since CIT training is a costly program and research does not prove its efficiency, currently costs do not seem to be justified (Fisher & Grudzinskas, 2010).

1.4.1 *Specific factors leading to change*

Every police training program contains a variety of elements which make it difficult to evaluate the specific components of training programs that might lead to an increase in knowledge, confidence, attitudes and behavioural improvements (Watson et al., 2008). To try and determine the most important aspects of training that lead to improvement one group (Corrigan et al., 2012) conducted a meta-analysis looking at 8,744 training program articles. Of these, however, they were only able to examine 72 articles in any detail since the vast majority of the original 8,744 lacked findings of improvement or had very poor statistical methods. From this review they reported that face-to-face contact with those suffering from mental illness was the greatest factor that contributed to positive public attitudinal change. Others have also come to this conclusion (Overton & Medina, 2008; Reinke et al., 2004)

Although this is the case, the main thing to consider is that no matter what, training will differ from organization to organization. Because of this fact, one main recommendation for police officers is that regardless of the type of training that organizations employ, training must occur regularly (Coleman & Cotton, 2010b; Watson et al., 2011; Weaver et al., 2013). Supporting these proposals, a recent report published by the Mental Health Commission of Canada suggested the following recommendations: *(REFERENCE at the following link - http://www.mentalhealthcommission.ca/English/document/36596/tempo-police-interactions-report-towards-improving-interactions-between-police-and-pe)*

- That police learning be designed and delivered by a combination of police personnel, adult educators, mental health professionals, mental health advocacy organizations and people living with mental illness.
- More uniform inclusion of non-physical interventions (verbal communications, interpersonal skills, de-escalation, defusing and calming techniques) in use-of-force training.
- The incorporation of anti-stigma education to challenge the attitudinal barriers that lead to discriminatory action.
- That provincial governments establish policing standards that include provision for mandatory basic and periodic police training qualification/requalification for interactions with people with mental illness.
- Provision of training on the role of police, mental health professionals, family and community supports in encounters with persons with mental illness.
- That training provides a better understanding of the symptoms of mental illness and the ability to assess the influence a mental illness might be having on a person's behaviour and comprehension.

1.5 Attitude and behavioural link

Data analysis regarding training success is often directed at measuring attitudes and behaviour before and after training. A major issue in current police training revolves around the assumption that if attitudes towards mental illness can be made more positive, then behaviours will change accordingly. Because of this assumption, current training programs focus on changing attitudes through educational means even though their main goal is to change behaviours. In this regard, firstly it is important to understand the challenge in changing attitudes. Once attitudes, stereotypes or biases are established, they are extremely difficult to modify (Ajzen & Fishbein, 1980). As well, if attitudes are strong, behaviours are increasingly more difficult to change. If the end goal is to improve an officer's behaviour towards individuals with mental illness, a more efficient way is to focus on changing behaviour, assuming attitudes will change accordingly. This theory is termed cognitive dissonance or self-justification. When attitudes and behaviours are inconsistent with each other, individuals have beliefs that attitudes and behaviours should be

related and thus aim to diminish tension by shifting their attitudes to match their behaviours (Festinger, 1957). Attitudes only change if officers are unable to justify externally why they acted in certain ways. For example, if a sergeant was watching their patrol officer during an interaction, officers will justify their actions by telling themselves they acted this way because the sergeant was watching. However, if behaviours are implemented without external justification (i.e. with no more senior officer watching), then there will be an internal attitude shift linking behaviours to attitudes. For example, officers may believe that the reason they acted this way was because they like acting this way, leading to an attitude change. Interestingly, although it is difficult to accomplish, some research does show improvements in police attitudes and stigma towards mentally ill individuals, as well as positive behavioural changes, after training even though attitudes towards those with mental illness are found to not be stable over time (Locke, 2010).

1.5.1 Complexity in association

Although in some cases, attitudes and behaviours are found to change after training, the relationship between attitudes and behaviours is complex. It is an assumption that if individuals think in certain ways, they will act accordingly (Ajzen & Fishbein, 1977; Sherman, 1983), however, evidence illustrates that attitudes do not always predict behaviours and vice-versa (Batson et al., 1997; Eagly & Chaiken, 1993; Wicker, 1969).

It has been long recognized that there are at least three major deficiencies in police attitude research (Frank & Brandl, 1991):

1. Accurate measurements are not often obtained
2. Assumptions are that single-measured attitudes lead to specific behaviours
3. Lack of consideration for other factors that may determine behaviours

Therefore, research that finds change, or no-change, in police attitudes does not have the power to prove or disprove any improvements in police behaviour (Frank & Brandl, 1991). This statement regarding the absence of predictability between self-reported attitudes and behaviours has existed since at least the 1930's (LaPiere, 1934). Correlations should only be considered if

measured attitudes are strengthened to associate with measured behaviours. There are at least 4 factors that strengthen or weaken the link between attitudes and behaviour:

1. Specificity must be matched: specific attitudes must be compared to specific behaviours, and general attitudes must be compared to general behaviours. If there is a mismatch then actual attitudes may not be determined. (Ajzen & Fishbein, 1977; Jaccard et al., 1977; Liska, 1974). Thus, general attitudes toward mental illness will not predict (or may predict minimally) behaviours towards a specific depressed individual.

2. Multi-item scales should be used: problems will arise if a one-item attitude measure is used to predict behaviour (Frank & Brandl, 1991), for example if there is only one question measuring the broad topic of stigma towards mental illness it will not properly assess the overall attitude. This can be protected against if multiple questions are used for attitude measurement in police research (Worden, 1989).

3. Attitude strength must be measured: the stronger the attitude towards something makes the attitude readily accessible and a greater predictor of behaviour (Fazio, 1986). Attitudes can be strengthened through direct or personal experience. As well, the stronger the attitude, the more difficult it is to change the attitude, and it is important that a range of response options are available to gauge the strength of an attitude on each measure (Krosnick, 1988).

4. Time consistency: attitude and behaviours change over time. To get the most accurate results, attitudes and behaviours must be measured at the same time (Frank & Brandl, 1991).

If all of this information is followed, the initial process of linking attitudes to behaviours is complete, however there are other complex influences on police behaviours that must be considered. Two models that describe this relationship further using psychological processes are the Attitude-to-Behaviour Process Model and the Theory of Planned Behaviour.

1.5.2 The Attitude-to-Behaviour Process Model

The Attitude-to-Behaviour Process Model explains spontaneous behaviour in response to an unexpected situation. It states that more accessible attitudes have instantaneous effects on behaviour (Fazio et al., 1983). Explaining behaviour in terms of the specific situations tends to be overlooked (Aronson, 2003) and instead behaviours are explained in terms of personality and attitudes, thus attitude-behavioural relationships are made even if they may not exist (Aronson, 2003). Even so, we must not ignore the influence that the specific situation has on behaviour.

1.5.3 The Theory of Planned Behaviour

The Theory of Planned Behaviour is a more complex theory that links attitudes and behaviours. This model proposed by Ajzen (Ajzen, 1991; Ajzen & Fishbein, 1977) describes the main determinant of behaviour to be behavioural intention, which is composed of three main predictors:

1. Strength of attitudes towards the behaviour
2. Subjective norms (i.e. an individual's perception of social pressure to perform the targeted behaviour)
3. Perceived behavioural control (i.e. how much control the person believes they have over the behaviour, and how confident a person feels about being able to perform the behaviour).

However, even if these three factors are strengthened to positively influence behaviour, behavioural intention is found to predict variance in behaviours only 19-36% of the time (Armitage & Conner, 2001; Hagger et al., 2002; McEachan et al., 2011; Trafimow et al., 2002). Although there are limitations to this theory, the Theory of Planned Behaviour is one of the most widely used and predictive influential theories, and has been used successfully to describe and predict behaviours (McEachan et al., 2011).

1.5.4 Specific police factors

If police factors are consistent with personal attitudes, then attitudes may accurately predict behaviours (Frank & Brandl, 1991; Kim & Hunter, 1993). However, when the policing

environment is not in line with officer attitudes, behaviours more commonly conform with the environment (Kim & Hunter, 1993). Specific to police research, evidence suggests that there are many other factors that predict behaviour besides attitudes, such as environmental and situational factors, individual differences, political culture, police culture, and the police organization.

1.5.4.1 Environment and Situational factors

One way to explain environment and situation is through conformity and obedience. If individuals are forced to behave in accordance with group norms or commanding officer beliefs, it is less likely that behaviours match private attitudes because they may be complying to avoid punishment or gain reward (Aronson, 2003). This is further supported in another study where supervisory and occupational attitudes are found to influence officer behaviour (Johnson, 2011a).

1.5.4.2 Individual differences

In regards to individual differences, some individuals are able to change their behaviour according to the situation (high self monitors), while others act the same in all situations (low self monitors). Low self monitors act according to their attitudes (Ajzen et al., 1982). It has been found that if individual confidence is increased, people can become high self-monitors (Cutler & Wolfe, 1989).

1.5.4.3 Political culture

The influence of political culture may influence police behaviours and attitudes depending on governmental laws and beliefs. Canada has just passed Bill C-14, a bill that implies that it will protect the public from persons with mental illness. However, it has been argued that an unintended consequence of this will be to lead to individuals with mental illness who commit crimes, going to jail instead of receive the treatment they need (CMHA, 2014b). This Bill will result in increases in the already large number of mentally ill individuals in the jail system, and upon completion of their jail sentence there is an increased chance that they will be released into the community without treatment (Dyck, 2013). If governments adopt simplistic approaches, lacking understanding towards persons with mental illness, police officers may be inclined to believe and behave similarly.

1.5.4.4 Police culture

Police culture is described in various ways, such as police character, personality and public views. In regards to police character, police are trained to give orders, exercise control in all interactions, and enforce unpopular laws (even ones that they do not agree with), conduct searches and make arrests. When speaking about public views, they are trained to believe that the public is hostile, not to be trusted and potentially violent. Police work is dangerous with high uncertainty present in every call attended, and many commentators (including those in various police forces) have noted a distinct "us versus them" attitude towards the public. In describing police personality, there is a taught desire to be in control of every situation to enhance officer safety. As well, authoritarian attitudes are prominent, there is an increase in unity and secrecy with other police officers, as well as a tendency to be physically aggressive (Scaramella et al., 2010). All of these things can mitigate the ability to change attitudes towards the mentally ill.

1.5.4.5 Organizational culture

Organizational culture revolves around the police uniform and all that it represents, a symbol of law and order. Officers need to appear efficient, need to respect authority and need to have information control (Scaramella et al., 2010).

The argument that attitudes and behaviours have many underlying influences is further supported in other publications that note the lack of correlational evidence in police research of attitudes and behaviours. Thus, officer behaviour may be more determined by situational factors and not officer attitudes (Riksheim & Chermak, 1993). Additionally, attitudes best predict behaviour when other social influences are minimized, when the attitude is specific to the behaviour, and when the attitude is compelling (Myers, 2004). Attitudes among police officers has also been found to be influenced by experience, sergeant or senior officer influence, peer views, number of years as a police officer, in addition to receiving any prior training (Loch, 2008).

1.6 Community member attitudes

While most research has focused on the views that police officers have towards those with mental illness, relatively little research has examined the attitudes of those with mental illness towards

police. This method of measuring program success is rarely performed. In this aspect, studies looking at the percent of individuals who felt discriminated against by police included 17% of interviewed individuals with schizophrenia (Thornicroft et al., 2009), 6% of individuals with Major Depressive Disorder (Lasalvia et al., 2013) and 16.4% of those with varying mental illnesses (Corker et al., 2013). As well, 13% of persons with mental illness felt unfairly treated in recent police interactions (Hansson et al., 2014). Excessive force during interactions have also been found to account for negative attitudes (Rosenbaum et al., 2005). Research finds that individuals with mental illness are not as upset if police interact with them justly and with fairness (Watson et al., 2010), and that the way police treat them determines their overall satisfaction with police. Rosenbaum (2005) found that interacting with police officers does not in itself change attitudes, but if individuals hear that someone else had a positive or negative interaction, this may significantly change their attitude towards police in the future. As well, it was found that initial interactions with police play a large role in shaping public attitudes towards police, which persist into the future. (Rosenbaum et al., 2005). They stated that:

"training must educate officers in communicating and interacting with people with mental disorders in a way that is mutually beneficial to both parties. Interactions with people with mental disorders should be conducted in a way that fosters a positive relationship with these individuals, utilizing collaborative and cooperative relationship with mental health resources within the community" (Laan et al., 2013).

Findings also suggest that police satisfaction is lower in areas with increased amounts of crime (Reisig & Parks, 2000) and that low socio-economic neighbourhoods have worse attitudes towards police (Huebner et al., 2004; Wu et al., 2009). Positive correlations have been found between age, education, and attitudes that the public holds towards police (Wortley et al., 1997) and it has been found that:

"the most important conditions for both positive and negative appraisals appeared to be participation and voice; that is, having the opportunity to share ones story and be heard. Other important elements included politeness, respect, dignity, compassion and providing appropriate information" (Butler, 2014).

Interestingly, the delivery of information to individuals by police when they interact was found to be more influential in creating satisfaction in the interaction than manners themselves. This is further recognized by a study that found that adults have less anger towards those they interact with if information about why an action must occur is provided to them before it occurs, rather than after (Johnson & Rule, 1986). We have found that these negative attitudes last at least 2 years following an interaction between police and homeless individuals (Krameddine & Silverstone, 2014b), and similarly others have found that these negative interactions produce attitudes that are difficult to modify (Butler, 2014). In regards to the public view of police officers, an analysis of 304 undergraduate students found that police behaviour is the greatest predictive factor in attitudes towards police (Avdija, 2010).

1.7 Scope of this Thesis

This thesis describes the development and implementation of a mental health training initiative developed and tested in close collaboration with the Edmonton Police Service. The program was introduced early in 2011, with the initial training sessions occurring in the period May - June 2011. This PhD proposal describes all aspects of this training program, including its development and testing, as well as its impact. It should be noted that this research proposal is in large part based upon previously published articles, and for this reason there is some repetition in the introductions of each section.

More specifically, Section 1 is an overall introduction to this topic. Parts of this section are in press in Frontiers in Psychiatry (Krameddine & Silverstone, 2014a). Section 2 describes the program itself in detail, including feedback from police officers that took part. Parts of this section have been previously published in Frontiers in Psychiatry (Silverstone et al., 2013). Section 3 describes the results from the program and a 6 –month follow up of many of the police officers involved. Parts of this section have been previously published in The Journal of the American Academy of Psychiatry and the Law (Krameddine et al., 2013).

Section 4 describes a long-term follow-up of outcomes. It examines the attitudes of police who took part in the program at baseline, 6 months, and again at 2.5 years following baseline. It is intended that this will be published in a peer-reviewed journal in the future. The questionnaire used can be found in the appendices. In Section 5 examination of the attitudes of the homeless population to police interactions is evaluated (as anecdotal feedback had suggested the training program had improved this). Interestingly, the role of handcuff use appears to be important in attitudes. This has been submitted for publication (Krameddine & Silverstone, 2014b).

In Section 6 there is a discussion regarding the overall findings from the police studies and recommendations are made. Parts of this section have been submitted for publication (Krameddine & Silverstone, 2014a).

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2 A novel approach to training police officers to interact with individuals who may have a psychiatric disorder

2.1 Abstract

Police and law enforcement providers frequently come in contact with individuals who have psychiatric disorders. Repeated studies suggest that greater understanding of psychiatric conditions by police officers would be beneficial. However, few training approaches have been examined. We present a novel approach to training police officers to interact with those who may have a psychiatric disorder. This approach involved development of a program in which police officers interacted with actors highly trained to present one of six realistic psychiatric scenarios. Confidential feedback was given, both by experienced police officers and by the actors, to improve awareness of the officers' behaviour. Qualitative feedback from both officers and actors was used to determine the acceptance of role-play training. A total of 663 police officers were trained, with feedback from 381. Results showed that this approach was well accepted by most police officers, and the use of carefully controlled role-play in training for police is strongly recommended.

2.2 Introduction

Individuals with various psychiatric problems, including addictions, depression, and schizophrenia, have an increased probability of coming into contact with the police. However, it has long been recognized that police officers lack confidence in their interactions with this group (Teese & Van Wormer, 1975), which may in part be due to insufficient knowledge about mental illness (Psarra et al., 2008). Most police forces have some training on psychiatric conditions, but the types of training vary widely in nature, design, duration, and timing (whether during police academy instruction or after graduation) (Watson et al., 2008). To date, there has been very little research about the best training approaches.

Research has suggested that interventions can change reported attitudes toward individuals with

mental health problems and that training can help police officers feel more informed and confident in how to support individuals in mental distress (Pinfold et al., 2003). However, the best methods for educating the police force remain uncertain. Although training seminars have increased knowledge about specific psychiatric conditions, they may not change attitudes (Godschalx, 1984) or behaviour, just as specific training on de-escalation techniques may not decrease the number or severity of physical interactions between individuals with mental illness and health care providers (Laker et al., 2010).

One method that may help is to improve empathy, although how best to achieve such improvement remains uncertain (Compton et al., 2011). Training in crisis intervention for police officers has also been studied and may increase the ability to recognize and respond to individuals in crisis, reduce the stigma of those with mental illness, and increase empathy for these individuals (Hanafi et al., 2008). There has also been research suggesting that improving police officer skills in dealing with individuals who may have psychiatric conditions results in fewer arrests (Draine & Solomon, 1999). In addition, more reliable methods have been developed to measure attitudes and intended behaviour of police officers toward individuals with psychiatric conditions (Broussard et al., 2011). These methods will help future studies in this area.

One widely used method of improving interactions between police officers and those with mental illness has been the Crisis Intervention Team approach (Steadman et al., 2001). The most widely used variant is a voluntary 40-hour program that "provides law enforcement based crisis intervention training for helping those individuals with mental illness" (University of Memphis Crisis Intervention Team, 2011). However, although this approach is widely used and the results of some studies have suggested that it may reduce hospitalization rates (Guo et al., 2001), a review examining its effectiveness suggested relatively few benefits (Compton et al., 2008), and others have been even more critical of this approach (Geller, 2008).

Other approaches include an attempt to address specifically the stigma of mental illness, and to challenge established views held by police officers that link psychiatric disorders to violence. This approach involved two separate two-hour workshops combining small group approaches with didactic presentations, and the results showed some benefit, although not in the linkage

between psychiatric disorders and violence (Pinfold et al., 2003). Another approach, which occurred following a review by the California State Legislature, led to further analysis by law enforcement professionals who suggested that an 8-hour program could be very useful if well designed such that it is action oriented and hands-on (Keram, 2005), although specific details of the possible benefits of this approach do not appear to have been published to date.

In terms of the best approach to training police officers, techniques used in other adult learning environments may also be appropriate. In medical training, it is now well documented that the use of role play with simulated patients is preferable over classroom learning (Rees et al., 2004). As well, "students appear to enjoy and learn through their active participation . . . and appear more engaged" (Wannan & York, 2005). The use of role play in police training, nonetheless, has rarely been studied, and the only study to date suggested that role playing should be secondary to small group discussions and videos (Vermette et al., 2005), although it did not clarify the nature of the role playing involved or whether the part of individuals with psychiatric conditions was played by other police officers.

The evidence gathered to date show that it is widely accepted that training police officers to interact better with individuals who may have psychiatric disorders is important. Nonetheless, there are no currently accepted models that appear to have reproducibly positive outcomes. Given the need for such training, we created a novel approach in which a series of six carefully scripted interactive scenarios was developed incorporating highly trained actors serving as the subjects, followed by feedback and group discussion. We describe this training, including problems encountered during these sessions, and examine qualitative feedback from police officers and actors about its impact and acceptability.

2.3 Methods

Both the University of Alberta Research Ethics Board and the Edmonton Police Service's Chiefs Committee approved this research. Written informed consent was received from all members of the Edmonton Police Service (EPS) who took part in the study.

The study sample was EPS officers who were taking part in quarterly training programs (n = 663). Qualitative feedback from online surveys of officers (n = 381) and the professional actors (n = 9) is described. The participants were asked to detail their opinions anonymously regarding the mental health role-play training. The officers averaged 32 years of age, more than 80 percent had been officers for less than 5 years, and nearly 75 percent had some form of postsecondary or graduate training (Table 1). Police officers were trained in groups of 30 to 50 individuals during nearly 20 separate training sessions over a two-month period.

Table 1. Demographics of Police Officers

Demographic	M (SD), n (%)
Sex, n (%)[a]	
Male	253 (81.6)
Female	57 (18.4)
Age at time of first questionnaire, M (SD)	31.96 (6.31); range, 21-57 years
Education, n (%)[b]	
High School	82 (27)
Post Secondary	180 (58)
Graduate	48 (15.5)
Years of experience as a police officer, M (SD)	3.98 (3.92); range 1-31 years
Years of experience as a police officer, n (%)[c]	
0-2 years	140 (45.6)
3-5 years	111 (36.2)
6-10 years	46 (15)
11-15 years	5 (1.6)
Over 15 years	5 (1.6)

n = 312

[a] Two officers left this question blank
[b] Two officers left this question blank
[c] Five officers left this question blank

2.3.1   Scenarios

The six scenarios represented a variety of situations in which police officers are likely to be involved (Table 2). They are described by their medical terms, but as far as the police officers were concerned there was just somebody behaving in an unusual manner. They were as follows: depressed suicidal female with a reported overdose; alcohol intoxication with likely medical problems; possible psychosis; and actively suicidal individual; mania with possible drug use and physical symptoms; and domestic dispute precipitated by problem gambling. Each scenario had a series of components for everyone involved, explaining the key goals and problems and providing feedback for the police officers. These scenarios had to be realistic and reproducible.

Table 2. Summaries of Six Role-Playing Scenarios

1. Depressed female
Police respond to a call from a male that his ex-girlfriend called him and said she was going to take an overdose. She then hung up the phone. According to the ex-boyfriend they broke up one week ago after she found out he was cheating on her. They had been together for one year before that. He had found her "moody" during their relationship, and he knew that when she was younger she had taken an overdose. Her parents, who normally call or visit daily, have just left on a long-planned vacation and are currently out of town. He wants the police to go check on her, as she has no other family around and has no roommates.
2. Alcohol intoxication with likely medical problems
Police have been called to a shop on a busy street, as there is a male lying on the street outside in the early evening. The shopkeeper says that the subject looks as though he is intoxicated. No other information about the subject is available, only that the subject just moved to the city recently.
3. Possible psychosis
Police attend to a noise complaint at an apartment. The neighbours have called in that somebody is being extremely loud in the apartment above them, and they are concerned for their safety. The neighbours have left the premises because in the past they have felt threatened in the past by this individual.
4. Depression and actively suicidal individual
Police get a call from a concerned individual stating that his friend is severely depressed and is contemplating suicide. The friend lost his job two months ago and his wife left him a week ago, taking their two children. The reporter states that the subject was at the reporter's home, making threats that he was going to kill himself on account of his not being able to provide for anyone in this economic crisis, his concern about losing his wife and family, and his feeling that there was no point in living. The reporter also states that the subject may have a weapon at his house. The police are told that the subject is still at the reporter's home. When they arrive the door to the reporter's home is wide open but the reporter is gone.
5. Mania and/or drug use with possible physical symptoms
A call has been made to the police by a shopkeeper about a young woman (or man) who is outside their store and is disruptive. The shopkeeper also states that there is a known drug house just down the street. The person looks high and is also disrupting traffic by walking in the middle of the road. Police are met by a loud and very talkative subject.
6. Domestic dispute precipitated by problem gambling
The police are asked to attend to a disturbance. The dispatcher informs the police that a domestic dispute is occurring and that the neighbour reported it. The police enter the scene and find a man and a women screaming at each other. Swearing is persistent and aggressive verbal behaviour is evident upon arrival, but there is no evidence of physical contact or violence. The couple seem to be arguing over a gambling problem. Police knock and ask to come inside.

Each of these scenarios was developed in a detailed and comprehensive manner during a series of collaborative meetings with Edmonton Police Services. Over a four month period researchers, including a psychiatrist, met regularly with EPS superintendent, inspector, training staff sergeant and training staff members as well as patrol sergeants to brainstorm ideas and configure scenarios routinely experienced on the job by patrol members. Learning points of each scenario coincided with pre-determined EPS and mental health professional needs aiming to enhance intellectual and emotional engagement throughout the training day. They had to ensure that every aspect also was consistent with other training police received. Time commitment of the development of scenarios must not be underestimated, as it took 10 meetings and more than 40 hours to create the final training product. An example of some of the information regarding each scenario is given in Table 3, which shows the script for one of the scenarios. The actors were trained on several scenarios, but ended up specializing in only 1 or 2 depending upon the role called for within that scenario. This also allowed them to compare consistently between officers. It can be seen that feedback was given in a semi-standardized manner from several individuals. Note that before starting a particular scenario, police officers received only the typical information they would receive for such a call.

Table 3. Example of a Detailed Scenario Script

Scenario: Depressed Female:
Police respond to a call from a male that his ex-girlfriend called him and said she was going to take an overdose. She then hung up the phone. According to the ex-boyfriend they broke up 1 week ago after she found out he was cheating on her. They had been together for one year before that. He had found her "moody" during their relationship, and he knew that when she was younger she had taken an overdose. Her parents, who normally call or visit daily, have just left on a long-planned vacation and are currently out of town. He wants the police to go check on her, as she has no other family around and has no roommates.

Subject:
The subject is disheveled, possibly having drunk alcohol, as there are empty bottles around. She has poor hygiene (dirty clothes, messy hair, no makeup) and takes a minute to open the door. Upon opening the door and letting the police in, the subject exhibits a depressed mood and seems to not care about anything going on around her. She will only respond to empathetic questions but constantly insist that she is fine and there is nothing to worry about. She admits that she took some pills, but says that she had taken only a couple Tylenol and nothing else. There are two half-empty pill bottles lying around, but none is completely empty, and she says that they weren't taken as part of the overdose. There is a note on the subject's bedside saying goodbye to her parents. She will not want to go to the hospital and if directly asked, the subject admits that she has attempted suicide before. She makes vague utterances, such as "I will never have to worry about that anymore" and "You will not have to try and help me much longer." She refuses to be future orientated. She also gives indications of major depressive disorder (low mood, increased crying, poor sleep, decreased appetite, loss of energy, poor concentration, social withdrawal, low self-esteem, feeling worthless, no view of the future, being fed up with life, and suicidal ideation), with the exact symptoms described depending on the questions asked. She also answers specific questions on these topics. If the subject senses true concern from the officers she will admit to taking 20 Tylenol.

Police objectives:
1. Recognition of elements of depression and gaining knowledge of symptoms.
2. Empathetic communication to increase bonding and trust.
3. Building skill in interviewing subject to extract key knowledge.
4. Obtaining knowledge of the Mental Health Act, specifically whether use of it is appropriate

Required equipment:
1. Baggy clothes
2. Blanket
3. Empty pill bottles

What would be expected from background information check?
There is a history of one suicide attempt, and police were called when it occurred

Scenario questions: given to each pair by the facilitator
1. Which mental illness, if any, are you dealing with?
2. What specific factors signify that it is this illness?
3. Are there any factors in this situation that suggest it may be a high-risk or a low-risk situation? If so, what are they?
4. Does the presence of empty alcohol bottles signify anything about the risk level? Should the subject be hospitalized, and if so for what reasons?

Scenario answers:
1. Major depressive disorder, with thoughts of suicide

2. Answers to questions (if these questions are asked by the officers): they may not have asked any of these questions regarding: low mood, increased crying, poor sleep, decreased appetite, loss of energy, poor concentration, social withdrawal, low self-esteem, feeling worthless, no view of the future, being fed up with life, suicidal ideation.

3. High risk or low risk: this is an individual at high risk of completing a suicide. The risk is indicated by the following factors:
   a) A note was left behind to say goodbye
      If a note is left behind, then the individual has taken the time to tell the people she cares about that she will no longer be around and has clearly planned the attempt to some degree. Her planning may make it a higher risk situation, more likely to succeed, and most likely indicates the need for examination in a hospital.
   b) Suicide attempt appears to have been planned to occur when no one was around.
      If she plans to commit suicide when no one is around, it can suggest a higher degree of planning and greater determination. In contrast, if a suicide attempt is spontaneous or occurs while others are around, it may lower the risk of a successful attempt.
   c) Suicide has been attempted before, according to background information check and history obtained from boyfriend.
      If suicide has been attempted before, chances are it will be attempted again. One of the most accurate predictors of a successful suicide is past attempts. Therefore, always note a history of attempted suicide as an important risk factor.

4. The presence of alcohol may not indicate, by itself, a lower or higher risk, although some studies have shown suicides in which no alcohol was present have a higher risk of death. Therefore, the presence of alcohol should not be taken as a sign of risk for suicide. Additionally, this subject should be taken to hospital under the Mental Health Act, as she is a threat to herself for the reasons given. Also, Tylenol overdose is a common cause of death due to liver toxicity, so that alone would be a reason to take her for a medical opinion.

Scenario questions: given to each pair by the facilitator
1. Which mental illness, if any, are you dealing with?
2. What specific factors signify that it is this illness?
3. Are there any factors in this situation that suggest it may be a high-risk or a low-risk situation? If so, what are they?
4. Does the presence of empty alcohol bottles signify anything about the risk level? Should the subject be hospitalized, and if so for what reasons?

Scenario answers:
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      If she plans to commit suicide when no one is around, it can suggest a higher degree of planning and greater determination. In contrast, if a suicide attempt is spontaneous or occurs while others are around, it may lower the risk of a successful attempt.
   c) Suicide has been attempted before, according to background information check and history obtained from boyfriend.
      If suicide has been attempted before, chances are it will be attempted again. One of the most accurate predictors of a successful suicide is past attempts. Therefore, always note a history of attempted suicide as an important risk factor.

4. The presence of alcohol may not indicate, by itself, a lower or higher risk, although some studies have shown suicides in which no alcohol was present have a higher risk of death. Therefore, the presence of alcohol should not be taken as a sign of risk for suicide. Additionally, this subject should be taken to hospital under the Mental Health Act, as she is a threat to herself for the reasons given. Also, Tylenol overdose is a common cause of death due to liver toxicity, so that alone would be a reason to take her for a medical opinion.

Facilitator checklist and facilitator feedback to officers (10–15 minutes including answers above):

1. How well did the officers ask questions to promote a positive interaction? Specifically, did they ask questions to try to promote bonding with the individual as a person (i.e., What is your name? Where are you from? Do you have any family and friends?)?
2. Did the officers effectively communicate so as to de-escalate the situation? (Was the situation resolved?)
3. Were active listening and empathy used in interaction with the subject?
4. Were the officers aware of their own body language? Did you see the officers use appropriate body language?
5. How did the officers answer the scenario questions?

Objective feedback from actor playing girl attempting suicide:

1. Observation of language used by the officers
2. Observation of feelings elicited by interaction with the officers

Scenario questions for actor (given as feedback to officers, 5–10 minutes):

1. How did the police make you feel?
2. Were the officers empathetic toward you?
3. Were you more agitated by this interaction or did you gain reassurance that the officers had confidence in what was being done?
4. How could the situation be executed better?

Objectives of observing actor:

1. Observation of body language
2. Observation of language used by officers

Scenario questions for observing actor (given as feedback to officers, 5–10 minutes):

1. What did the body language of the police tell you?
2. What could they have done better?

2.3.2   Feedback to Police Officers

One of the aspects of this training that not all police officers found comfortable, and which is unique among previously described training regimens, was that feedback was also provided by the actors after each scenario. The feedback was focused, not on police behaviour or tactics, but primarily on empathic and emotional factors (i.e., how the police officer made the actor feel) and how the officer could have acted differently, usually in terms of body language, to improve their perceived levels of empathy. Informing officers of their behavioural and verbal strengths and weaknesses was intended to increase their insight into the most appropriate ways of communication. The types of actor feedback revolved around the actors' complimenting good forms of body language and attentiveness (i.e., active listening with patience and focused attention, a calm and still body, eye contact, and open forms of body language). An example of the form used to capture actor feedback is shown in Table 4, which also demonstrates the specific features that were recorded in each scenario. It should be noted that, for each scenario, there were two actors present, one who took part and one who observed. The actors rotated through the two roles during the day, allowing each scenario to remain consistent without actor burnout. Both the participating and observing actors gave feedback.

Table 4. Actor Feedback Form

Scenario No. ___		Date:	
Actor/Observer:			

Actor: Group 1 (circle correct answers)

	Primary Officer		Secondary Officer	
How did police make you feel?	Angry Scared Agitated	Same Better Reassured Safe	Angry Scared Agitated	Same Better Reassured Safe
Why?				
Did they ask your name/where you're from? Etc	Yes	No	Yes	No
Was empathy shown?	Yes	No	Yes	No
How can it be executed better?				

Actor Observations or Comments:

Observing Actor: Group 1: Body Language

	Primary Officer		Secondary Officer	
Active listening?	Observed	Not observed	Observed	Not observed
Body language?	Open Came to your level?	Closed Large in size	Open Came to your level?	Closed Large in size
Facial language?	Relaxed Concerned	Bored Stern/Angry	Relaxed Concerned	Bored Stern/Angry
How could it be better executed?				

Actor Observations or Comments:

Police officers also received reviews from multiple sources including senior police officers, civilian members of the EPS, and specialized individuals who formed part of the Police and Crisis Team (PACT). This group is a combination of police officers, psychologists, and other staff specializing in treatment of individuals with psychiatric illness. An example of the form used to capture senior police feedback is shown in Table 5, which also demonstrates the specific features that were examined for each scenario.

Table 5. Example of Senior Officer Feedback

Communication/ active listening skills				
	Primary Officer		Secondary Officer	
Paraphrasing	Observed	Not observed	Observed	Not observed
Emotional labeling	Observed	Not observed	Observed	Not observed
Mirroring	Observed	Not observed	Observed	Not observed
Minimal encouragers	Observed	Not observed	Observed	Not observed
Summarizing	Observed	Not observed	Observed	Not observed
Silence	Observed	Not observed	Observed	Not observed

Facilitator Observations or Comments:

Interpersonal				
	Primary Officer		Secondary Officer	
Developed rapport with the subject	Observed	Not observed	Observed	Not observed
De-escalated the situation	Observed	Not observed	Observed	Not observed
Used appropriate body language	Observed	Not observed	Observed	Not observed
Demonstrated empathy	Observed	Not observed	Observed	Not observed

Facilitator Observations or Comments:

It can be seen that, in contrast to previous training techniques, there were multiple levels of feedback after each scenario, which addressed different aspects of the officer's behaviour. The goal of the training was to increase officers' self-awareness of behaviour and to help them respond positively to individuals by increasing communication and rapport with those with whom they interact.

2.3.3 Daily Schedule

Each training day started with an explanation of the goals of the day. Emphasis was placed on active listening skills such as paraphrasing, emotional labeling, mirroring, minimal encouragers, summarizing, and the beneficial use of silence. Other interpersonal skills that police officers were told would be evaluated were the ability to develop rapport with the subject, the ability to de-escalate situations, the use of appropriate body language, and the ability to demonstrate empathy. In addition, the officers were told how the actors were going to give them feedback. If at any time the actor-officer interaction escalated into conflict, the experienced supervisory police officer would determine whether the scenario should be stopped.

Pairs of officers would go through each scenario, with six simultaneous scenarios being run in different locations within the same building. Each police officer would rotate through the six scenarios during the day. At the beginning of each scenario, police officers would receive information similar to that given to them before they attend a call, and they would then proceed with the scenario. After each scenario, there was a debriefing with feedback from the supervising police officer, psychiatric staff (when present), and actors.

The intensive instruction that was necessary to bring all staff to the level where a successful training program could be carried out took place over two months. The work involved in developing such a group should not be underestimated.

2.3.4 Measurements of Training

After each scenario, the actors and the psychiatric supervisors evaluated the experience on a Likert rating scale, and the results were summarized for each training day. The scores ranged from 1 (strongly unsatisfactory training day) to 4 (strongly satisfactory training day). This

assessment included several factors, such as how officers received the instruction, their professionalism, and how they interacted with the psychiatric and civilian participants. Police officers also assessed each day's level of satisfaction, using the same scale to determine if training improved after both actors and facilitators became more familiar with the program.

After every day of training, each police officer was offered the opportunity to give qualitative anonymous feedback online. The survey evaluated four major factors regarding the training: the benefits of the session, the level of acceptance of the scenario method, the facilitator feedback, and overall training satisfaction.

The actors were offered the same opportunity after the final day of training. Feedback from actors described how they interacted with officers and facilitators, emphasizing what worked and what improvements were needed for future training. These were all explained in both positive and negative illustrative quotations.

2.4 Results

Of the 663 officers who participated in the mental health training, 381 completed the online survey, and of those, 312 completed the demographic data (Table 1).

2.4.1 Reported Training Benefits

In the individual feedback, the police officers reported that having actors in each scenario was the most beneficial factor in training (22%), followed by the use of role-playing scenarios (19%), having the group discussion (15%), getting feedback from the facilitators (14%), getting feedback from the actors (13%), the debriefing discussion (10%), the pre-briefing introduction (4%), and scenario questions (2%). The response of the police officers was generally very positive (Table 6) with perhaps the most important finding being that nearly 50 percent strongly agreed with the statement, "I will implement the knowledge and skills learned from this course in my everyday duties."

Table 6. Police Officer Responses to Online Anonymous Survey

Topic	Mean Rating	% Responding Strongly Agree
Facilitators were professional, treating everyone with respect	3.63	78
Learning objectives were clear to me	3.52	59
The facilitators helped in my learning	3.41	57
The training day was successful in explaining the subject matter to me	3.47	56
I will implement the knowledge and skills learned from this course in my every day duties	3.35	48
The training met my expectations	3.36	47
The scenarios gave me sufficient practice and feedback	3.07	33
The scenarios gave me an opportunity to learn about mental health, active listening, and body language	3.04	29
The scenario facilitated my learning, allowing me to apply new concepts	2.84	22

n = 381

Based on Likert-type scale: 4, strongly agree; 3, somewhat agree; 2, somewhat disagree; 1, strongly disagree

2.4.2   Increased Acceptance of Training

Throughout the training, a comparison was made between the police officers' level of satisfaction and that of the actors on a Likert Scale from 4 (strongly satisfied) to 1 (strongly dissatisfied) during each training day. The purpose of the comparison was to detect both the police officers' and actors' views of each training day and to track the level of training day improvement from start to finish. The results showed that both groups had statistically significant agreement about the success of each training day, with a correlation coefficient of $r = 0.468$ ($p = 0.043$). Results also showed a positive stabilization of training satisfaction after the midpoint of training, as shown in Figure 1. The overall mean for police officer satisfaction throughout the training was 3.4 (SD = 0.2), and the mean for actor satisfaction was 3.2 (SD = 0.7).

Figure 1. The Change in the Degree of Satisfaction for each of the 19 Training Sessions is Shown Over Time.
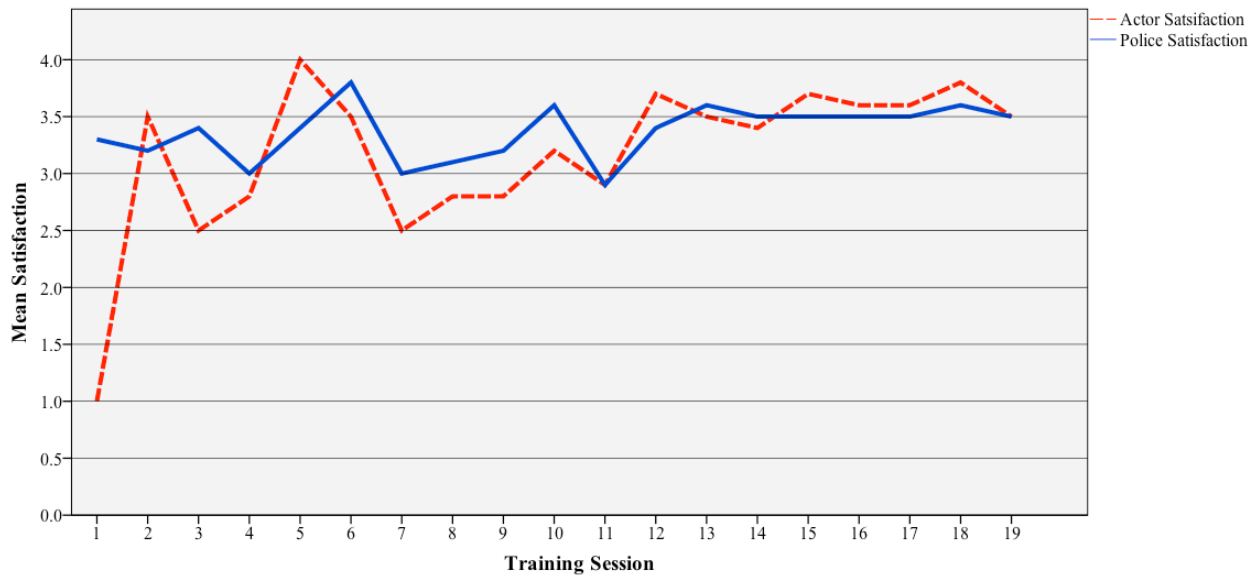
The actor satisfaction is shown as a dashed line, and the police satisfaction is shown as a solid line. Satisfaction was based on a Likert scale measuring how much they were satisfied with the training: 4, strongly satisfied; 3, somewhat satisfied; 2, somewhat dissatisfied; and 1, strongly dissatisfied.

Comments about the acceptance of training progressively improved. The officers were asked to describe the level of opportunity that the scenarios provided for learning about mental health, active listening, and body language. They were also advised to state any new concepts learned through scenario practice and feedback. Throughout the beginning sessions of training, they had mixed opinions involving the benefits of actor feedback, with comments largely more negative than positive. For example, one officer stated, "I thought the use of actors was a good idea; however, their feedback was unrealistic and unnecessary." Another officer affirmed, "The feedback from the actors was beneficial for being more aware of how our approach can make people feel. In saying that, certain comments on our tactics were frustrating, as they did not know how we are trained." Despite these initially negative statements, comments about the actors' feedback eventually became consistently positive. For instance, one officer stated,

"A lot of these scenarios were the same as what I have dealt with on the street. I found that I was consistent with how I was dealing with people with challenges. The feedback I received from both actors and training staff was positive and [I received] reinforcement that I was going down the correct road when dealing with these individuals."

Near the end of the training, another officer stated:

"The idea of using trained actors is an outstanding one. It resulted in a scenario, which is as close as it could possibly be to an actual call. The actors took their roles seriously and they immersed themselves completely into their parts. I also found that during the debrief, the actors possessed a good deal of knowledge concerning the behaviours, characteristics and for lack of a better word, eccentricities of those suffering from mental illnesses. This knowledge was very effectively parlayed into an incredibly authentic feeling scenario. The actors provided a very valuable perspective that we historically haven't been able to capture."

Thus, the officers became more accepting of the training as time went on.

2.4.3 Consistent Facilitator Feedback

The officers consistently reported the facilitators' involvement as positive when asked to comment on the level of professionalism and respect conveyed throughout training. One officer stated on the first training day, "As always, members of training staff were professional, knowledgeable, and prepared." Another officer, on the last training day noted, "It was helpful to get feedback from the facilitators as they were able to critique the scenario. Good feedback was given by all facilitators." Throughout training, the officers' comments about facilitators were consistently positive, with the majority affirming that they had "nothing negative to say about facilitators" and that the "facilitators were professional and helpful."

2.4.4 Consistent Overall Training Satisfaction

Just as feedback regarding facilitators was consistent, overall satisfaction with the training remained consistently positive, with minor negative comments throughout. As one officer explained early in training, "I like the idea of feedback and doing scenarios to assist with our abilities on the street. It was great to have both an inside police perspective and a civilian perspective of how we conduct our investigations. Effective learning." Another officer emphasized, "I can honestly say, one of the best training days I have ever attended," and later stated, "It's easy to conclude this training will create better police officers." Near the end of the training days, comments such as, "This was an excellent training day that provided as close to real-world situations as possible while maintaining a safe environment. The actors were extremely professional and their input and feedback was very beneficial for the learning objectives. Excellent work by training section in implementing this training," and, "Going into this [training] I did not think it was going to be useful at all. The idea of having actors tell me how I made them feel seemed silly. However, once we got started I quickly found value in having the actors and the group discussions. This training day was very good." Another officer reported, "[The training] exceeded my expectations. I can see how people that did not do well in these scenarios would criticize it negatively. I hope we can do more scenarios with actors."

Officers also described the instant benefits of the training: "Great day; of particular note, a member of my squad mentioned several days later that they had gone to a call 'exactly like one of

the scenarios.' As such, they were able to reference what they learned in achieving a successful outcome." Finally, one officer said:

> "I very much enjoyed the training day. I truly believe that we can gain more results with the public through the use of our mouths rather than fists. Although it is important to have a strong understanding in control tactics, I feel the majority of my interaction with the public rests on how I interact with them verbally rather than physically. I am grateful that we were given a day to practice our communication with the public. I especially felt it beneficial to have actors relay their perspectives and feelings to us. I feel having an "outside" perspective really gives us, as police, a better view as to what and how our "cliental" view us."

Thus, most of the comments emphasized the importance of training through this novel experience.

2.4.5   Negative Statements

Although reaction to the training was largely positive, negative comments were given, mainly describing the need for more information about mental illness: "scenarios were good practice; however, a little more background into the different types of mental disorders would have been beneficial rather than find[ing] out after the fact and just briefly touching on some of the symptoms exhibited"; and the belief that this training is not for veteran members: "[the mental health] training day was good for a one- to two-year member." There were comments dismissing everything taught: "I have attempted to use the skills presented to me by the facilitators and actors in everyday mental health calls. So far, none of the tools provided to me have worked, and actually made situations worse and more difficult"; remarks on the length of the training day: "I believe this could have been condensed into a half a day. Six scenarios were too many"; and opinions (n = 5) about actor feedback: "I found it difficult to wrap my head around an actor explaining how their character felt. A schizophrenic would not likely think or feel in any way similar to what the actors 'felt' and this somewhat made the scenario's unrealistic." Despite these negative opinions, the positive comments heavily outweighed the negative ones.

2.4.6   Actor Feedback After Training

For individual feedback, the actors were given questionnaires after training (n = 9).

Feedback from the actors was generally very positive (Table 7), with important feedback emphasizing that 78 percent of the actors strongly agreed with the statements: "The officers treated me with respect throughout the training" and "The facilitators were professional and treated all of the actors with respect." Despite this, only 33 percent of the actors strongly agreed with the statement that "It was easy to give feedback to the police because [the actor] felt prepared and knowledgeable in what [the actor] was wanting to say."

Table 7. Actor Responses to Online Anonymous Survey

Topic	Mean Rating	% Responding Strongly Agree
The officers treated me with respect throughout the training	3.78	78
The facilitators were professional and treated all of the actors with respect	3.80	78
I feel that most officers regarded me and my fellow actors as a crucial part of the training	3.67	67
I have an overall positive outlook on police after being in contact with police for approximately 2 months	3.69	63
The training days were a success when looking at the overall outcome of every day in its entirety	3.50	44
It was easy to give feedback to the police because I felt prepared and knowledgeable in what I was wanting to say	2.89	33

n = 9

Based on Likert-type scale: 4, strongly agree; 3, somewhat agree; 2, somewhat disagree; 1, strongly disagree

The actors' opinions improved over time. One stated, "I felt especially nervous about giving feedback at the beginning of [training]; however, I eventually grew into giving it." Another confirmed that, "I think almost all of the actors would agree that the back half ran much better than the front half, due to the feedback given by all parties involved through the training process."

There were minor problems regarding the way the officers treated the actors, "For the most part, the sworn-in members did treat us with respect; some of the officer trainees, however, I felt did not." An actor commented:

> "There were a select few [officers] who didn't treat the training seriously; however, all of the other officers were amazing. They were respectful and listened to my feedback. One officer even asked us questions about our scenario conditions and empathy demonstrating how much he respected our knowledge and opinions."

Despite this, the view of the training as a whole was consistently positive. An actor stated:
> "I really do believe this kind of work can have such a positive impact on the way the police are viewed by the public. I know my opinions have changed drastically, just over the two-month period!"

From another actor:

> "I enjoyed the experience. I feel overall the training was a success. We even had a squad leader who was negative coming in say that he had been converted and found the training beneficial."

Regarding the training goals, another actor stated positively:

> "The overall outcome was great. I feel the officers did learn some important points about mental [health]. Regarding empathy, I feel the officers were able to take home some important points from the experience. I also feel the relationships and interactions they had with the actors, as civilians, may have helped to personalize

some civilians and I hope they take this understanding with them into everyday interactions."

The actors' recommendations for future training emphasized two factors: improve actor training for giving effective feedback and have a consistent police facilitator throughout each scenario, who forms a mutually respectful relationship with the actors. The first recommendation was constantly brought up:

"I think the actor feedback is by far the aspect of the training that needs to be improved most. It was very rarely that I felt my comments were actually being taken seriously from the officers, and I often felt uncomfortable giving feedback, knowing that they weren't listening and/or didn't care."

Another actor responded, "Information we, as actors, relayed to the police (both the trainees and sworn-in members) carried, inherently and predictably, less significance and weight than information relayed by other police officers." Regarding the recommendation that facilitators stay constant, in the scenarios where this occurred, there was a significant increase in the ability of the actors to give meaningful feedback to the officers and their remarks appeared to be better accepted. "I found, with [our consistent facilitator's] guidance, our scenario evolved over the duration of training and our feedback became stronger for the officers with all we had learned." The same actor later stated, "[The] regular facilitator made the environment feel safe and I felt comfortable giving feedback; conversely, with the alternate facilitator I felt intimidated when giving feedback. I was very qualified to give feedback; yet, my confidence in giving feedback was entirely different dependent on the facilitator." This opinion was supported by another actor, who said:

"When feedback was dismissed or mocked, the outcome very much depended on a) the presence of a supervising officer and his/her attitude to the feedback in question, and b) the assertiveness, comfort level, and skill of the facilitator. When facilitators

are constantly changing, they are not able to understand the scenarios fully, and thus inconsistencies arise."

The actor went on to confirm a way for improvement:

"Quality and consistency of feedback was best when actors had a few moments to discuss particular concerns, experiences, thrills, etc., when needed, with the facilitator before the feedback session."

2.4.7   *Problems with the Scenarios and Responses to Feedback*

Police culture influenced the attitudes and opinions of each police officer. Emotional insight through training is unique, and it is not currently addressed in any other training sessions. In particular, the police officers had never known how they made others feel. In this context, it was of interest that feedback from the non-sworn members (i.e., non-police individuals, including actors) was not as well received as that from the more senior police officers. One actor described it thus, "In very few cases, some of the interactions among the officers and the actors in the scenarios made me feel as though certain officers held a sense of non-respect and superiority over civilians." It was also noted that older officers found accepting feedback to be a less positive experience and showed a greater tendency to dismiss the actors' opinions. This reaction was shown by the comments from officers who thought that the training was of no benefit to them; however, they believed that "junior members would benefit more" from it. Each scenario provoked specific responses, the most frequent of which are shown, by scenario, in Table 8.

Table 8. Scenario Challenges

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1. Depressed female
   - Immediate arrest and ambulance called
   - No time taken to talk to the individual

   Solution: If an arrest is made instantly, informing the officers that the ambulance will not arrive for 10 minutes will insinuate communication.

2. Alcohol intoxication with likely medical problems
   - Officers did not believe that they needed to be aware of alcohol withdrawal and claimed not to be doctors

   Solution: Inform officers that it is crucial that they know about this medical problem, as it could save lives if caught early enough.

3. Possible Psychosis
   - Deciding whether to take the individual to the hospital
   - Actor feedback about how an individual with schizophrenia feels versus how an actor feels was questioned

   Solution: Have a constant facilitator in the scenario

4. Depression and actively suicidal individual
   - Immediate arrest, even though individual was in an enclosed corner with a barricade in front

   Solution: Suggest that this individual cannot escape and therefore there is no need to arrest immediately and cause further stress in the situation.

5. Mania with possible drug use and physical symptoms
   - Immediate arrest, more experienced officers handcuffed sooner because of the threat that the subject was walking in the street

   Solution: Change the scene to a different location following the complaint of walking on the street

6. Domestic dispute precipitated by problem gambling
   - Complaint that the scenario was unrealistic since the couple would re-escalate following all the attempts to de-escalade
   - Immediate arrest
   - Lack of solution

   Solution: Active listening and patience can divulge more information than if the situation is aggravated by an arrest.

2.5 Discussion

Although training of police officers about mental illness is becoming more widespread throughout the world, there is little documentation describing in detail what methods should be developed to produce consistent, high-quality, effective training. The present article presents details of the questions and positive aspects of the development of this novel training program. The experience revealed needs to be clarified through future research. There should be additional research to ensure that the positive outcomes and approaches used to create an effective mental health training system for police officers are maintained over time.

The method described is a novel approach, using actors trained in a variety of realistic psychiatric scenarios depicting real-world experiences of police officers. The training was a time-intensive program with the future goal of changing the behaviour of police officers and an emphasis on actor and officer response over time.

The present study involved a larger cohort than most (n = 663), although online responses were obtained from only 58 percent (n =381). The results overall were very positive, with the training regimen being well received by the officers, and nearly 50 percent strongly agreeing that the training would change their interactions with persons with mental disorders. Whether this actually occurs, however, will require additional research to determine. An additional benefit from the view of the police officers, which took time away from their usual work, was that the training lasted only a single day.

The primary negative aspects of the training course were the significant time and cost of implementation and the resources involved. A large amount of training time was involved, both for the police department and the actors. The results also suggested that the effectiveness of the training increased with time, which would be consistent with the increasing comfort of the actors and supervisors with the training as they gained more experience. This outcome suggests that, particularly where many police officers or other law enforcement individuals are being trained, a group could be committed for a longer period and could retain the experience. However, the costs were significant. We chose to have two professional actors present for every scenario every day;

one would observe, the other would participate directly, and then they would switch. It is uncertain how necessary having two actors is; using a single actor would decrease the cost. Using rates from published agreements with actors, and training 30 officers per day, the cost amounts to only $60 per officer when one professional actor is present in each scenario. It should be noted, however, that this cost does not include setup and preparation, and it also does not include having police supervisors involved in the training session, because they were full-time members of the training section of the EPS, and no additional costs were actually incurred.

Despite the negative implication of cost, the positive outcomes were such that this form of interactive, hands-on, role play training, in which police officers learn from actors who become very experienced in the specific scenario, does seem quantitatively different from other forms of training recommended to date. On-going research should determine the effectiveness of this training method by measuring the interaction of police officers with the mentally ill over the longer-term. A cost-benefit analysis is very important, given the significant costs of the program for large police forces. This area is an important one for future research, as the ability to show that such training is cost-effective is critical. Similarly, evidence that such training influences on-going attitudes and behaviours over the longer-term is also important.

In conclusion, this novel training method focused on increasing the communication skills of police officers, particularly on improving active listening and empathy. Feedback on the experience from both officers and actors was very positive.

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3 A novel training program for police officers that improves interactions with mentally ill individuals and is cost-effective

3.1 Abstract

Police and law enforcement providers frequently come into contact with individuals who have psychiatric disorders, sometimes with tragic results. Repeated studies suggest that greater understanding of psychiatric conditions by police officers would be beneficial. Here we present the results from a novel approach to training police officers to improve their interactions with those who might have a mental illness (described in detail in Section 2). This approach involved developing a carefully scripted role-play training, which involved police officers ($n = 663$) interacting with highly trained actors during six realistic scenarios. The primary goal of the training was to improve empathy, communication skills, and the ability of officers to de-escalate potentially difficult situations. Uniquely, feedback was given to officers after each scenario by several individuals including experienced police officers, a mental health professional, and by the actors involved (with insights such as "this is how you made me feel"). Results showed that there were no changes in attitudes of the police toward the mentally ill comparing data at baseline and at 6 months after the training in those who completed both ratings ($n = 170$). In contrast, there were significant improvements in directly measured behaviours ($n = 142$) as well as in indirect measurements of behaviour throughout the police force. Thus, compared to previous years, there was a significant increase in the recognition of mental health issues as a reason for a call (40%), improved efficiency in dealing with mental health issues, and a decrease in weapon or physical interactions with mentally ill individuals. The training cost was $120 per officer but led to significant cost savings (more than $80,000) in the following 6 months. In conclusion, this novel 1-day training course significantly changed behaviour of police officers in meaningful ways and also led to cost savings. We propose that this training model could be adopted by other police agencies, and are currently in active discussions with others to try and facilitate this.

3.2 Introduction

Mental illness is increasing globally with depression classified as the leading cause of disability worldwide (W.H.O, 2012). By 2030 the World Health Organization expects that major depressive disorders will be the highest global burden of disease, passing heart disease (W.H.O,

2008). It is well recognized that police have frequent interactions with mentally ill individuals, but all too often these outcomes can lead to serious injury or death (Brink et al., 2011; Munetz et al., 2006; Patch & Arrigo, 1999). Studies in Canada and the United Kingdom have found that 37–48% of individuals fatally shot by police were classified as having a mental health problem at the time of the shooting (Best et al., 2004; Kennedy, 1998; Parent, 1996; PCA, 2003). The fact that there are violent interactions is in part because police officers are increasingly becoming the first emergency responders for individuals with mental illness, and are also assuming magnified responsibilities of both maintenance in the community and referral from the community (Best et al., 2004; Lamb et al., 2004; Patch & Arrigo, 1999). Conversely, individuals with mental illness have very negative attitudes toward the police (Brink et al., 2011) and these may also lead to a more rapid escalation into a violent interaction. Mentally ill individuals are often particularly fearful of the police, and believe that police are likely to use forceful approaches and refuse to listen to them (Watson, Angell, et al., 2008). Mentally ill individuals who had poor interactions with the police had increased feelings of hopelessness and a more negative outlook about hospitalization (Jones & Mason, 2002). It is therefore apparent that attitudes of the police, whether real or perceived, can have important impact on subsequent interactions. Lack of understanding and training could also conceivably underlie the high rates of serious injury and fatal outcomes during interactions between police and mentally ill individuals. Training police officers to interact differently therefore may help to solve this issue.

Interestingly, research has also suggested what mentally ill individuals would like to have police trained upon; specifically, "effective communication skills, understanding mental illness and its effects, treating people with compassion and respect, and non-violent conflict resolution skills" (Brink et al., 2011). Adequate police training on mental health issues is becoming increasingly necessary (Psarra et al., 2008). Other studies have re-iterated these findings and believe that police should exhibit the following behaviours: allow individuals a chance to explain themselves; be patient; respond in a calm manner; recognize or ask about mental illness; receive special training to help them respond to people with mental illness more effectively; and keep situations from escalating (Watson, Morabito, et al., 2008). Many previous studies suggest that training police on verbal intervention strategies and de-escalation techniques would lead to improved outcomes between police and the mentally ill (Coleman & Cotton, 2010; Keram, 2005). Without

de-escalation skills, officers may resort to force in order to resolve situations quicker, thus leading to violence and injuries (Ruiz & Miller, 2004). Previous research has also suggested that one component of any successful training program is to have experienced positive personal contact with an individual who has a mental health problem (Angermeyer & Matschinger, 1996; Corrigan et al., 2001; Penn et al., 1994). It is believed that within-group interaction can enhance positive emotions, such as empathy and communication, which can also improve attitudes toward those with mental illness (Brown & Hewstone, 2005; Pettigrew, 2008). However, at present police training has shown limited changes on behaviour (Corrigan et al., 2002). The lack of instruments able to assess behavioural change such as verbal communication and de-escalation may contribute to this (Bahora et al., 2008; Compton et al., 2008).

Despite the clear recognition of need, no training program for police officers has met the identified goals. In a recent review of police training programs, which focused on changing attitudes and behaviours (Coleman & Cotton, 2010), it was found that the effectiveness of these training programs was questionable in large part due to the relatively poor quality of the research design testing their effectiveness. It was also noted that there are significant differences in the existing training programs across Canada, the United States, United Kingdom, and Australia. As an example of differences in current training in Canada, mental health training in 2010 varied widely across the country. Thus it was basic recruit training (Saskatchewan police college), extensive recruit training (Edmonton Police Service, EPS), online courses, hands on practice with mental health professionals, and an officer selective 5-week Police and Crisis Team (PACT) training (Calgary). In Halifax it includes continued education and 40 h of Crisis Intervention Training (CIT). In British Columbia provincial police created an in-depth BC-CIT that includes 17 modules revolving around mental illness awareness, knowledge, and communication, while a less elaborate CIT model is taught to the Vancouver Police. The Ontario Provincial police have basic training, extensive 2 day block training, as well as additional scenario based training with mental illness. The Royal Canadian Mounted Police (RCMP) in certain regions receives suicide prevention training (Nova Scotia, PEI, and New Brunswick RCMP). Other training in Canada can be more comprehensive, for example that of the Peel and Halton Regional Police which includes an extensive 4 days in-classroom training program (originally developed in Hamilton Ontario). Similar differences occur in other jurisdictions, although the primary training in the

United States uses either the CIT model (40 h program). In California they use the Police Officer Standards and Training (POST), an 8-h program consisting of knowledge about mental illness, de-stigmatization strategies, and verbal interventions. England and Wales released a mental health strategy in March of 2010 to improve response to mental illness and criminal justice with mental ill. Emphasis was directed toward the efficient use of police resources, improved information sharing, and partner working. Their training strategy is currently under development. Australia's training uses a modified CIT model as well as presentations by persons with mental illness. However, validation or research on these training programs is extremely limited.

The training program that has been most widely studied is the CIT model, developed in Memphis, Tennessee (Compton et al., 2008). The essential goal of CIT is described as improving partnerships between police and community mental health resources (Watson, Morabito, et al., 2008) and "includes education about the causes, signs, symptoms, and treatment of mental illness; substance abuse; psychotropic medication; information on commitment criteria and procedures; consumer rights; personal stories from "consumers" and family members; visits to mental health treatment providers and information about treatment modalities as well as training in communication and de-escalation skills" (Coleman & Cotton, 2010). CIT positive outcomes are described as improved knowledge about mental illness, awareness of community resources (Compton et al., 2006), and improved identification of mental health calls (Teller et al., 2006; Watson et al., 2010). Nonetheless, "there is little outcome research or data-based evidence to inform the exact nature of an effective program, and the research that does exist does not provide guidance as to which components of a learning program are most effective" (Coleman & Cotton, 2010). Furthermore, it was found that majority of all training programs only train specific members, thus not the whole service is getting the knowledge and skills necessary to deal with mental health calls on a daily basis. CIT has been broadly used by police forces in the United States, but it is clear that more research of this program's potential effectiveness is needed (Compton et al., 2008).

Given this lack of a consistent and well validated training program for police officers that addresses the perceived needs of the mentally ill, and which therefore may help prevent future tragic outcomes, there remains a clear need for a training approach for police officers that is able

to change behaviours (Kermode et al., 2009). Therefore, in close collaboration with the EPS, we developed a novel 1-day training program to meet these needs (Silverstone et al., 2013). During this training, pairs of police officers interact with carefully trained actors in one of six well-defined scenarios. These were developed with extensive input from multiple EPS officers to ensure that they were very realistic, but also accurately portrayed mental illness. They were also representative of some of the most common interactions that EPS officers have with mentally ill individuals, and the scenarios had to be designed so that they would not compromise any other police training (for example, on the use of force). Baseline measurements of both attitudes and behaviours were also made, and a variety of linked information was also obtained so that any potential impact of the training could be assessed.

3.3 Materials and Methods

This research was approved by both the University of Alberta Research Ethics Board and the EPS Chiefs Committee. All participating EPS officers gave written informed consent. Baseline measurements were made approximately 4 weeks before any EPS member started the training. Follow-up measurements were made 6 months (±1 month) after the EPS officers had completed their training. All behavioural measurements were also made during the same time periods.

3.3.1 Training

This is detailed elsewhere (Section 3) (Silverstone et al., 2013), but in brief the 1-day training program was deliberately focused on changing behaviours, and not on increasing knowledge or changing attitudes. This is in contrast to other published training approaches. Thus, there were no theoretical learning sessions or seminars about the conditions that EPS officers would see. Also, before starting each scenario EPS officers received only the typical information they would receive for a call. It should be noted that an extensive amount of time was spent on developing scenarios that could be given in a very similar manner throughout the training period. To develop these scenarios there was extensive interaction between EPS, the Department of Psychiatry, and the actors over 3 months to ensure that the scenarios were effective. The six scenarios that were used in the training program represented the following: a depressed individual who may have taken an overdose; a depressed individual who was very belligerent and potentially violent with a weapon nearby; a psychotic individual who was experiencing hallucinations; an individual with presumed alcohol dependence found collapsing on a public street; an individual with excitement

acting strangely on a public street; and a couple who were arguing about the man's gambling addiction but which also represented other aspects of typical domestic disputes that police officers are called to.

Furthermore, each scenario was not straightforward, in part to help EPS officers question their preconceptions (for example the individual with presumed alcohol dependence had an alcohol-induced encephalopathy, and it was unclear to the officers if the individual with excitement was in fact showing drug-induced excitation, while in fact they showed typical signs of mania). To help emphasize these issues during the debrief session the EPS officers were asked specific questions about what they observed. The actors were also specifically trained so that the experiences of each pair of EPS officers were as consistent as possible. At every debrief session, discussion revolved around issues of empathy and de-escalation. A unique aspect of the training was that actors specifically informed EPS officers about how their actions had made the actor feel emotionally, e.g., "I was frightened when you came that close to me." Additionally, for every scenario there were two actors who would portray the mentally ill individual and they would alternate this role. The actor who was not taking part would observe the EPS officers and note their physical movements and empathy. At the debrief session the observing actor would then also give feedback to the specific EPS member about how to potentially improve these interactions. Thus, EPS officers had feedback from two actors, both the one they interacted and with another observing. Throughout the debrief, the primary focus of feedback was on helping the EPS member be more empathic as well as helping them identify other approaches they may have used to de-escalate the situation. All feedback was collected on an on-going basis in a standardized manner to ensure that each scenario and debrief were as consistent as possible.

It should be also noted that, prior to this training, EPS officers had only received specific training on mental health issues before they graduated as a police officer. There had been no previous specific mental health training once an officer had graduated.

The cost of developing the training program was not captured, but involved significant time from many members of the EPS training unit, particularly, as well as the University of Alberta staff involved in the study. However, the costs of running the training program were captured. The

largest component was having two actors present for every scenario on all 19 training days. The total external costs (not including the cost for EPS training staff or University of Alberta Staff) was $70,000 plus other costs of approximately $10,000. As there were 663 EPS officers who received the training the average cost was therefore $120. However, this would fall with future programs for efficiency reasons as not every session was fully booked. Secondly, it would be possible to decrease these costs by only having one actor present for each scenario. This would likely mean that future training programs will likely average between $60 and $100 per officer (not including the time for EPS training staff).

3.3.2 *Measurement of Attitude*

Two scales were used to determine attitudes of EPS officers to mentally ill individuals.

3.3.2.1 *Community attitudes toward mental illness*

The Community Attitudes toward Mental Illness (CAMI) scale was designed to measure the degree of social stigma toward mental illness (Taylor & Dear, 1981). It has been widely used in research in different populations (Morris et al., 2012). The CAMI consists of four subscales, two of which measure stigma [called "Authoritarianism" (CAMI-A) and "Benevolence" (CAMI-B)], one measuring fear of the mentally ill [called "Social Restrictiveness, SR" (CAMI-SR)], and one measuring acceptance of the mentally ill in the community [called "Community Mental Health Ideology, CMHI" (CAMI-CMHI)]. Each subscale contains 10 statements and are answered using a five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5).

3.3.2.2 *Social distance scale*

The Social distance Scale (SDS) measures the level of social distance, or the desired degree of social distance, between a member of one social group and the members of another (Bogardus, 1933). In the present study we used a modified version (Link et al., 1987) with three specific vignettes (Jorm et al., 2005) applicable to the scenarios being studied. These vignettes described individuals who had substance abuse disorder, depression, or schizophrenia. After reading each vignette, there are five statements regarding the reader's willingness to interact with this individual (such as would you "Like to move next door to a person like this," or "Recommend a person like this for a job?"). Measurements are determined using a five-point Likert scale ranging

from "definitely willing" (1) to "definitely unwilling" (5). Higher scores indicate more social distance and lower scores indicate less social distance (range 1–5).

3.3.3 Measurement of knowledge

Two scales were used to determine EPS officer knowledge about mental illness.

3.3.3.1 Mental illness recognition scale

A list of 27 ailments were listed and officers were asked to determine which of these they believed to be a mental illness (i.e., those who have a "nervous breakdown," "schizophrenia," "Autism" etc.). Of these 27, only 9 are considered mental illnesses according to DSM-IV. Measurements were determined by subtracting the number of right answers from the number of wrong answers, with the possible score range being from −18 to +9 (as they could leave answers blank).

3.3.3.2 Mental illness knowledge

A total of 16 multiple-choice questions were used to measure police officers detailed mental health knowledge. Questions such as "The term 'Clinical Depression' refers to," or "Which of the following illnesses usually involves a psychotic episode?" were used, with scores ranging from 0 to 16.

3.3.4 Behavioural Measures

3.3.4.1 Supervising officer survey

For every EPS officer who took part in the study we asked their direct supervising officer (normally a sergeant) to rate the individual officer at baseline on a number of behaviours that they observed. This was done on an anonymous basis, with each officer only having a study number reported to the study team (so we could compare to subsequent data). They were specifically asked to rate the ability of the EPS officer to communicate with the public, their ability to verbally de-escalate a situation, and their level of empathy in dealing with the public. Measurements were determined using a five-point Likert scale ranging from "negative and needs improvement on more than one occasion" (1) to "extremely positive in most situations, and is better than the average officer" (5). Higher scores indicate better ability of officers to communicate and interact with individuals (range 1–5). An increase in the ability of officers to

improve communication skills, ability to de-escalate situations, and to increase empathy during interactions were primary outcome goals of the training program.

3.3.4.2   Number of mental health calls

Another method to measure change in behaviour was to determine how many calls EPS officers identified as being due to mental health issues, since awareness of the potential of an individual having a mental illness was a secondary outcome goal of the program. An increase in the number of calls being identified as being due to mental health issues would therefore suggest a positive outcome of the training program.

3.3.4.3   Time spent on mental health calls

The amount of time that each EPS officer spends on every activity is documented (in minutes). It was anticipated that if EPS officers become more confident in their interactions with mentally ill individuals, that they may become more efficient in the use of their time when dealing with mentally ill individuals. A secondary outcome goal of the training program was therefore to achieve a reduction in the time taken per mental health call.

3.3.4.4   Use of force

There are a wide range of measurements of the use of force. The first involves the use of weapons, and the following events fall into this category: firearm, fired; impact, specialty munition; conduction energy weapon (CEW; proverbially known as a "taser"), CEW Stun; Impact, Other; Physical, Disarming Technique; CEW, CEW Probes; Canine Presence; Canine, Canine Contact; OC, OC Deployed; Impact, Baton Deployed; Firearm, Pointed; Firearm, Low Ready; CEW, CEW Presence/Laser. The second category are the use of physical force and this is classified as one of the following events: physical, strike; physical, stun; technique/distraction; physical, joint manipulation; physical, balance displacement/takedown; physical, holding technique. One of the goals of the training program was to decrease the use of both weapons and physical force in all calls involving the mentally ill. The total for all types of force was used in the calculations, which determined how frequently any kind of force was used in an interaction with an individual (as a percentage of the total number of mental health interactions).

3.3.5 *Other Measures*

3.3.5.1 *Changes in spending on EPS officer interactions with the mentally ill*

Knowing the cost per hour of each officer it was possible to calculate any cost-changes following the program. If the training program ended up leading to more efficient interactions between EPS officers and mentally ill individuals, such that EPS spent less time per call, this would translate into cost savings. In contrast, if the training program didn't have this benefit, but instead increased the amount of time spent with mentally ill individuals then the training program would have additional costs for the EPS.

3.3.5.2 *Anecdotal community feedback*

In addition to the formal measures, we carried out some enquires to determine anecdotal feedback. Thus, approximately 2 months after the training was completed we asked some of the key individuals in the community who work with homeless mentally ill in Edmonton some non-directive questions about how they found the police interactions with the population they dealt with. We didn't explain that we had completed a training program, only that we were interested in their views.

3.3.5.3 *Statistical analysis*

For comparisons between baseline measurements of attitudes and those from the same individuals 6-months later we used paired *t*-tests for the CAMI and mental illness knowledge while the Wilcoxon Signed Rank Test was used for the SDS.

To compare changes we used summaries of the monthly data for the 6 months after the training was completed (July–December, 2011) and compared these to the same 6 months periods in 2010 and 2009 (the only years for which similar data was available). This was used to determine changes in the time spent per call, recognition of mental illness and officer supervisor surveys (Wilcoxon Signed Rank Test) as well as for the number of mental health calls and changes in the use of force (paired *t*-tests). For all statistical analysis we used SPSS Version 19 (SPSS Inc., Chicago, IL, USA).

3.4 Results

A total of 663 police officers participated in the mental health training, of whom 312 completed baseline assessments and 372 completed assessments 6-months post-training. Of these, 170 EPS officers completed assessments at both baseline and 6 months and therefore changes in individual ratings could be made for these 170 police officers, who form the study sample for the comparison data on attitudes.

The baseline sample ($n = 312$) had an average age of 31.4 years (SD = 6.3), with 87.6% being male and 12.4% female. Most of the police in the training program were not very experienced. Thus, the length of time they had been a police officer ranged was 0–2 years (55%), 3–5 years (36%), or more than 5 years (9%).

In terms of education, 30.2% had completed high school, 57.4% had received a post secondary degree or certificate, and 12.4% had earned a graduate degree. The sub-set of 170 officers who completed both samples did not significantly differ from the larger sample on any measurement. Overall, the training was well received (Silverstone et al., 2013). At baseline, police officers were asked if they believed they had sufficient training about mental illness. At baseline 44% of officers believed they had sufficient training in dealing with mental illness. However, at 6-months post-training this belief was increased to 67%, a 23% increase (*p < 0.001*).

We found no statistically significant differences on any measure between the 170 who completed both assessments and those who completed only the baseline or follow-up assessments. We therefore believe that the 170 individuals are representative of the larger sample.

3.4.1 *Community Attitudes Toward Mental Illness*

At baseline the combined average scores of the 170 police officers for the four subscales of the CAMI were 24.5 ± 4.9 (CAMI-A), 37 ± 5.1 (CAMI-B), 23.3 ± 5.1 (CAMI-SR), and 31.4 ± 5.6 (CAMI-CMHI). There were no statistically significant differences from baseline at 6 months post-training (Figure 2), and scores for the four subscales of the CAMI were 25 ± 4.7 (CAMI-A; $p = 0.156$), 36.3 ± 5.9 (CAMI-B; $p = 0.107$), 25 ± 5.4 (CAMI-SR; $p = 0.130$), and 31 ± 6.1 (CAMI-CMHI; $p = 0.294$).

Figure 2. Community Attitudes toward Mental Illness (CAMI) questionnaire at Baseline vs. 6 months post-training
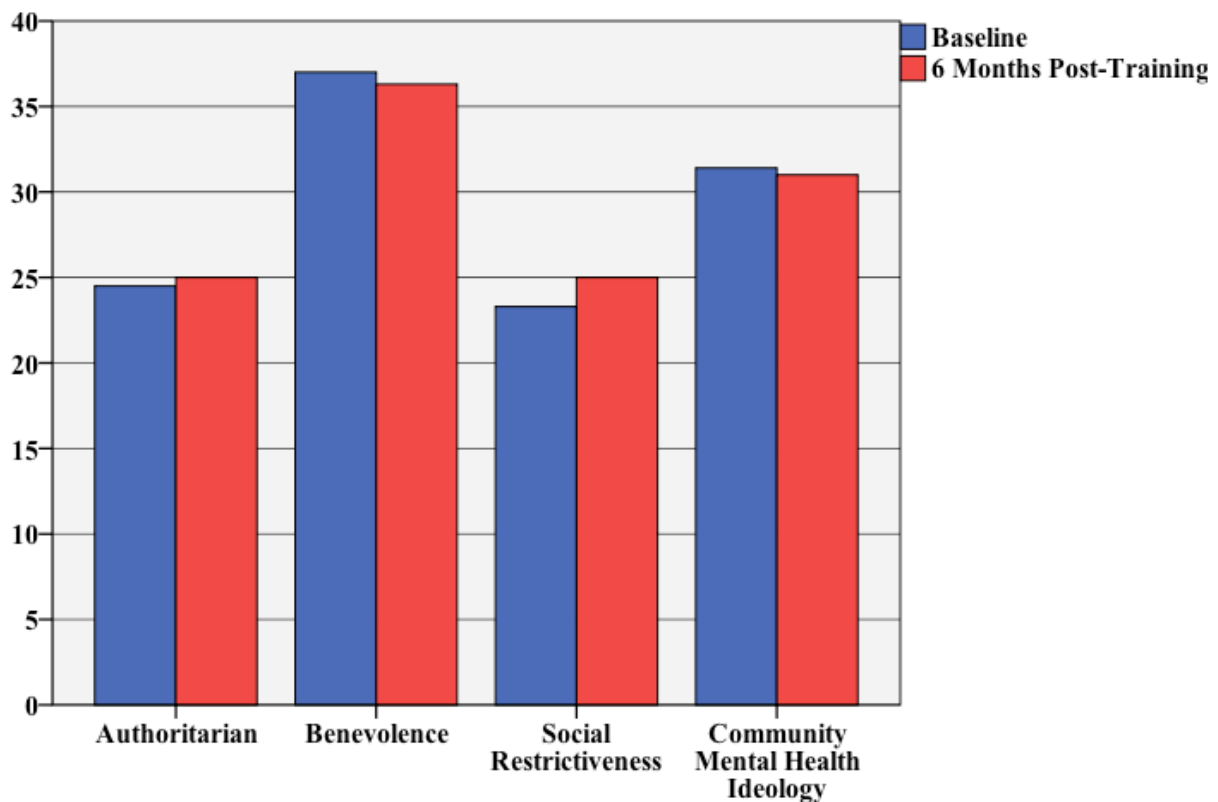
The results for the CAMI questionnaire are shown for police officers who completed both baseline and 6-month follow-up ratings (n = 170). Four subscales of the CAMI were used which measure attitudes toward the mentally ill; the "Authoritarian" subscale measures pessimistic attitudes, the "Benevolence" subscale measures compassion and empathy, the "Social Restrictiveness" subscale measures the level individuals feel that people with mental illness are dangerous and threatening, while the "Community Mental Health Ideology" subscale determines the level of acceptance toward deinstitutionalization and attitudes toward having mental health facilities in the community. Higher scores on "Authoritarian" and "Social Restrictiveness" signify greater amounts of stigma, while higher scores on "Benevolence" signifies lower stigma and a higher score on "Community Mental Health Ideology" signifies higher acceptance of the mentally ill. Data are shown at "Baseline," i.e., before police officers were trained, and these are compared to "6 months post-training." Community samples reported in the literature, defined as "controls" from (Finkelstein et al., 2008) are 25 (CAMI-A), 40.9 (CAMI-B), and 26.3

(CAMI-SR) respectively. No control data is available for CAMI-CMHI. It can be noted that the police officers ratings appear similar (and slightly lower) than those of the community Controls, and there appear to be possibly slightly lower stigma in police officers compared to community Controls.

3.4.2 Social Distance Scale

At baseline the combined average scores of the 170 police officers for SDS baseline measurements were 4.2 ± 0.8 for the drug abuse vignette, 3.5 ± 0.9 for the depression vignette, and 4.2 ± 0.9 for the schizophrenia vignette. There were no statistically significant differences from baseline at 6 months post-training (Figure 3) with post-training SDS scores being 4.0 ± 1.0 for the drug abuse vignette (p = 0.230), 3.5 ± 1.0 for the depression vignette (p = 0.395), and 4.0 ± 1.0 for the schizophrenia vignette (p = 0.180).

Figure 3. Social Distance Scale (SDS) at Baseline vs. 6 months post-training
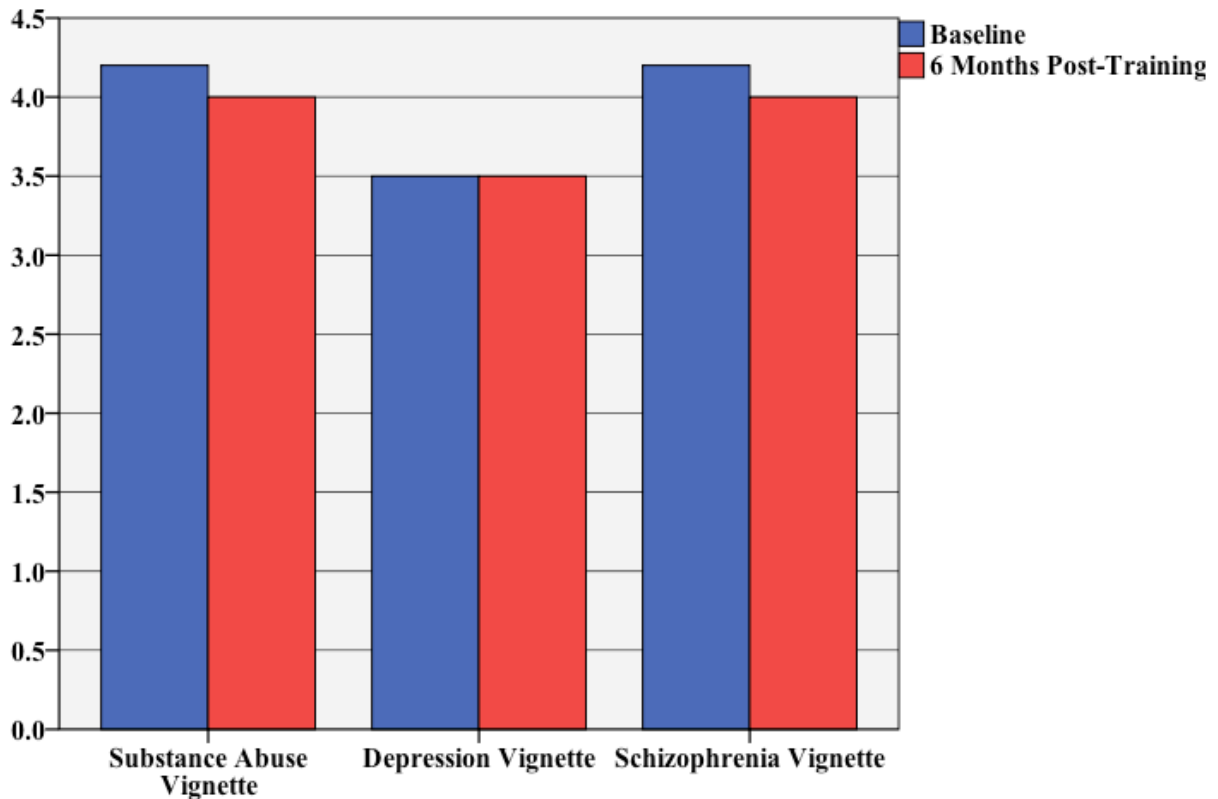
The version of the SDS used in the present study contained three scripted vignettes about schizophrenia, depression, and substance abuse followed by statements such as "Would you be willing to move next door to John?" The data is from police officers who completed both baseline and 6-month follow-up ratings (n = 170). Baseline measurements were determined using a five-point Likert scale ranging from "definitely willing" (1) to "definitely unwilling" (5). Higher scores indicate more social distance and lower scores indicate less social distance (range 1–5). Data are shown at "Baseline," i.e., before police officers were trained, and 6 months post-training. Community samples reported in the literature, defined as "controls" from (Link et al., 1999; Nordt et al., 2006) are 3.2 (substance abuse), 2.5 (depression), 3 (schizophrenia). It can be seen that the police officers ratings at Baseline appear higher to those of the community Controls, i.e., that there appears to be greater stigma among the police officers compared to community Controls.

3.4.3   Mental Illness Recognition Scale

At baseline the mean recognition scores of 170 police officers were 1.9 ± 2.8 with post-training recognition scores being significantly lower at 1.3 ± 2.9 ($p = 0.011$). However, since this is an unvalidated measure it is uncertain whether or not this signifies a meaningful increase in knowledge.

3.4.4   Mental Illness Knowledge

At baseline the mean knowledge scores of 170 police officers were 8.4 ± 2.6 with post-training knowledge scores being 8.7 ± 2.7 ($p = 0.127$).

3.4.5   Supervising Officer Survey

A total of 142 officers had ratings by their supervising officer at both baseline and at the 6-month follow-up, and these are the sample for measured changes in behaviour. Comparing these 142 to the total sample of 312 who completed baseline measurements. These showed highly statistically significant increases which reflected an approximately 10% improvement in ratings (Figure 4). In terms of rated ability of individual police officers to communicate well with the public there was an improvement from a baseline rating of 3.49 ± 0.86 to a 6-month rating of 3.73 ± 0.77 ($p = 0.001$). In terms of the police officer's ability to verbally de-escalate a situation there was an improvement from 3.39 ± 0.87 to 3.65 ± 0.79 ($p = < 0.001$). In terms of the police officer's level of empathy in dealing with the public there was an improvement from 3.51 ± 0.73 to 3.73 ± 0.73 ($p = 0.003$).

Figure 4. Observed Behaviour
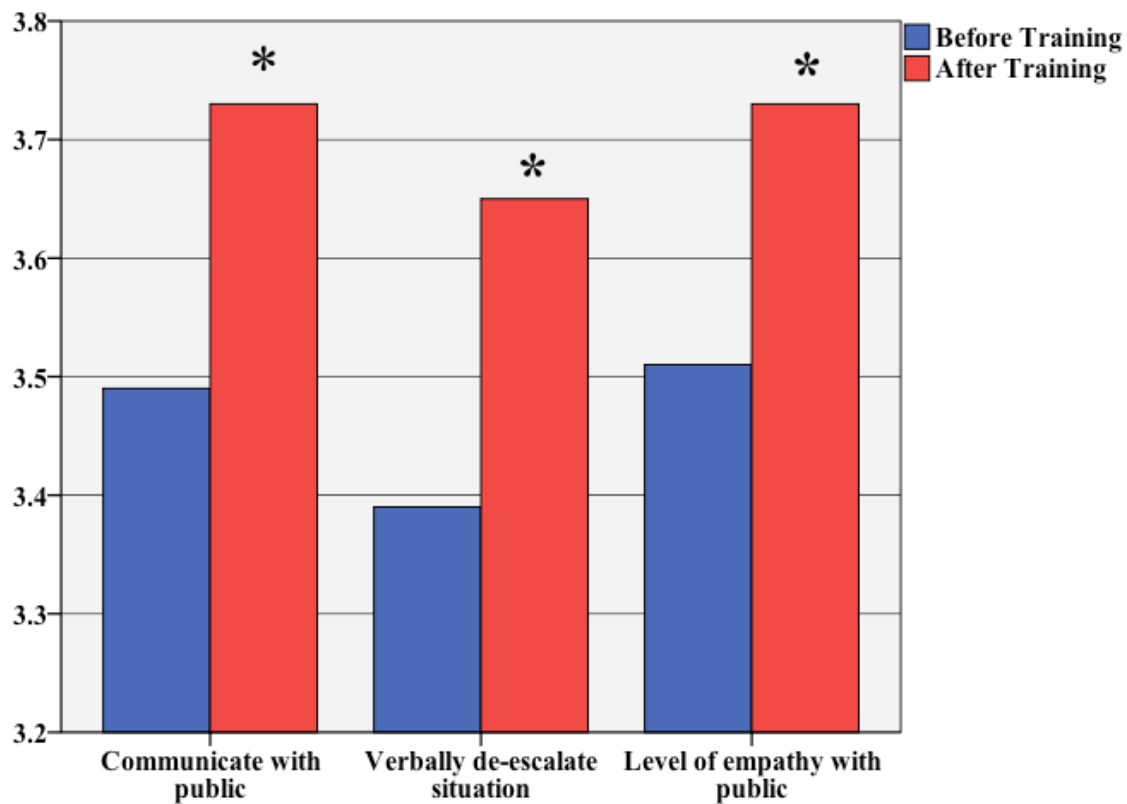
This shows the data of observed behaviour by the supervising officers of individuals (n = 142) who provided feedback on individual officer ratings on the following three measures when interacting with individuals who potentially had a mental illness: the ability to communicate with the public, the ability to verbally de-escalate a situation, and their demonstrated level of empathy when interacting with the general public. Data are shown at "Baseline," i.e., before police officers were trained, and 6 months post-training. There were statistically significant differences on all three ratings (*p < 0.005). Please note the Y-Axis has been truncated.

It should be noted that in terms of these changes, a 10% improvement would be considered meaningful given that that the range is from 0 to 5, and so there is the potential problem of a "ceiling effect" with the baseline being at 3.5 (a ceiling effect occurs when scores are at or near the maximum possible score for the variable being measured).

3.4.6   Indirect and Other Measures

It should be noted that this data is from information across all of the EPS. It includes feedback both from those who attended training ($n = 663$) and those who did not. However, since over 90% of "beat officers" attended training, and these officers formed the vast majority of individuals responding to these calls, we believe that the following indirect measures represent changes that were due to training.

Additionally, all indirect behavioural measures compare the same 6-month period (July–December) for the years 2009–2011. This is because the training took place throughout the second quarter of 2011 and thus it isn't possible to accurately compare the first 6-months of these 3 years. Additionally, the questionnaire data and the supervising officers survey also relates to this time period. For this reason we have only compared data for the 6 months period following training to the same period in the two previous years (the only ones for which similar data was available).

3.4.7   Number of Mental Health Calls

The average number of mental health calls during the period from July to December each year increased from 2009 ($n = 162$) to 2010 ($n = 182$) and onto 2011 ($n = 257$; Figure 5). It was statistically significant when comparing both changes from 2009 to 2010 ($p = 0.031$) and 2010 to 2011 ($p < 0.001$).

Figure 5. Average Number of Mental Health Calls (July-December)
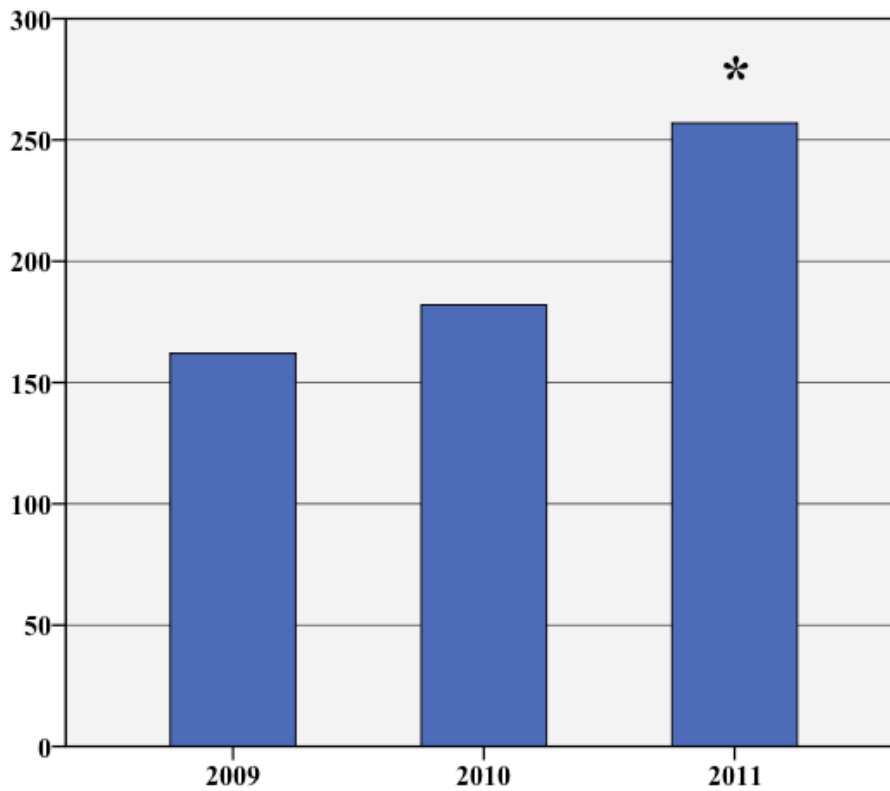
*This shows the information across all of the Edmonton Police Force. It can be seen that there was a highly significant increase in the number of calls identified as being due to mental health issues between the same time period in 2010 compared to 2011 (*p < 0.001).*

3.4.8   Time Per Mental Health Call

The average time taken for each mental health calls during the period from July to December each year increased significantly from 2009 (221 ± 142 min) to 2010 (251 ± 164 min; $p = < 0.001$; Figure 6). In marked contrast, there was a statistically significant decrease from 2010 (251 ± 164 min) to the same period in 2011 (205 ± 146 min; $p < 0.001$).

Figure 6. Average Minutes per Call (July-December)
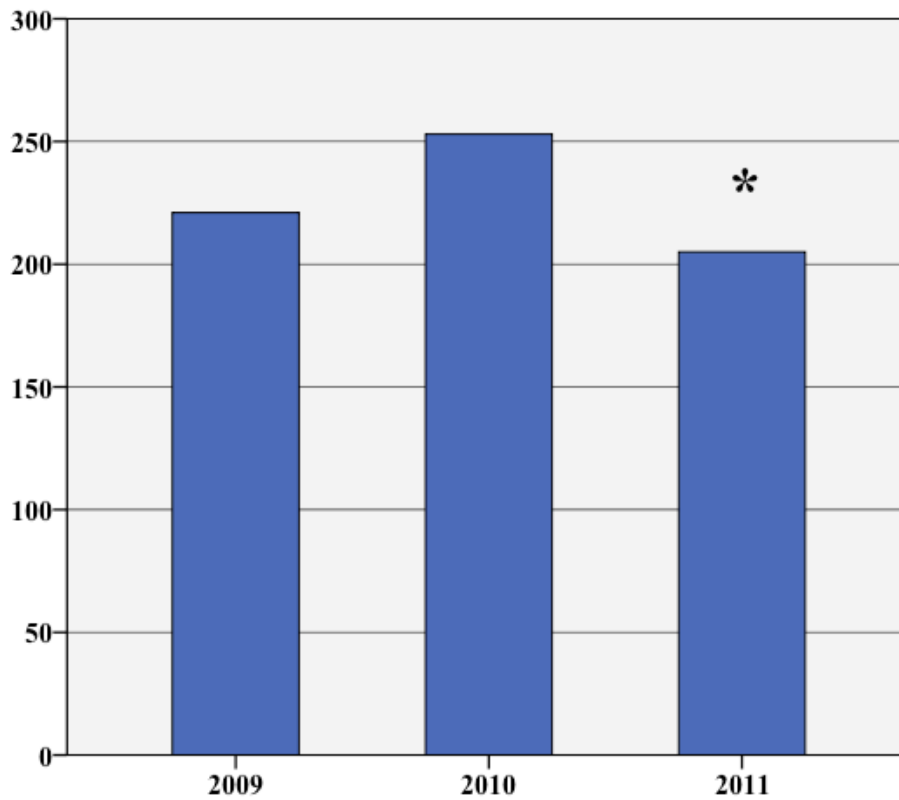
This shows the information across all of the Edmonton Police Force. It can be seen that there was a highly significant decrease in the time taken per mental health call between the same time period in 2010 compared to 2011 (*p < 0.001).

3.4.9 Number vs. Time

Combining the data from Figures 5 and 6 demonstrates a marked change in behaviour compared to previous years (Figure 7).

Figure 7. Change in Number vs. Time per Call (July-December)
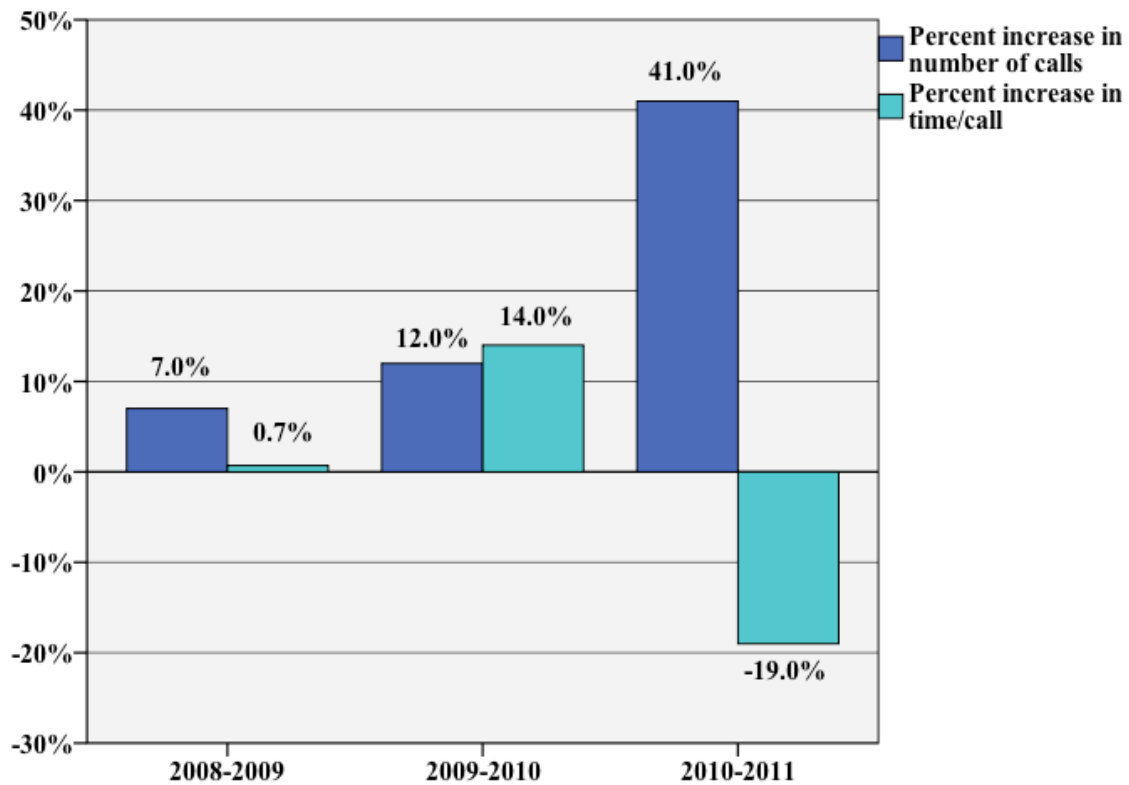
This combines the data from Figures 4 and 5 and shows these changes as a percentage change from the previous years during the same time period. It can be seen that there were marked changes from 2010 to 2011 in that while the number of calls increased significantly, the time taken per call decreased significantly. This did not happen in previous years, and suggests an increased identification and increased efficiency of police officers in interacting with the mentally ill during the 6 months following training.

3.4.10 Use of Force

When comparing the same time periods from 2009 to 2011 there was a striking decrease in the use of force for individuals who had a mental illness (Figure 8). Thus, the percentage of times force was used in any Mental Health Call decreased from $11.5 \pm 1.9\%$ in the July–December period of 2009 to $8.0 \pm 1.2\%$ in the July–December period of 2010 ($p = 0.011$), with a further reduction to $5.2 \pm 0.9\%$ in the July–December period of 2011 ($p = 0.004$).

Figure 8. Change in the Use of Force in Mental Health Calls (July-December)
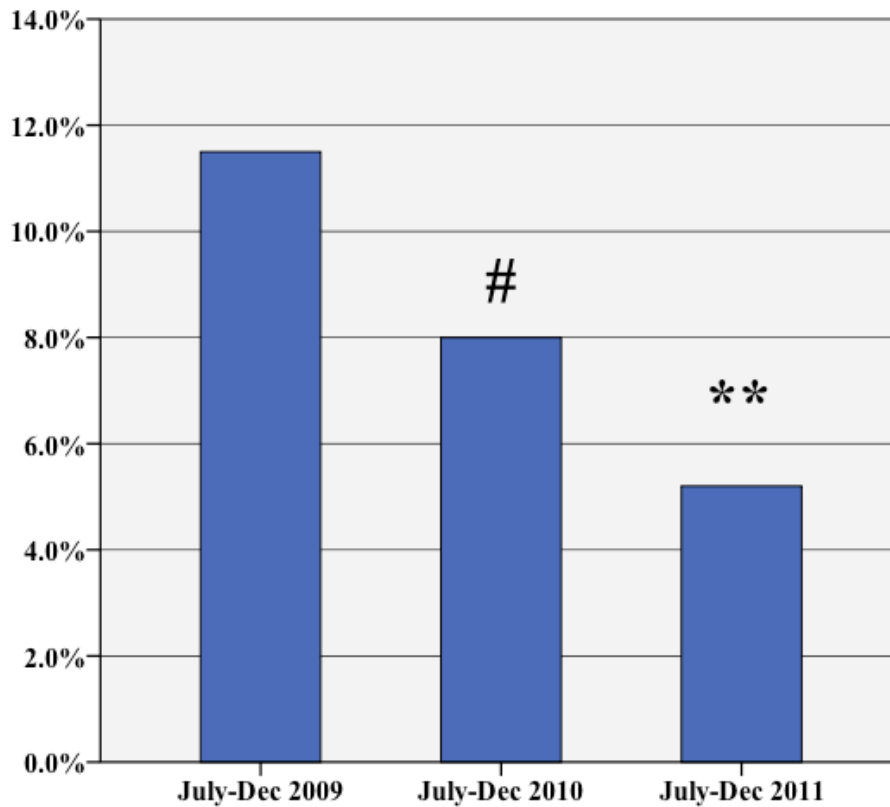
This shows the percentage of times that any type of force was used in a mental health call. It can be seen that there was a highly statistically significant decrease in the percentage of times force was used both between 2009 and 2010 (#p < 0.001) and between 2010 and 2011 (**p < 0.001). However, it should be noted that there were other training activities in the 6-month period (September 2010–March 2011) prior to the current training program that are also likely to have impacted this reduction in the use of force. It is therefore likely that the current training program was one contributor to this significant reduction, but not likely to be the sole reason for this reduction.

However, it needs to be recognized that on this specific issue there were a number of other initiatives introduced by the Edmonton Police Force during the period September 2010–March 2011 to specifically reduce the use of force in all circumstances, and it is thus highly unlikely that the significant reduction in use of force was due solely to the training program, which should be seen as one element of this successful approach.

3.4.11 Cost-Effectiveness of Training Program

The training program had two major costs, internal and external to the EPS. The internal costs were those for the training and time by the members of the EPS. The primary resource was use of time by the training division. Given that this group was already committed to provide training during the same period, it is assumed that there was no additional training cost time. However, this is unlikely, since learning a new training routine always takes time, but this additional cost has not been factored into the overall budget. Another "internal" cost was the cost for the researchers and the time they spent developing the program and training the actors. Again, however, these costs were supported by other means and so have not been considered in the total cost profile.

The other costs were external costs. The primary one was the cost for actors to be trained and to be in attendance. The rates used were standard rates for actors and published by the appropriate representative organizations. In this particular training scenario we chose to have two actors available for every role, for a total of 14 actors each day (five scenarios had one actor and one scenario used two actors so each day there were seven actors who would carry out a scenario with seven others watching. They would rotate after each set of scenarios to allow the scenario to remain consistent by avoiding "burn-out" in the actors). Thus, one actor (or pair of actors) carried out the training while the other watched and gave comments back to the EPS officers. It is unclear if this additional cost was necessary, as we did not carry out training without this occurring. However, using this approach, to train a total of 663 officers on 19 separate training days, and with several days of advance training of the actors, the cost was slightly less than $80,000 CDN (including all miscellaneous costs which totalled less than $10,000). Thus, the cost per officer was approximately $120. If fewer actors were used the cost would be decreased proportionately. In terms of cost-effectiveness one way of measuring this would be to determine

the difference in costs if the training had not led to an increased efficiency (i.e., the amount of time spent per mental health call decreased), which is in marked contrast to previous years. Thus, if the time spent per mental health call in 2011 was the same as the time spent in 2010, then there would have been additional expenditure of approximately $84,000 in the 6-month period from July to December 2011. This suggests that the training is cost-effective.

3.5 Discussion

The goal of this training program was to improve interactions between police and mentally ill individuals. The focus of this novel training scheme differed from previous training programs in that it was focused on a few behavioural changes: to increase the abilities of police officers to appear empathic; to communicate better with those who have mental illness; and to be able to better de-escalate potentially violent situations. This has not been studied well previously, despite its obvious importance (Angermeyer & Dietrich, 2006). Interestingly, the results suggest that the training program was successful in meeting these goals, even though there was no underlying change in the attitudes of the police officers toward those with mental illness. Thus, we were able to show a highly statistically significant improvement in police officer behaviour some 6-months after a 1-day training program. This improvement was reflected in both direct measurements and indirect assessments, and led to significant cost savings that make the training program clearly cost-effective. Interestingly, it was previously described that it is currently unknown whether a decrease in attitudinal stigma relates to the actual behaviour of police officers toward those with mental illness (Jorm & Griffiths, 2008), and our results suggest that changing stigma or understanding of mental illness is not necessary to change behaviour.

Importantly, this training led to measurable improvements in officer interactions with individuals who had mental illness. It is quite possible that there were also improvements in behaviour with other members of the public, although this was not measured and must therefore remain speculative. However, one of the issues that arises from this training is how could a single day's training, which didn't impact attitudes at all, have a consistent and measurable impact on behaviour in stressful situations at least 6 months later? We believe that this is due to the unique and novel nature of the training. Specifically, this training program created scenarios in which officers were emotionally engaged as well as intellectually engaged, and despite the somewhat artificial nature of the interactions the ability of the high quality actors to engage the officers we

believe is the largest single reason why this training program was so successful. An anonymous comment about the training program that reflects the potential benefits supports this hypothesis, in which a supervising officer stated: "Great day, of a particular note, a member of my squad mentioned several days later that they had gone to a call "exactly like one of the scenarios" as such, they were able to reference what they learned in achieving a successful outcome." In terms of the impact of the training other anonymous comments give some of the qualitative impact of the training.

"This was an excellent training day that provided as close to the real world situations as possible while maintaining a safe environment. The actors were extremely professional and their input and feedback was very beneficial for the learning objectives."

"I felt that this was an excellent training day. It kept everyone engaged throughout and the scenarios were excellent. Having a variety of scenarios was great for the members."

"I like the idea of feedback and doing scenarios to assist with our abilities on the street. It was great to have both an inside police perspective and a civilian perspective of how we conduct our investigations."

"By far the finest training day I've ever attended. This type of format allows supervisors an accurate assessment of how their members react on the street. I believe this training endeavour will give our members more confidence and therefore allow them a higher-level proficiency when making decisions based on risk management."

This degree of active engagement may, in part, suggest why such a brief period of training could have such a long-term positive outcome. There is an extensive body of research demonstrating that role-play and simulation can be very effective tools in teaching psychiatry (Barney & Shea, 2007; McNaughton et al., 2008), and others have specifically advocated experiential training through actors in role-play situations (Ballon et al., 2007), although the effectiveness of these approaches have not been formally tested over a prolonged period. Similarly, others have shown that it is possible to improve empathy using actors who are role-playing being patients, and that

these improvements last at least 1 month (Walters et al., 2007). Additionally, it has long been clear that emotion may enhance memory processes that occur at all stages, including encoding, storage, and retrieval (LaBar & Cabeza, 2006; Okada et al., 2011). The scenarios were specifically designed to increase emotional arousal of the police officers, and this is also likely to have increased the learning that took place from six consecutive scenarios all of which emphasized the same points (empathy, communication, de-escalation of potentially difficult, or violent behaviour). One of the other unique aspects of this training may also have helped in the beneficial outcomes, and this was that in most cases supervising officers took part in the training as well. Thus, they learned the key aspects of what the training program expected from the police officers they were supervising, and we believe (from informal feedback) that this may have helped ensure that the learning was continued. While this is currently speculative at this time, it is worth determining in future research whether or not the involvement of the supervisors contributes at all to the positive outcomes seen.

Thus, in conclusion, we believe that the present findings build on previous studies, and show that a specific and targeted role-playing training session for police officers can meaningfully improve interactions between police officers and the mentally ill over the longer-term. This leads to a measurable change in behaviour, and may possibly also decrease the use of force in interactions between police officers and those with a mental illness. Given the cost per officer of $120, and the findings that these costs are likely to be saved in a short period of time, we believe that the present research strongly supports the use of this training program, in other police forces.

Limitations of this study include the facts that we utilized anonymous self-report measures in attitudes, and supervisor surveys, and we did not carry out interviews. Furthermore, we did not get specific feedback from individuals with whom the police officers interacted, so were not able to measure possible changes in perception of these individuals. This aspect, which has scarcely been studied previously, will need to be addressed in future research.

very grateful for all their help and would like to acknowledge this. They would also like to gratefully acknowledge the willingness of the EPS senior management to commit significant resources to a novel form of training.

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4   Police Officer Attitudinal Changes 2.5 Years Following Implementation of a Novel Mental Health Training Program

4.1 Abstract

The interactions between police officers and individuals suffering from mental illness are frequent and have a greater potential to end negatively. The training of police officers to better deal with individuals in distress has become widely adapted, with many positive results. We have previously developed a unique police-training program and have presented the attitudinal and behavioural results 6 months after training (described in Section 1 and 2). Here we present the results of attitudinal data 2.5 years after this novel approach to training police officers to improve their interactions with those who might have a mental illness was implemented. This training method trained 663 police officers and consisted of 6 role-play based scenarios where officers interacted with professional actors and received unique feedback. The aim of this program focused on improving officer de-escalation skills, empathy and communication techniques. Results showed that there was an increase in confidence and recognition of mental illness, along with a decrease in authoritarian attitudes at 2.5 years post-training. Correlational evidence suggests Age, Gender and Years as a police officer influence individual attitudes. As well, depending on where officers work, attitudes could include greater stigma, namely higher crime areas like North and Downtown divisions. Interestingly attitudes towards compassion, empathy and acceptance of community services for mentally ill individuals were improved in North Division officers who took our mental health training program.

4.2 Introduction

With the increasing rate in prevalence of mental illness in today's society, interactions between police officers and those in distress are increasing in number. Police have become first responders in the crisis mediation of those with mental illness due to their 24-hour service availability, flexibility, and obligation to protect and serve communities (Finn & Sullivan, 1989). This creates an increased need for police officers to be properly trained in the area of mental illness in the aim to introduce an understanding of proper techniques that contribute to positive interactions with this marginalized population. Although this training was once scarce, it has become a prominent

staple in police training internationally (Coleman & Cotton, 2014a). Police and law enforcement programs are training officers through academic means as well as hands-on approaches in improving interactions with individuals in distress. Main concepts during classroom training sessions aim to teach officers about symptom recognition, mental health knowledge, as well as aim to decrease stigma and negative attitudes towards those with mental illness. Hands on approaches such as scenario-based training, focus on specific ways of interacting with mentally ill individuals including de-escalation techniques and communication skills. Programs work to link training with community service providers to promote officer awareness of resources available to further assist in each interaction. In addition to police training, various cities have incorporated the use of a specific joint mental health and police team models where psychiatric nurses work along side police officers to attend to specific mental health calls, which further allows officers to support persons with mental illness.

Although training is increasing in international implementation, evidence towards determining specific factors that relate to improvements of programs is rarely analyzed. For more detail, a recent report released by the Mental Health Commission of Canada describes the diversity in police training worldwide as well as the key points that programs should incorporate in improving interactions with persons with mental illness (Coleman & Cotton, 2014b).

Before training programs can be implemented repeatedly, an analysis must be conducted to prove that these training programs are behaviourally improving the way police officers interact with persons with mental illness. Without a scientific evaluation of each program, it is impossible to regard a program as effective. Anecdotal evidence through officers stating their thoughts towards the effectiveness of programs is not enough support in the wide implementation of training programs. Thus, this is an important aspect to look at in more detail. Although some police programs fail to look at changes in behaviour and attitudes post training, there are many that do evaluate these aspects. Findings suggest that post-training, police attitudes improve (Compton et al., 2008; Compton et al., 2014a; Hansson & Markstrom, 2014; Hatfield, 2014; Kolodziej & Johnson, 1996; Loch, 2008; Mann & Himelein, 2008; Pinfold et al., 2003; Ritter et al., 2006; Watson et al., 2008; Wundsam et al., 2007), self reported behaviours improved (Compton et al., 2014b; Hatfield, 2014), transferable police behavioural improvements such as decreases in arrest,

decrease in use of force and improvements in efficiency (Compton et al., 2008; Compton et al., 2014b; Dupont & Cochran, 2000; Krameddine et al., 2013; Morabito et al., 2012; Prenzler et al., 2013; Steadman et al., 2000; Teller et al., 2006), as well as progression in the improvement of mental health knowledge and symptom recognition (Compton et al., 2014a; Ellis, 2014; Hansson & Markstrom, 2014; Hatfield, 2014; Steadman et al., 2000; Watson et al., 2008; Wells & Schafer, 2006), and augmented confidence in interacting with persons with mental illness (Bonfine et al., 2014; Borum et al., 1998; Dupont & Cochran, 2000; Krameddine et al., 2013; Pinfold et al., 2003; Ritter et al., 2010; Watson et al., 2008; Wells & Schafer, 2006). Interestingly, increases in knowledge have been found to decrease stigma (Corrigan, 2005).

Although success may seem to be abundant, lack of consistency in training, along with the inability to decipher training components that relate to positive change, continues to hinder the advancement of this field.

This section relates to the work carried out that is reported in Sections 4 and 5 (Krameddine et al., 2013; Silverstone et al., 2013), and is a follow up at 2.5 years from the original baseline assessments, with the intent to understand the longitudinal relationship of attitudes over time. Gratifyingly, the original training was specifically commended in a recent literature review (Coleman & Cotton, 2014b).

4.3 Officer Personality

Literature in the field of police work constantly examines the fluctuations in police officer attitudes throughout their career. Before we can inspect changes that occur over a policing career, we must first examine the tendency for police organizations to recruit and hire specific personalities to become police officers. Personality is defined as a particular combination of complex characteristics such as the way an individual behaves, feels and thinks (Oxford Dictionaries, 2014), and most individuals would claim that the police personality is similar to authoritarian personality type. Adorno was the first to coin the authoritarian personality theory, classifying distinct characteristics such as: firm in their beliefs, tendency to possess conformist values, intolerant of weakness in themselves and others, high in discipline, suspicious, and

respectful of authority to a large degree (Adorno et al., 1950). Adorno believed the development of this specific personality was established during childhood where children experienced harsh and threatening parental discipline, with the tendency for parents to use love and its retraction as a way to produce obedience. This was believed to set the stage for individuals to exhibit high degrees of anger, in the form of displaced anger against powerless groups including the will to power over others. There are two theories in regards to police personality:

1) Authoritarians are recruited and individuals chose police work because it is compatible with their needs
2) Over time, police become more authoritarian, because of their increased amount of confidence on the job

These theories have been tested, and despite this belief, studies have shown that police applicants are the same as ordinary college males and middle class workers (Balch, 1972). The primary reason that individuals join the police force relates to stability (Westley, 1970). Two other common answers were "to help people" and to "enforce the law" (Cumming et al., 1965; Lester et al., 1980). A recent book examining why individuals choose to become police officers finds the current primary reason is to help others and the community (Ridgeway et al., 2008). A complementary study found that reasons for joining police organizations have remained stable over time (Foley et al., 2008).

Police research has also looked at the difference between those that were accepted into the police force and those that were rejected after applying. They found that the people who were accepted tend to be more psychologically healthy, competent, and demonstrate character features such as assertiveness, impatience, and a high degree of physical energy (Twersky-Glasner, 2005).

In regards to the second point, where police were hypothesized to become more authoritarian over time, the results are more mixed. Experienced officers were found to be more authoritarian, confirming that authoritarian attitudes intensify over time (McNamara, 1967), similarity, another study found that Social Distance increased with age (Litzcke, 2005). Age and years of service was found to be positively correlated with authoritarianism, but were negatively correlated with

self-efficacy (Loch, 2008). Interestingly, as age and years as a police officer increase, so do authoritarian views post-CIT training.

In contrast, studies find younger, less experienced officers with lower levels of education to exhibit more authoritarian attitudes (Patrick, 1978). Another analysis discovered preliminary decreases in authoritarianism during recruit training, however, the experience of on-the-beat policing led to a dramatic increase in authoritarianism, specifically in high crime rate areas (Brown & Willis, 1985). Yet more analyses suggest that experienced officers are less authoritarian than the general public (Brown & Willis, 1985), while another found no differences in authoritarian personality on the Minnesota Multiphasic Personality Inventory (MMPI-2) (Laguna et al., 2009). Taken together this suggests that it isn't currently clear if police officers self-select and are different, are changed by the job (as some studies suggest), or become more authoritarian with time or following training (again, as suggested by some, but not all, studies).

Regarding how the personality changes irrespective of career choice, results from a meta-analysis found changes in adults across their life-span, with increases in social dominance, reliability, and emotional stability as adults age towards their midlife periods (Roberts et al., 2006). Thus the literature suggests that an increase in social dominance is a normal progression. Overall, police personality may be, in part, a result of police culture although it is a culture that is constantly changing (Twersky-Glasner, 2005).

Given this background it is most likely that attitudes will become more authoritative and in need of control in the 2.5-years post-training. We hypothesized that authoritarian attitudes would be more prominent in older officers and more experienced officers (usually the same), and that officers working in downtown and north divisions (areas in Edmonton that have greater crime), will have more authoritarian attitudes compared to police officers working in other parts of the city.

4.4 Material and Methods

Approval for research was attained from the University of Alberta Research Ethics Board and the Edmonton Police Service's Chiefs Committee. Written consent was received from all Edmonton Police Service (EPS) officers who took part in this study. Previous measurements of attitudes were taken at baseline (4 weeks before training in 2011) (time 1) and 6 months (± 1 month) following training (time 2) (Krameddine et al., 2013). New attitude measurements were taken (2.5-years) months (± 1 month) post training (time 3) to determine if attitudes changed over a longer time period. This follow up data was collected in the period October 2013 to January 2014.

4.4.1 Mental Health Training Program:

In summary, training was a one-day scenario based program that ran over 19 days through May-June of 2011 (Sections 4 and 5), training 663 EPS officers. Professional actors were used to portray individuals with mental illness in 6 realistic scenarios, which were developed alongside EPS training staff. Training was mandatory for all active EPS patrol staff and was intentionally focused solely on police behaviour, with feedback given after every scenario by a supervising officer, a mental health professional, as well as two actors. Actor feedback focused on police verbal and non-verbal behaviours with an emphasis on empathy and de-escalation techniques.

4.4.2 Measurements

Attitudinal, confidence and recognition measurements were only analyzed for individuals who participated in the original mental health training initiative in 2011. Demographic measures of influence on attitudes used officer attitudes at time 1 (n = 312), time 2 (n = 383) and time 3 (n= 515), then controlling for individuals who took training at time 2 and time 3.

4.4.2.1 Measurement of Confidence

Officers were asked if they believed their previous EPS training in dealing with those who have mental heath problems or mental illness is sufficient. This measurement was recorded as a percent value at the three time points.

4.4.2.2 Measurement of Recognition

Officers were given a list of 27 health conditions and were asked to choose which conditions they believed were a mental illness. Only 9 out of the 27 conditions are considered mental illnesses according to the DSM-V. Measurements were determined in two ways, first by subtracting the total number of correct choices from the number of incorrect answers, allowing a score range from -18 to +9 and secondly by adding up the percent of officers that believed each diagnosis to be considered a mental illness. Classifications of mental illness were namely: Those that are depressed, schizophrenia, attention deficit hyperactivity disorder (ADHD), bipolar disorder, individuals with anxiety that holds them back at work, autism, agoraphobia, Alzheimer's disease and post traumatic stress disorder (PTSD).

4.4.3 Measurements of Attitude

Two regularly distributed questionnaires were used to determine EPS attitudes towards mental illness. The exact same questionnaires were distributed at time 1, time 2 and time 3.

4.4.3.1 Community Attitudes towards Mental Illness

The Community Attitudes towards Mental Illness (CAMI) scale was created to determine attitudes held by community members towards those with mental illness (Taylor & Dear, 1981). It was created by combining survey items from 3 scales: Opinions about Mental Illness (OMI) (Cohen & Struening, 1962), the Community Mental Health Ideology (CMHI) (Baker & Schulberg, 1967) and the Custodial Mental Health Illness Ideology Scale (CMI) (Gilbert & Levinson, 1956). Since then, the CAMI has been used to determine attitudes towards mental illness in different populations. The CAMI contains four subscales, each with 10 items, namely Authoritarianism (CAMI-A), measuring negative attitudes towards mental illness, Benevolence (CAMI-B), measuring compassionate attitudes towards mental illness, social restrictiveness (CAMI-SR), measuring individual beliefs that those with mental illness are threatening and dangerous, and finally community mental health ideology (CAMI-CMHI), measuring attitudes towards the acceptance of deinstitutionalization and attitudes towards community mental health facilities. All 40 items contain Likert-type questions on a 5-point scale ranging from "strongly

disagree" (1) to "strongly agree" (5). Totals in each subscale are then added up, with answers ranging from 10 to 50.

4.4.3.2   Social Distance Scale

The Social Distance Scale (SDS) measures the level of closeness individuals are willing to interact with varying social groups (Bogardus, 1933), or in our case, with individuals who suffer from mental illness. In the present study a modified version was used (Link et al., 1987) comprising three vignettes describing glimpses into the lives of three individuals suffering from substance abuse, depression or schizophrenia (Jorm et al., 2005). After each vignette is read, officers complete 7 Likert-type statements ranging from "definitely willing" (score of 1) to "definitely unwilling" (score of 5), regarding their willingness to socially interact with the specified individual (such as would you "Make friends with a person like this", or "Rent a room to a person like this?"). Greater social distance is indicated by higher scores, and less social distance is indicated by lower scores. Scores were averaged and range from 1-5.

4.4.3.3   Opinions of officers towards varying types of mental illness

Following each SDS vignette, officers were asked to give their opinions towards each mental illness described. Opinions are listed as negative statements and if officers believe them to be true, they check off the box beside the statement. This is a modified version of a previous survey (Crisp et al., 2000). Responses are given as the percent of officers that agree with each negative statement.

4.4.4   Demographic influence on attitudes

To understanding how police officer attitudes are influenced by fixed demographic criteria, a bivariate correlational analysis at time 1 (baseline) was first conducted to observe if gender, education, age of a police officer, and years as a police officer influence attitude measures. Further analysis, controlling for individuals who took training, examine how years of police experience, age of a police officer and Police Division of work predict CAMI or SDS attitudes. It was predicted that older, more experienced officers, and those that work in North or Downtown Divisions would have increases in stigma, specifically authoritarian attitudes towards those with

mental illness.

4.4.5   Statistical analysis

For comparisons of attitudes on the CAMI, SDS, the mental illness recognition scale, confidence levels and opinions of officers towards varying mental illnesses, the Wilcoxon Signed Rank Test was used to determine paired sample differences. Bivariate correlations were initially conducted to see if any relationships at time 1 were found with any demographic variables. Further, if correlations were discovered, two-factor ANOVAs and ANCOVAs were used to understand the relationship that demographic variables of age and years as a police officer plays on CAMI and SDS questionnaires, controlling for individuals who took training at time 2 and 3. A one-way ANOVA was conducted on attitudes and division police officers work to understand differences between divisions regardless of trained or not and a two-way ANOVA was conducted on attitudes and division police officers work to understand differences between divisions who were trained and not trained. For all statistical analysis SPSS Version 22 was used (SPSS Inc., Chicago, IL, USA).

4.5 Results

A total of 663 police officers participated in the mental health training, of whom 312 completed baseline assessments (time 1), and 383 completed assessments 6-months post training (time 2). At time 3 a total of 515 officers completed assessments, although not all of these had carried out baseline assessments. The samples considered in the present analysis were only the individuals that completed baseline assessments, 6-months follow up, and completed the final assessment at 2.5 years post-training (time 3). Out of police officers who participated in the mental health training in 2011, 74 EPS officers completed assessments at both baseline (time 1) and 6 months post training (time 2), 148 completed assessments at both 6 months (time 2) and 2.5 years post training (time 3) (but not baseline), while 118 completed assessments at both baseline (time 1) and 2.5 years post training (time 3) (but not at 6 months).

4.5.1 Demographics

Each group was similar to the overall demographics in Table 9, showing demographics at baseline (n = 312), time 2 (n = 383) and time 3 (n = 515).

4.5.1.1 Baseline (time 1) vs. 6 months post-training (time 2)

The baseline sample (n = 74) had an average age of 30.2 ± 6.35 years ranging from 21 to 49 years, with 87.8% being male and 12.2% female. The average years they had been a police officer was 2.95 ± 6.35 years, with a range from 1 to 19 years. Regarding the percent of years as a police officer, 31.1% had been an officer for 0-2 years, 32.4% for 2-3 years, 28.4% for 3-5 years, 5.4% for 5-10 years and 2.7% over 10 years. In terms of education, 31.1% had completed high school, 59.5% had received a post secondary degree or certificate and 9.5% had earned a graduate degree.

4.5.1.2 Baseline (time 1) vs. 2.5 years post training (time 3)

The baseline sample (n = 118) had an average age of 30.6 ± 6.56 years ranging from 21 to 57 years, with 79.7% being male and 20.3% female. The average years they had been a police officer was 3.14 ± 3.47 years, with a range from 1 to 31 years. Regarding the percent of years as a police officer, 28.2% had been an officer for 0-2 years, 33.3% for 2-3 years, 27.4% for 3-5 years, 8.5% for 5-10 years and 2.6% over 10 years. Thus, approximately 60% of the police officers taking part in this research during time 1 had been in their positions for between 2 – 5 years. In terms of education, 32.2% had completed high school, 52.5% had received a post secondary degree or certificate and 15.3% had earned a graduate degree.

4.5.1.3 6 months (time 2) vs. 2.5 years post training (time 3)

The 6 months after training sample (n = 148) had an average age of 31.2 ± 6.15 years ranging from 22 to 49 years, with 84.5% being male and 15.5% female. The average years they had been a police officer was 3.41 ± 2.92 years, with a range from 0.5 to 23 years. Regarding the percent of years as a police officer, 14.2% had been an officer for 0-2 years, 32.4% for 2-3 years, 39.2% for 3-5 years, 11.5% for 5-10 years and 2.7% over 10 years. In terms of education, 23.6% had

completed high school, 62.2% had received a post secondary degree or certificate and 14.2% had earned a graduate degree.

Table 9. Demographics of Police Officers at time 1 (baseline), time 2 (6 months post-training) and time 3 (2.5 years post-training)

Demographic	1) M (SD), n (%)	2) M (SD), n (%)	3) M (SD), n (%)
n	312	383	515
Gender, n (%)			
Male	255 (82)[a]	319 (84.4)[e]	400 (79.4)[h]
Female	56 (18)[a]	59 (15.6)[e]	104 (20.6)[h]
Age, M (SD)	31.98 (6.32)[c]	32.35 (6.35)[i]	33.14 (7.17)[j]
Range (years)	21 – 57	22 – 51	21 – 61
Education, n (%)			
High School	81 (26)[b]	98 (25.8)[c]	115 (22.7)[g]
Post Secondary	181 (58)[b]	228 (60)[c]	357 (70.4)[g]
Graduate	48 (16)[b]	54 (14.2)[c]	35 (6.8)[g]
Years of experience as a police officer, M (SD)	3.98 (3.92)[d]	4.23 (3.62)[f]	5.95 (5.52)[k]
Range of experience (years)	1 – 31	0.25 – 30	0.50 – 36
Years of experience as a police officer, n (%)			
0-2 years	140 (45.5)	129 (34.3)	141 (28.4)
3-5 years	111 (36)	177 (47.1)	184 (37)
6-10 years	46 (15.3)	54 (14.4)	113 (22.7)
11-15 years	5 (1.6)	11 (2.9)	28 (5.6)
Over 15 years	5 (1.6)	5 (1.3)	31 (6.2)
Took part in 2011 Mental Health training (3rd questionnaire only)[b]			
Yes			289 (56.3)
No			224 (43.7)
Division (3rd questionnaire only)[i]			
North			117 (23.3)
South East			84 (16.7)
South West			95 (18.9)
West			101 (20.1)
Downtown			105 (20.9)

[a] One, [b] Two, [c] Three, [d] Four, [e] Five, [f] Seven, [g] Eight, [h] Eleven, [i] Thirteen, [j] Fourteen, and [k] Eighteen officers left this question blank.

4.6 Measurements

Confidence and Recognition Scale

4.6.1 Measurement of Confidence

At time 1 (n = 72), 43% of officers believed they had sufficient training in dealing with mental illness. However, at time 2 this belief was increased to 62%, a 19 % increase (p = 0.013). At time 1 (n = 115) 41.7% had confidence in interacting with mentally ill, while at time 3, 73.3% had confidence, a 31.6% increase (p < 0.0005). At time 2 (n = 147), 59.2% had confidence, while at time 3, 70.5% had confidence, an 11.3% increase (p = 0.035).

At time 3, 69% of officers that were trained believed they had sufficient training in dealing with mental illness while only 60% of officers not trained believed they had sufficient training in dealing with mental illness (p = 0.037). This suggests officers that were trained have statistically significant more confidence than those not trained.

4.6.2 Mental illness recognition scale

At time 1 (n = 74) the mean recognition scores of police officers were 2.22 ± 2.52 with post-training recognition scores being lower at 1.72 ± 2.74 (p = 0.209). At time 1 (n = 117) the mean recognition scores of police officers were 2.23 ± 2.39 with time 3 scores slightly rising at 2.25 ± 2.73 (p = 0.790). At time 2 (n = 148) the mean recognition scores of police officers were 1.88 ± 2.70 with time 3 scores slightly rising, 2.06 ± 2.88 (p = 0.326).

The percent of specific mental illness recognition was found to significantly increase at time 1 vs time 2 (n = 74), with those recognizing depression as a mental illness increasing from 73% to 91% (p = 0.001). The change from baseline vs 2.5 years later (time 3; n = 118) showed significant improvements in believing that the following were mental illnesses: Depression (72% to 87%) (p = 0.001), Bipolar disorder (92% to 98%) (p = 0.021) and Anxiety (44% to 54%) (p = 0.046). This suggests that changes in recognition appeared to be long-lasting. Other results are described in Table 10.

Table 10. Comparison of Mental Illness Classification for those individuals who completed ratings at specific times

Mental Illness Classification: "Which do you believe is a mental illness?"

Baseline (Time 1) *versus* 6 months (Time 2) (n = 74)

Those who are depressed	54 (73)	67 (90.5)	p = 0.001*
Schizophrenia	73 (98.6)	72 (97.3)	p = 0.564
Attention Deficit Hyperactivity Disorder	39 (52.7)	44 (59.5)	p = 0.317
Those who have Bipolar Disorder	70 (94.6)	70 (94.6)	p = 1.000
Individuals with Anxiety that holds them back at work	32 (43.2)	31 (41.9)	p = 0.819
Autism	41 (55.4)	36 (48.6)	p = 0.297
Agoraphobia	39 (52.7)	40 (54.1)	p = 0.796
Alzheimer's Disease	39 (52.7)	41 (55.4)	p = 0.670
Post Traumatic Stress Disorder	60 (81.1)	61 (82.4)	p = 0.808

Baseline (Time 1) *versus* Time 3 (n = 118)

Those who are depressed	85 (72)	103 (87.3)	p = 0.001*
Schizophrenia	116 (98.3)	116 (98.3)	p = 1.000
Attention Deficit Hyperactivity Disorder	61 (51.7)	67 (56.8)	p = 0.343
Those who have Bipolar Disorder	108 (91.5)	116 (98.3)	p = 0.021*
Individuals with Anxiety that holds them back at work	52 (44.1)	64 (54.2)	p = 0.046*
Autism	64 (54.2)	61 (51.7)	p = 0.602
Agoraphobia	60 (50.8)	67 (56.8)	p = 0.178
Alzheimer's Disease	65 (55.1)	62 (52.5)	p = 0.639
Post Traumatic Stress Disorder	97 (82.2)	106 (89.8)	p = 0.061

Time 2 *versus* Time 3 (n = 148)

Those who are depressed	130 (87.8)	130 (87.8)	p = 1.000
Schizophrenia	146 (98.6)	145 (98.0)	p = 0.564
Attention Deficit Hyperactivity Disorder	84 (56.8)	81 (54.7)	p = 0.662
Those who have Bipolar Disorder	139 (93.9)	143 (96.6)	p = 0.248
Individuals with Anxiety that holds them back at work	65 (43.9)	81 (54.7)	p = 0.024*
Autism	83 (56.1)	77 (52.0)	p = 0.366
Agoraphobia	83 (56.1)	83 (56.1)	p = 1.000
Alzheimer's Disease	85 (57.4)	81 (54.7)	p = 0.505
Post Traumatic Stress Disorder	124 (83.8)	126 (85.1)	p = 0.732

* statistical significance

4.6.3 Measurements of Attitude

Data are mean ± standard deviation unless otherwise stated.

4.6.3.1 CAMI

Community Attitudes Towards Mental Illness

4.6.3.2 Time 1 versus Time 2:

At time 1 the combined average scores of 74 police officers on the four subscales of the CAMI were 24.71 ± 5.04 (CAMI-A), 36.07 ± 5.90 (CAMI-B), 24.45 ± 5.52 (CAMI-SR), 30.81 ± 6.35 (CAMI-CMHI). The Wilcoxon signed-rank test determined that there was a statistically significant median increase on the CAMI-SR from time 1 (24.45 ± 5.52) to 6 months after training (26.00 ± 6.11), $z = -3.087$, $p = 0.002$ (two tailed). The median score on the CAMI-SR increased from time 1 (Md = 24) to time 2 (Md = 26). All other measures of attitude change showed no significant differences from time 1 to time 2, 25.35 ± 4.95 (CAMI-A; $p = 0.120$), 35.93 ± 6.40 (CAMI-B; $p = 0.904$), and 29.87 ± 6.18 (CAMI-CMHI; $p = 0.151$).

4.6.3.3 Time 1 versus Time 3:

At time 1 the combined average scores of 118 police officers on the four subscales of the CAMI were 24.87 ± 4.98 (CAMI-A), 36.55 ± 5.23 (CAMI-B), 24.22 ± 5.00 (CAMI-SR), 30.93 ± 6.20 (CAMI-CMHI). The Wilcoxon signed-rank test determined that there was a statistically significant median decrease on the CAMI-A from Baseline (24.87 ± 4.98) to 2.5 years after training (24.03 ± 4.93), $z = -2.14$, $p = 0.032$ (two tailed). The median score on the CAMI-A decreased from time 1 (Md = 25) to time 3 (Md = 24). All other measures of attitude change showed no significant differences from time 1 to time 3, 35.56 ± 65.71 (CAMI-B; $p = 0.851$), 23.90 ± 5.66 (CAMI-SR; $p = 0.52$ and 30.03 ± 7.04 (CAMI-CMHI; $p = 0.0.25$).

4.6.3.4 Time 2 versus Time 3:

At time 2 the combined average scores of 148 police officers on the four subscales of the CAMI were 25.00 ± 4.83 (CAMI-A), 36.39 ± 5.81 (CAMI-B), 25.00 ± 5.89 (CAMI-SR), 30.38 ± 6.40 (CAMI-CMHI). The Wilcoxon signed-rank test determined that there was a statistically

significant median decrease on the CAMI-A from time 2 (25.00 ± 4.83) to time 3 (23.96 ± 4.87), z = -3.175, p = 0.001 (two tailed). The median score on the CAMI-A decreased from time 2 (Md = 25) to time 3 (Md = 23.5). A statistically significant median decrease was also found for the CAMI-SR from time 2 (25.00 ± 5.89) to time 3 (24.05 ± 5.45), z = -2.579, p = 0.010 (two tailed). The median score on the CAMI-SR decreased from time 2 (Md = 25) to time 3 (Md = 24). All other measures of attitude change showed no significant differences from time 2 to time 3, 36.49 ± 5.65 (CAMI-B; p = 0.599), 30.15 ± 6.71 (CAMI-CMHI; p = 0.837).

4.6.4   SDS

Social Distance scale

4.6.4.1   Time 1 versus Time 2

At time 1 the combined average scores of the 74 police officers for SDS baseline measurements were 4.22 ± 0.66 for the substance abuse vignette, 3.45 ± 0.78 for the depression vignette, and 4.16 ± 0.72 for the schizophrenia vignette. The Wilcoxon signed-rank test determined that there were no statistically significant differences from time 1 and time 2 with post-training SDS scores being 4.12 ± 0.71 for the drug abuse vignette (p = 0.293), 3.49 ± 0.84 for the depression vignette (p = 0.311), and 4.10 ± 0.78 for the schizophrenia vignette (p = 0.936).

4.6.4.2   Time 1 versus Time 3

At time 1 the combined average scores of the 118 police officers for SDS baseline measurements were 4.14 ± 0.63 for the drug abuse vignette, 3.46 ± 0.70 for the depression vignette, and 4.16 ± 0.65 for the schizophrenia vignette. The Wilcoxon signed-rank test determined that there were no statistically significant differences from time 1 to time 3 with post-training SDS scores being 4.21 ± 0.67 for the drug abuse vignette (p = 0.232), 3.52 ± 0.79 for the depression vignette (p = 0.373), and 4.14 ± 0.74 for the schizophrenia vignette (p = 0.670).

4.6.4.3   Time 2 versus Time 3

At time 2 the combined average scores of the 148 police officers for SDS measurements were

4.07 ± 0.72 for the drug abuse vignette, 3.42 ± 0.79 for the depression vignette, and 4.04 ± 0.85 for the schizophrenia vignette. The Wilcoxon signed-rank test determined that there were no statistically significant differences from time 2 to time 3 with post-training SDS scores being 4.14 ± 0.69 for the drug abuse vignette (p = 0.281), 3.47 ± 0.77 for the depression vignette (p = 0.847), and 4.15 ± 0.78 for the schizophrenia vignette (p = 0.154).

4.6.5 Opinions of officers towards varying types of mental illness

The percent of police officers that confirmed negative statements can be found in Table 11. Statistical significance was found for:

4.6.5.1 Time 1 versus Time 2:

Substance abuse vignette, the statement "Have themselves to blame" decreased significantly from 36.5% to 21.6% (p = 0.022). In the Depression vignette the statement "A danger to others" decreased significantly from 31.1% to 20.5% (p = 0.033), and "Unpredictable" decreased significantly from 78.4% to 63.0% (p = 0.003).

4.6.5.2 Time 1 versus time 3

In the Depression vignette, the statement "Unpredictable" decreased significantly from 75.4% to 61.5% (p = 0.003), as did the statement "Feel different then others" decreased from 71.2% to 59.0% (p = 0.035).

4.6.5.3 Time 2 versus time 3

In the drug abuse vignette, the statement "A danger to others" increased significantly from 31.1% to 40.5% (p = 0.035), "Feel different than others" decreased significantly from 26.4% to 17.6% (p = 0.028), and "Can pull themselves together" decreased significantly from 61.5% to 48.6% (p = 0.010). In the Depression vignette, the statement "Can pull themselves together" decreased significantly from 60.5% to 50.7% (p = 0.027), "Are weak in character" decreased significantly

from 17.7% to 12.2% (p = 0.033) and in the schizophrenia vignette, the statement "Can pull themselves together" decreased significantly from 29.9% to 19.0% (p = 0.009).

Table 11. Opinions of Officers Towards Varying Types of Mental Illness

1 versus 2 (n = 74)		

People with an addiction are:

A danger to others	29 (39.2)	23 (31.1) p = 0.221
Unpredictable	65 (87.8)	65 (87.8) p = 1.000
Hard to talk to	18 (24.3)	19 (25.7) p = 0.819
Feel different than others	16 (21.6)	21 (28.4) p = 0.275
Have themselves to blame	27 (36.5)	16 (21.6) p = 0.022*
Can pull themselves together	44 (59,5)	43 (58.1) p = 0.835
Will not improve if treated	8 (10.8)	11 (14.9) p = 0.405
Will never recover	1 (1.4)	4 (5.4) p = 0.180
Are weak in character	24 (32.4)	19 (25.7) p = 0.166

People with severe depression are:

A danger to others	23 (31.1)	15 (20.5)[a] p = 0.033*
Unpredictable	58 (78.4)	46 (63.0)[a] p = 0.003*
Hard to talk to	37 (50.0)	32 (43.8)[a] p = 0.371
Feel different than others	51 (68.9)	50 (68.5)[a] p = 1.000
Have themselves to blame	5 (6.8)	7 (9.6)[a] p = 0.480
Can pull themselves together	43 (58.1)	45 (61.6)[a] p = 0.513
Will not improve if treated	8 (10.8)	14 (19.2)[a] p = 0.109
Will never recover	2 (2.7)	1 (1.4)[a] p = 0.564
Are weak in character	13 (17.6)	14 (19.2)[a] p = 0.763

People with schizophrenia are:

A danger to others	49 (66.2)	43 (58.9)[a] p = 0.180
Unpredictable	72 (97.3)	68 (93.2)[a] p = 0.257
Hard to talk to	51 (68.9)	51 (69.9)[a] p = 0.835
Feel different than others	47 (63.5)	48 (65.8)[a] p = 0.715
Have themselves to blame	3 (4.1)	4 (5.5)[a] p = 0.655
Can pull themselves together	19 (25.7)	27 (37.0)[a] p = 0.059
Will not improve if treated	11 (14.9)	14 (19.2)[a] p = 0.405
Will never recover	7 (9.5)	6 (8.2)[a] p = 0.705
Are weak in character	9 (12.2)	9 (12.3)[a] p = 1.000

1 versus 3 (n = 118)

People with an addiction are:

A danger to others	45 (38.1)	48 (40.7) p = 0.622
Unpredictable	106 (89.8)	107 (90.7) p = 0.796
Hard to talk to	29 (24.6)	20 (16.9) p = 0.095
Feel different than others	29 (24.6)	29 (24.6) p = 1.000
Have themselves to blame	37 (31.4)	36 (30.5) p = 0.869
Can pull themselves together	75 (63.6)	69 (58.5) p = 0.366
Will not improve if treated	10(8.5)	11 (9.3) p = 0.827
Will never recover	1 (0.8)	1 (0.8) p = 1.000
Are weak in character	37 (31.4)	38 (32.2) p = 0.847

People with severe depression are:

A danger to others	32 (27.1)	25 (21.4)[a] p = 0.194
Unpredictable	89 (75.4)	72 (61.5)[a] p = 0.003*
Hard to talk to	56 (47.5)	48 (41.0)[a] p = 0.262
Feel different than others	84 (71.2)	69 (59.0)[a] p = 0.035*
Have themselves to blame	9 (7.6)	9 (7.7)[a] p = 1.000
Can pull themselves together	74 (62.7)	77 (65.8)[a] p = 0.639
Will not improve if treated	10 (8.5)	13 (11.1)[a] p = 0.491
Will never recover	2 (1.7)	1 (0.9)[a] p = 0.564
Are weak in character	19 (16.1)	17 (14.5)[a] p = 0.593

People with schizophrenia are:

A danger to others	79 (66.9)	74 (63.2)[a] p = 0.336
Unpredictable	115 (97.5)	107 (91.5)[a] p = 0.052
Hard to talk to	79 (66.9)	65 (55.6)[a] p = 0.058
Feel different than others	82 (69.5)	72 (61.5)[a] p = 0.180
Have themselves to blame	3 (2.5)	4 (3.4)[b] p = 0.655
Can pull themselves together	33 (28.0)	32 (27.4)[a] p = 0.866
Will not improve if treated	14 (11.9)	15 (12.8)[a] p = 0.819
Will never recover	11 (9.3)	6 (5.1)[a] p = 0.096
Are weak in character	14 (11.9)	10 (8.5)[a] p = 0.317

2 versus 3 (n = 148)

People with an addiction are:

A danger to others	46 (31.1)	60 (40.5) p = 0.035*
Unpredictable	126 (85.1)	128 (86.5) p = 0.670
Hard to talk to	24 (16.2)	21 (14.2) p = 0.549
Feel different than others	39 (26.4)	26 (17.6) p = 0.028*
Have themselves to blame	33 (22.3)	39 (26.4) p = 0.289
Can pull themselves together	91 (61.5)	72 (48.6) p = 0.010*
Will not improve if treated	14 (9.5)	12 (8.1) p = 0.655
Will never recover	5 (3.4)	2 (1.4) p = 0.083
Are weak in character	33 (22.3)	38 (25.7) p = 0.384

People with severe depression are:

A danger to others	26 (17.7)[a]	32 (21.6) p = 0.257
Unpredictable	101 (68.7)[a]	97 (65.5) p = 0.546
Hard to talk to	59 (40.1)[a]	52 (35.1) p = 0.307
Feel different than others	90 (61.2)[a]	79 (53.4) p = 0.102
Have themselves to blame	13 (8.8)[a]	9 (6.1) p = 0.157
Can pull themselves together	89 (60.5)[a]	75 (50.7) p = 0.027*
Will not improve if treated	17 (11.6)[a]	14 (9.5) p = 0.513
Will never recover	1 (0.7)[a]	2 (1.4) p = 0.564
Are weak in character	26 (17.7)[a]	18 (12.2) p = 0.033*

People with schizophrenia are:

A danger to others	84 (57.1)[a]	95 (64.6)[a] p = 0.090
Unpredictable	136 (93.2)[b]	137 (93.2)[a] p = 1.000
Hard to talk to	100 (68.0)[a]	90 (61.2)[a] p = 0.132
Feel different than others	96 (65.3)[a]	82 (55.8)[a] p = 0.080
Have themselves to blame	5 (3.4)[a]	5 (3.4)[b] p = 1.000
Can pull themselves together	44 (29.9)[a]	28 (19.0)[a] p = 0.009*
Will not improve if treated	22 (15.0)[a]	23 (15.6)[a] p = 0.853
Will never recover	8 (5.4)[a]	5 (3.4)[a] p = 0.257
Are weak in character	14 (9.5)[a]	11 (7.5)[a] p = 0.366

[a] One officer left this question blank
[b] Two officers left this question blank
* statistical significance

4.6.6   Demographic influence on attitudes at time 1, 2 and 3

   4.6.6.1   Bivariate Correlations

The relationship between attitudes on the CAMI and SDS and independent factors such as age, education, gender, and years as a police officer was investigated. A Spearman's rank-order correlation was run to assess the relationship between demographic variables and attitudes towards mental illness. Preliminary analysis showed the relationships to be monotonic, as assessed by visual inspection of a scatterplot.

At time 1 without controlling for trained officers, there was a positive correlation between Years as a Police Officer and CAMI-SR, r_s (304) = 0.146, p = 0.015, Years as a Police Officer and SDS-Depression, r_s (304) = 0.187, p = 0.001, Years as a Police Officer and SDS-Schizophrenia, r_s (304) = 0.139, p = 0.015, Gender and CAMI-B r_s (307) = 0.146 p = 0.010.

At time 2, without controlling for trained officers, there was a negative correlation between Age and CAMI-A, r_s (367) = -0.119, p = 0.023, and Age and SDS-Addiction, r_s (366) = -0.170, p = 0.001.

At time 3, without controlling for trained officers, there was a negative correlation between Age and CAMI-A, r_s (499) = -0.101, p = 0.024, Age and (SDS-Addiction), r_s (498) = -0.092, p = 0.040, gender and CAMI-A, r_s (502) = -0.089, p = 0.046, Gender and CAMI-SR, r_s (500) = -0.101, p = 0.024, Gender and (SDS-Addiction), r_s (500) = -0.088, p = 0.049 and a positive relationship between Age and CAMI-B, r_s (499) = 0.127, p = 0.004, Years as a police officer and SDS-Depression, r_s (493) = 0.091, p = 0.043.

When controlling for trained officers, using a partial correlation, all of the previous correlations at time 2 and time 3 were washed out. This tells us that the independent variables, such as Age, Gender, and Years as an officer are better predictors of attitudes than controlling for individuals who took training or not at time 2 and 3. Because of this, no further analysis was conducted in regards to the independent variables of Age, Gender, Years as a police officer and Education.

4.6.6.2   ANOVA: Division

One way ANOVA and Two Factor ANOVA were carried out in regards to police officer Division of work.

4.6.6.2.1   One Way ANOVA

A one-way ANOVA was conducted to determine if the CAMI and SDS attitudes towards mental illness were different for divisions. Participants were classified into five groups: North (n = 117), South East (n = 83), South West (n = 95), West (n = 101) and Downtown (n = 103). There were outliers, as assessed by cases with standardized residuals greater than ±3 standard deviations, and they were removed. Data was normally distributed for each group, as assessed by skewness and kurtosis, and there was homogeneity of variances, as assessed by Levene's test of homogeneity of variances ($p > 0.05$).

There were no statistically significant differences in CAMI-A scores between divisions, $F_{(4,496)}$ = 0.612, p = 0.654, CAMI-B scores and division $F_{(4,494)}$ = 1.821, p = 0.124, CAMI-SR and Division, $F_{(4,492)}$ = 0.697, p = 0.594, CAMI-CMHI and Division $F_{(4,494)}$ = 2.104, p = 0.079, and SDS-Addiction, $F_{(4,493)}$ =1.994, p = 0.094.

There were statistically significant differences in SDS-depression score between the divisions, $F_{(4,490)}$ = 3.887, p = 0.004. Data is presented as mean ± standard deviation. SDS-depression score was significantly different between North (3.57 ± 0.60) and Southeast (3.27 ± 0.75). Tukey post-hoc analysis revealed that the increase (2.1, 95% CI (0.24 to 4.05)) was statistically significant (p = .019). As well, statistical significance was found between Downtown (3.57 ± 0.75) and Southeast (3.27 ± 0.75). Tukey post-hoc analysis revealed that the increase (2.15, 95% CI (0.21 to 4.09)) was statistically significant (p = 0.022).

In regards to SDS-Schizophrenia, there were statistically significant differences between the divisions, $F_{(4,493)}$ = 3.048, p = 0.017. Data is presented as mean ± standard deviation. SDS-Schizophrenia between Downtown (4.25 ± 0.71) and Southeast (3.93 ± 0.84). Tukey post-hoc analysis revealed that the increase (-0.42, 95% CI (-0.82 to -0.26)) was statistically significant (p = 0.030).

Even though other factors did not predict attitudes at time 3, when controlling for training, a two factor ANOVA was performed using officer attitudes as a dependent variable and division officers work in as the independent variable, controlling for training. There were two outliers in the data, as assessed by cases with standardized residuals greater than ±3 standard deviations. Both were removed. CAMI-B measures were normally distributed as assessed by Skewness and Kurtosis. There was homogeneity of variances, as assessed by Leven's Test of Homogeneity of Variance (p = 0.394). There was a statistically significant interaction between Division for CAMI-B measures $F_{(4, 490)} = 3.704$, p = 0.006, partial $\eta 2 = 0.029$.

In this section data are mean ± standard error, unless otherwise stated. For participants in North division, officers who took training had statistically significant greater CAMI-B scores (2.8 ± 0.99) than officers in North Division who did not take training $F_{(1, 490)} = 8.082$, p = 0.005, partial $\eta 2 = 0.016$. This correlates to individuals who took training in North Division to have greater compassion and empathetic attitudes towards individuals with mental illness compared to their counterparts who did not take training.

There were three outliers in the CAMI-CMHI data, as assessed by cases with standardized residuals greater than ±3 standard deviations. All were removed. CAMI-CMHI measures were normally distributed as assessed by Skewness and Kurtosis. There was homogeneity of variances, as assessed by Leven's Test of Homogeneity of Variance (p = 0.320). There was a statistically significant interaction between Division for CAMI-CMHI measures $F_{(4, 489)} = 2.539$, p = 0.039, partial $\eta 2 = 0.020$. Data are mean ± standard error, unless otherwise stated. For participants in North division, officers who took training had a statistically significant greater CAMI-CMHI score (2.619 ± 1.264) than officers who did not take training $F_{(1, 489)} = 4.292$, p = 0.039, partial $\eta 2 = 0.009$. This correlates to individuals who took training in North Division to have greater levels of acceptance to mental health services in the community.

There was no statistically significant difference between Division for CAMI-A measures, $F_{(4, 490)} = 0.918$, p = 0.453, partial $\eta 2 = 0.007$, Division and CAMI-SR measures, $F_{(4, 488)} = 0.530$, p = 0.714, partial $\eta 2 = .004$, Division and SDS-Addiction (transformed), $F_{(4, 483)} = 2.126$, p =

0.076, partial $\eta2 = 0.017$. Division and SDS-Depression, $F(4, 486) = 1.567$, $p = 0.182$, partial $\eta2 = 0.013$, and Division and SDS-Schizophrenia (transformed), $F(4, 481) = 2.01$, $p = 0.092$, partial $\eta2 = 0.016$.

4.7 Discussion

The objective of this article was to analyze how attitudes change 2.5 years after a novel mental health-training program was implemented in 2011 and to understand the relationship that demographic characteristics play on attitudes towards mental illness. Attitudes towards mental illness have not been studied extensively in the past, especially longitudinal approaches. Interestingly, these results suggest that the effects of this mental health-training program are long-lasting, with increased self-reported police officer confidence levels of 31.6% ($p < 0.0005$) from time 1 (baseline) to time 3 (2.5 years) following training, with greater confidence in those officers trained versus not trained ($p = 0.037$). As well, from time 1 to time 3, mental illness recognition significantly increased towards individuals with depression, bipolar disorder, and anxiety disorder. In regards to attitudes towards mental illness on the Community Attitudes Towards Mental Illness scales, Social Restrictiveness, i.e. the belief that individuals with mental illness are dangerous and threatening, significantly increase from time 1 to time 2 however, after 2.5 years, this increase returns back to what it was before. Authoritarian attitudes, i.e. pessimistic beliefs towards individuals with mental illness, do not change from time 1 to time 2, however, significantly decrease from time 1 to time 3, suggesting that over 2.5 years, attitudes do change and become less authoritative.

Social Distance towards Depression, Addiction and Schizophrenia do not change over the 2.5 year time frame, however, negative statements associated with these vignettes found decreased stigma and increased understanding. More specifically 6 months post training, officers changed their attitudes towards individuals with substance abuse, believing that it is not their fault, and continuing 2.5 years post training, with the understanding that individuals with drug abuse issues feel different then others. Attitudes towards Depression were also found to improve with officers believing more so that individuals with depression are not a danger to others, nor are they unpredictable and are not weak in character. As well, there was a continued belief from time 2 to

time 3 that individuals with depression and schizophrenia needed help, and could not pull themselves together on their own.

Differences in attitudes between divisions was found only towards Depression and Schizophrenia, namely that officers in North and Downtown divisions have increased social distance towards Depression compared to South East Division, and Downtown officers portray greater social distance towards schizophrenia than South East. When controlling for training, demographic influences that police officers possess towards those with mental illness was found to only be affected by training in North Division Police Officers with findings that officers in North Division who took training have increased compassion, empathy and acceptance of community resources in dealing with mental illness. Interestingly our training program was able to influence attitudes towards mental illness in this "high crime" Division in Edmonton, Alberta.

Although training did not account for differences in attitudes towards those with mental illness, at time 1, without controlling for training, the more years as a police officer is associated with increased belief that those with mental illness are dangerous and threatening (CAMI-SR), and there was found to be increased social distance towards depression (SDS-Depression) and schizophrenia (SDS-Schizophrenia). This initial trend is consistent with previous research explaining that older officers have more authoritarian attitudes compared to younger officers. As well, women were found to have greater compassion and empathy for individuals with mental illness (CAMI-B) then compared to men.

Interestingly, at time 2, 6 months after the original questionnaire, this trend changes, where younger officers are found to have greater pessimistic and authoritative attitudes towards mental illness (CAMI-A) then older officers, and to have more social distance towards those with addiction (SDS-Addiction).

Finally at time 3, this trend continues finding younger officers to have greater pessimistic and authoritative attitudes towards mental illness (CAMI-A), more social distance towards those with addiction (SDS-Addiction), and less compassionate and empathetic attitudes towards those with

mental illness (CAMI-B). Perhaps this change correlates to the acceptance of training in older police officers and a rejection in attitude change in younger officers.

At time 3, females had less pessimistic and authoritative attitudes than males (CAMI-A), less beliefs that individuals with mental illness are dangerous and threatening (CAMI-SR), and less social distance towards those with addiction (SDS-Addiction). As well, less experienced officers had lower social distance towards those with depression (SDS-Depression). Other research that looks at gender find no gender differences in authoritarianism (Loch, 2008), while more years of service and being female has correlated to negatively effect levels of authoritarianism (Stanfield, 2005).

We believe that our training program contributes to officers increased confidence in interacting with those with mental illness, however, our results are inconsistent with the belief that older officer have more authoritative attitudes towards mental illness, and consistent with (Patrick, 1978), who found older officers to have less stigma towards mental illness. Interestingly, although no correlational measures are in effect when controlling for individuals who took our training, there was a sudden change following training that enabled older officers to become less authoritative then younger officers. Perhaps police culture is changing, and following training, where researchers trained EPS trainers, the trainers may have continued the understanding nature in dealing with individuals suffering from mental illness by continuing to teach this further in their training efforts. As well, research shows that older officers have the ability to influence younger officer attitudes (Johnson, 2011) which can further develop positive views towards those with mental illness in the police organization.

 Our previous results suggest that changing attitudes does not correlate to changing behaviours (Krameddine et al., 2013), and it is difficult to assess whether attitude changes affect behaviour. Limitations to this study involve the lack of behavioural data needed to understand how behaviours change over time, as well as the lack of control groups at time 1 and time 2.

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5 Police use of handcuffs in the homeless population leads to long-term negative attitudes within this group

5.1 Abstract

The police interact with homeless individuals frequently. However, there has been relatively little research on the attitudes of homeless individuals towards the police, and how police interactions may impact these. This is important since the attitudes of homeless individuals can impact how often they report crimes, and how well they support police when they are investigating crimes in this population. We interviewed 213 homeless individuals in a single city, representing approximately 10% of the entire total homeless population. They were interviewed at either homeless shelters, or events held specifically for the homeless population. Of these individuals, 75% were male, and 47% had interacted with a police officer within the past month. Self-reports suggested 60% had a drug and/or alcohol issue and 78% had a mental illness. We found a highly statistically significant difference between the group that had been handcuffed and/or arrested compared to those that had not. This was across multiple domains and included how the individual regarded the police in terms of their empathy and communication skills, and how much they trusted the police. These changes were long-term, and if a homeless individual had been arrested or handcuffed (and verbal reporting suggested being handcuffed was by far the most important factor) then these negative attitudes lasted at least 2 years. The primary conclusion from this study is that when police handcuff a homeless individual, this can lead to long-term negative views about the police across several domains that appear to be long lasting, and were linked to feelings of not being respected by the police. It is therefore proposed that police officers should be made aware of the potential long-term negative consequences of this single action, and that police forces should consider providing specific training to minimize any unnecessary overuse of handcuffs.

5.2 Introduction

In our initial studies we had anecdotal reports that after the training program (Sections 4 and 5; Krameddine et al., 2013; Silverstone et al., 2013) police had better interactions with those individuals with mental illness who were homeless. For this reason, we believe that it is

important to try and determine the veracity of these anecdotal comments. This is the primary purpose of this section of research.

Homelessness is a growing problem in Canada, with a recent study concluding there are at least 30,000 homeless individuals on any given night, with as many as 300,000 individuals homeless at some point in the last year (Gaetz et al., 2013). A 2012 study in the city where this research was carried out suggested that in the previous year 0.3% of the population was homeless with the total homeless population being 2,174 (Sorensen, 2013). One study found that homeless individuals have increased rates of psychiatric problems, with 30% of homeless individuals having a mental illness, a figure more than two times greater than that in non-homeless populations (Cougnard et al., 2006). Another study suggested that 23% of 420 homeless individuals had a lifetime DSM-III diagnosis, with 46% of this population scoring high on a symptom checklist, although this group did not attempt to obtain a more specific psychiatric diagnosis (Toro et al., 1999). Interestingly, another group suggested that 63% of mentally-ill research participants claimed to be homeless, and that 1 in 20 police interactions involve individuals with mental illness (Brink et al., 2011).

Police come into increased contact with homeless individuals because they are found to have both high arrest rates regarding trespassing, theft, and loitering (Fischer, 1988; Martell et al., 1995; Tolomiczenko & Goering, 2001), and higher rates of victimization (Kushel et al., 2003; Lee & Schreck, 2005). The responsibility of a police officer is to enforce control, prevent negative occurrences, and maintain safety through intervention (Cordner & Scarborough, 2010). They do this by attempting to prevent crime and by supporting individuals in their designated policing communities. This role positions police to be the first-line emergency responders to those who have committed an offense, or who are in distress.

With these increased risks, it is to be expected that homeless and vulnerable persons have increased rates of interacting with police services. Research has been conducted concerning the perceptions and attitudes that officers have towards those with mental illness, and have found that officer's attitudes are similar to those held by the general public (Cotton, 2004; Finkelstein et al., 2008; Krameddine et al., 2013; Taylor & Dear, 1981). Additionally, mental health training

programs for police officers have been established to improve interactions between these groups, with some reporting improved police attitudes (Compton et al., 2008; Corrigan et al., 2012; Hansson & Markstrom, 2014; Pinfold et al., 2003) and behaviour (Compton et al., 2008; Compton et al., 2014; Girard et al., 2014; Krameddine et al., 2013; Prenzler et al., 2013) towards those with mental illness.

To date, however, there has been relatively little research regarding the attitudes of the homeless population towards the police. Previous evidence suggests that this group of individuals usually have negative evaluations of the police (Jones & Mason, 2002; Tyler, 2001), however a more recent Canadian study interviewed 60 individuals with mental illness finding that 72% were satisfied with their most recent police interaction (Livingston et al., 2014). Another study found that individuals with mental illness hold more negative attitudes towards the police, and they rate police performance poorly and have lower levels of confidence in the police when compared to views held by the general public (Brink et al., 2011). In a further study, homeless individuals stated they were fearful of police (Watson et al., 2008), and had decreased levels of trust in police compared to paramedics because of previous negative experiences, and were thus less likely to call police when in need of help (Zakrison et al., 2004). These studies were generally in smaller groups of homeless individuals and only Watson et al. (2008) examined the aspects of police behaviour that influence this, finding that the level of perceived respect and fairness largely affects the outcome of each interaction. However they did not assess how this may be linked to the presence of a mental illness. For this reason, in the present study homeless individuals were surveyed to document the individual's most recent interaction with the local police service (Edmonton Police Service (EPS)). Measurement was also made regarding whether or not the individuals had been arrested or handcuffed, and whether or not they described themselves as having a mental illness.

5.3 Methods

The University of Alberta Research Ethics Board approved this research, and informed consent was received from all individuals who took part in this study prior to their participation.

5.3.1 Recruitment of study participants

The study sample was recruited from 7 not-for-profit shelters, drop-in centers, and events for homeless individuals during the period April – October 2013 in Edmonton, Alberta, Canada. Community members were required to be over the age of 18 and to have had a police interaction in the last 2 years. Researchers approached participants at these shelters and events, and individuals were informed that the research was to assess "how the Edmonton Police Service interacts with people." To maintain confidentiality, subjects did not disclose their name or other personal identifying information. Individuals were asked about their psychological status and whether or not they have interacted with the police. A total of 213 individuals agreed to take part in the police interaction part of the study, while 172 completed the psychological portion of the survey. This survey sample is therefore very close to being 10% of the total city homeless population of 2,147 (Sorensen, 2013).

5.3.2 Survey methodology

Survey questions were read to consenting individuals, and answers were recorded verbatim. Demographic information about age and gender were obtained, and individuals were asked if they had any interactions with a police officer for any reason, and when these interactions had occurred. The study subjects were asked what happened after their most recent police interaction, and it was only this interaction that was recorded. Individuals were then asked if any physical or weapon force was used, how satisfied or dissatisfied they felt after the interaction, and if they felt police, in general, were kind, helpful, sympathetic, unhelpful, mean, or rude (See Table 12 for full survey).

Table 12. Homeless and Vulnerable Persons Survey Form

"Hello, I am from the University of Alberta and we are trying to find out how the Edmonton Police Service interacts with people, and then give feedback to them. To help us understand this better, may I ask you about 15 - 20 questions?"

---

1) Sex: [ ] Male [ ] Female

2) Age: *"How old are you?"* [   ]

3) *"Have you spoken to any police officer for any reason within the last 2 years? If yes, when?"*

[ ] This past week   [ ] More than a year ago

[ ] This month   [ ] No, I have not spoken to any police officer within the last 2 years

[ ] Within the last 3 months   [ ] Other

[ ] More than 3 months but this year   _____

4) *"Thinking of the most recent police interaction only, how did you feel afterwards?" (Check ONLY ONE)*

[ ] Completely satisfied/grateful for the help of the police   [ ] Dissatisfied

[ ] Satisfied   [ ] Completely dissatisfied, police are completely unhelpful

[ ] Not good or bad   [ ] Other _____

5) *"What happened __AFTER__ the police interaction? Were you taken anywhere or given a ticket?"* (Check all that apply*)*

[ ] I was *arrested* (please share more)   _____

[ ] I was *taken to* the Spadey/Boyle/Hope mission/other *shelter*

[ ] I was *not taken anywhere*, police interacted with me and then left but I *received a ticket*

[ ] I was *not taken anywhere*, police interacted with me and then left, *no ticket given*

[ ] I was *taken to hospital*. If you were, why?   _____

[ ] Other   _____

6) *"Was any physical force used or were any weapons threatened or used?" (Open ended question, don't give examples)*

[ ] Physical force: Baton used   [ ] Weapon force: Gun low ready

[ ] Physical force: Strike (with hand)   [ ] Weapon force: Gun pointed

[ ] Physical force: Take down   [ ] Weapon force: Gun shot

[ ] Physical force: Holding technique/ joint manipulation   [ ] No force was used

[ ] Weapon force: Taser out, low ready   [ ] Other

[ ] Weapon force: Taser pointed   _____

[ ] Weapon force: Taser shot   _____

7) "On a scale from 0 to 100, 0 being extremely bad and 100 being really good, how were police at being able to understand and share your feelings?" *(ask them to score a percentage then translate to the scale below)*

Police were   _____   Police were very
not friendly   friendly
                              0   1   2   3   4   5   6   7   8   9   10

8) "On a scale from 0 to 100, 0 being extremely bad and 100 being really good, how were the police at communicating with you so that you knew what was happening and why?" *(ask them to score a percentage then translate to the scale below)*

Police were very   _____   Police were
poor at communication   very good at
                              0   1   2   3   4   5   6   7   8   9   10   communication

9) "On a scale from 0 to 100, how much did you trust the police officer after the interaction? 0 being no trust at all and 100 being lots of trust?" *(ask them to score a percentage then translate to the scale below)*

I didn't trust   _____   I trusted the
police at all   police a lot
        0   1   2   3   4   5   6   7   8   9   10

10) "On a scale from 0 to 100, how did you feel after the interaction, 0 being really angry and 100 being very happy? *(ask them to score a percentage then translate to the scale below)*

Angry   _____   Happy
        0   1   2   3   4   5   6   7   8   9   10

11) "Would you say that police are…" (ask one by one, checking all that apply)

[ ] Kind   [ ] Unhelpful   [ ] I have not interacted enough with police to have an opinion about them
[ ] Helpful   [ ] Mean   [ ] Other   _____
[ ] Sympathetic   [ ] Rude   _____

12) "On a scale from 0 to 100, what is your overall confidence in police, 0 being not confident at all and 100 being very confident?" *(ask them to score a percentage then translate to the scale below).*

I am not confident   _____   Very
  at all   confident
        0   1   2   3   4   5   6   7   8   9   10

13) "On a scale from 0 to 100, what is the overall impact police have had on your life? 0 being your life is much worse because of police or 100 being your life is much better?" *(ask them to score a percentage then translate to the scale below)*

My life is   _____   My life is extremely
much worse   better
        0   1   2   3   4   5   6   7   8   9   10

14) "What do you believe police should know, that they do not already, that will help them better perform their job?"

_____
_____
_____

15) "Thank you. Would you now also be willing to answer some more questions about your psychological health?"
YES….[ ]   NO [ ]   (if answer NO then thank them and end questions) * very important to fill out this question

If Yes: "Have you ever been diagnosed with…" **(ask one by one checking all that apply).**

[ ] Addictions: Alcohol   [ ] Anxiety Disorder   [ ] *Anything else you want to share with us?*(Other)
[ ] Addictions: Drugs   [ ] Depression   _____
[ ] Bipolar Disorder   [ ] Schizophrenia   [ ] Yes I would be willing but I have *NO DIAGNOSIS*

5.3.3 Behavioural measurements

Subjects were asked to rate their most recent interaction with the police on a scale from 0 to 100 (0 = extremely bad and 100 = excellent), in terms of:

- *Empathy* ("how were police at being able to understand and share your feelings")
- *Communication* ("how were the police at communicating with you so that you knew what was happening and why")
- *Trust* ("how much did you trust police after the interaction")
- *Emotional State* ("how did you feel after the interaction")
- *Confidence level* ("what is your overall confidence in police")
- *Overall Impact* ("what is the overall impact police have had on your life").

Subjects were also asked "what do you believe police should know that they do not already know, that will help them better perform their job?"

5.3.4 Psychological analysis

After the discussion of police interactions, subjects were asked if they would be willing to answer questions about their own psychological health. If they consented to take part in this section, they were specifically asked if they have ever been diagnosed with an alcohol disorder, drug disorder, bipolar disorder, anxiety disorder, depressive disorder, schizophrenia, any other disorder, or no disorder. Independent confirmation of these diagnoses was not obtained.

5.3.5 Statistical Analyses

Independent samples Students *t*-tests were used for comparison between measurements. For statistical analyses, SPSS Version 21 was used (SPSS Inc. Chicago, IL, USA).

5.4 Results

A total of 213 individuals participated in the survey of police attitudes, and 172 completed the psychological component.

Police interaction responses

The sample (n=213) had a mean age of 42.0 years (SD= 12.5), and of these 75% were male. Regarding the time frame of their most recent interaction with the police, 27% had interacted with a police officer that week, 20% that month, 18% greater than a month but within the last 3 months, 15% more than three months but less than a year, 16% more than a year but less than two years and 3% more than 2 years (Table 13).

Table 13. Characteristics of Community Members and Self-Reported Measurements of Police Interactions

Characteristic	Mean (±SD), n (%)
Gender, n (%)	
Male	158 (75%)
Female	52 (25%)
Mean age at time of survey (SD)[a]	41.89 (±12.48) Range 18-75 years
Most recent police interaction, n (%)	
This week	58 (27%)
This month	42 (20%)
Within the last 3 months	38 (18%)
More than 3 months but this year	32 (15%)
More than a year, within two years	35 (16%)
More than 2 years	7 (3%)
How did you feel after interaction, n (%)	
Completely satisfied	18 (8.5%)
Satisfied	48 (22.5%)
Not good or bad	15 (7%)
Dissatisfied	64 (30%)
Completely dissatisfied	68 (32%)
How would you describe officers, n (%) (choose all that apply)	
Kind	100 (46.9%)
Helpful	126 (59.2%)
Sympathetic	71 (33.3%)
Unhelpful	103 (48.3%)
Mean	120 (56.3%)
Rude	138 (64.8%)
Use of force, n (%) (choose all that apply)	
Physical force	39 (18.3%)
Weapon force	5 (2.4%)
No force	172 (80.8%)
What happened after/during the interaction, n (%)	
Arrested or handcuffed	59 (27.7%)
Received ticket	32 (15%)
Taken to shelter/hospital	9 (4.2%)
Nothing, interacted then left	104 (48.9%)
Nothing, was observing	4 (1.9%)
Was assaulted	3 (1.4%)
My child was taken away	2 (0.9%)

n = 213
[a] 5 participants did not answer this question

Overall, level of satisfaction after recent police interaction was positive in 31%, neutral in 7%, and negative in 62% of cases with 47% describing officers as kind, 59% helpful, 33% sympathetic, 48% unhelpful, 56% mean, and 65% rude (Table 13). The homeless individuals reported that no force was used in 81% of interactions, with at least one type of physical force being used in 18%, and weapon force in 2% (Table 13) (a conducted energy weapon (CEW)/Taser was taken out in 1 interaction, a CEW/Taser was pointed in 1 interaction, a CEW/Taser was deployed in another 1 interaction, a gun was taken out but not used in 1 further interaction, and a gun was taken out and pointed in another interaction). Physical force was defined as: baton used (2%), strike with hand (8%), "Take down", where police swiftly brought an individual to the ground from a standing position (10%), and holding technique (7%).

The outcome of these interactions ended in 28% arrests/handcuffs, 15% receiving a ticket and being left where they were, 49% were left where they were with no ticket, 4% taken to a shelter or hospital, 2% were not the primary focus of the police interaction, 1% claim they were assaulted, and 1% of cases stated their children were taken away (Table 13). Although recordings were of either an arrest or being handcuffed, spontaneous feedback strongly suggested that the impact of being handcuffed was very important to individuals, and was remembered for at least a 2-year period. Being handcuffed, specifically, seemed to negatively affect future attitudes towards the police significantly.

5.4.1   Behavioural measurements

The measurements (Mean ± Standard Deviation) of how the homeless population viewed police are shown in Figures 9-14. It can be seen there was a wide range, with a mean empathy score of (42 ± 39), a mean communication score of (50 ± 39), a mean trust score of (38 ± 40), a mean emotional state (mood) score (40 ± 37), a mean confidence score of (42 ± 36), and a mean life impact score of (41 ± 35). For all of these ratings there was a peak at both extremes and in the middle (Figures 9-14), but for some this was fairly negative.

Figure 9. Subject Empathy Ratings of Police
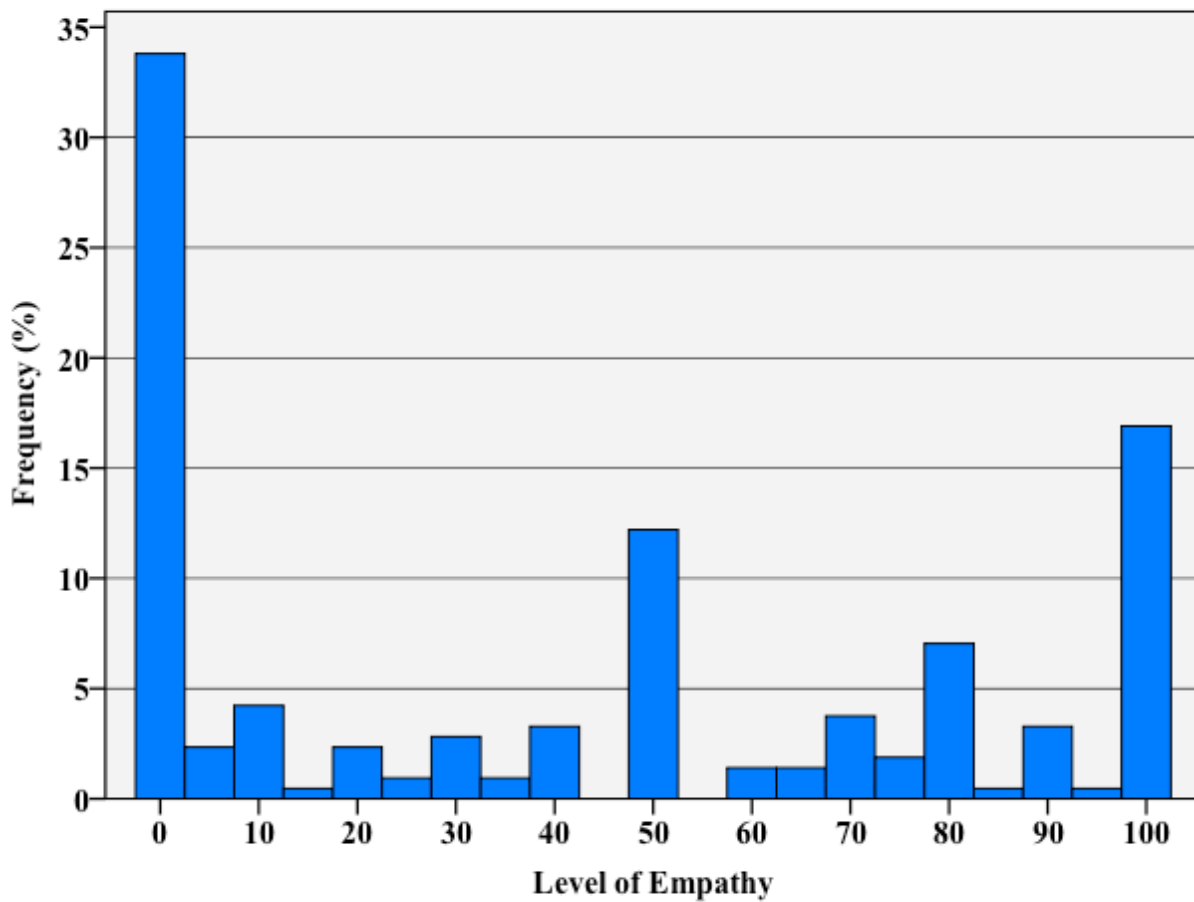
This shows how much percent of subjects rated police at each level of empathy. The empathy scale used in this present study asked subjects "How were police at being able to understand and share your feelings in your most recent police interaction?" Measurements were determined using a rating scale from 0 (police were extremely bad) to 100 (police were excellent). The lower the rating, the less the subject felt the police were empathetic on their most recent police interaction. (42.1 ± 39.2), n = 213.

Figure 10. Subject Communication Ratings of Police
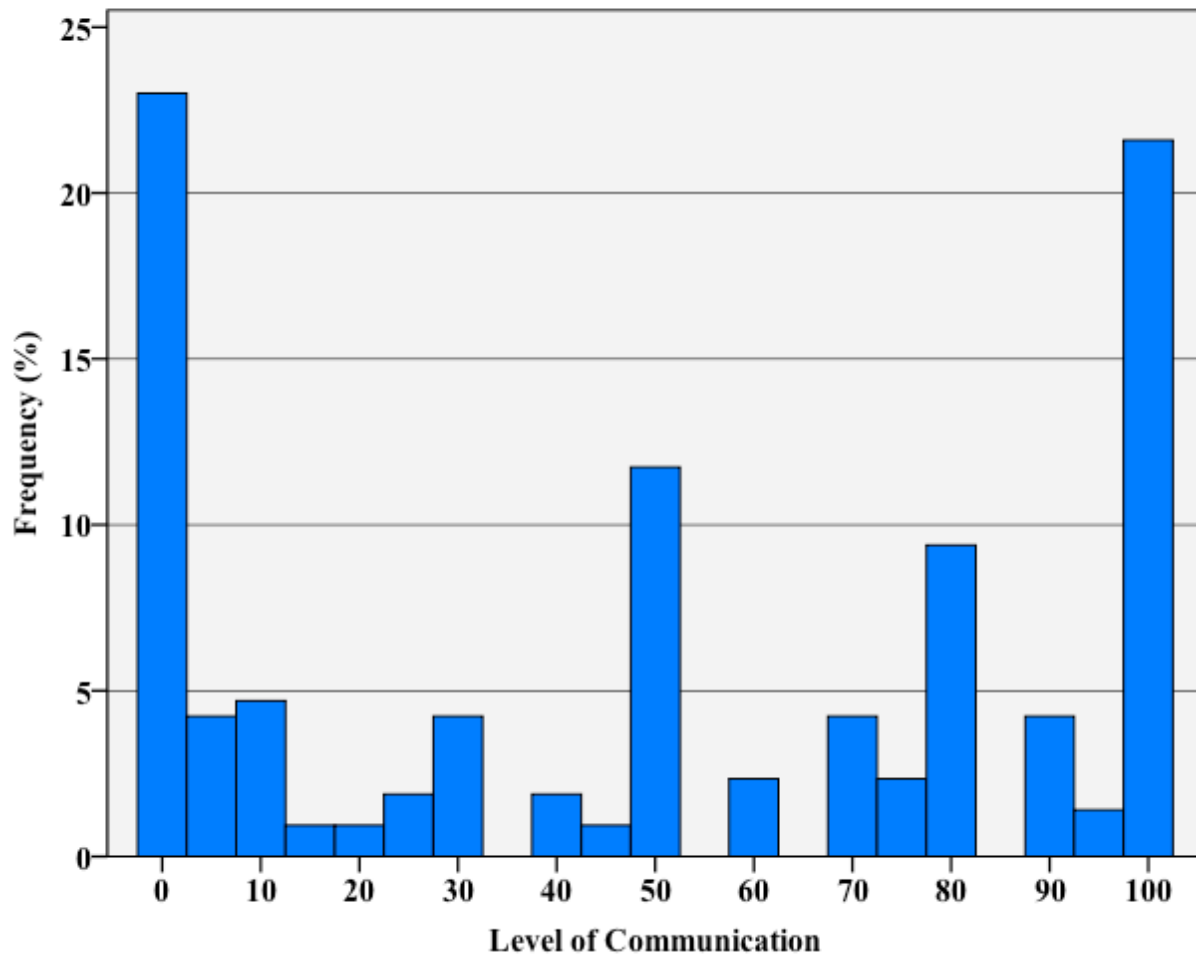
This shows how much percent of subjects rated police at each level of communication. The communication scale used in this present study asked subjects "How were police at communicating with you so that you knew what was happening and why during your most recent police interaction?" Measurements were determined using a rating scale from 0 (police were extremely bad) to 100 (police were excellent). The lower the rating, the less the subject felt the police were communicative on their most recent police interaction. (50.2 ± 39.3), n = 213.

Figure 11. Subject Trust Ratings in Police
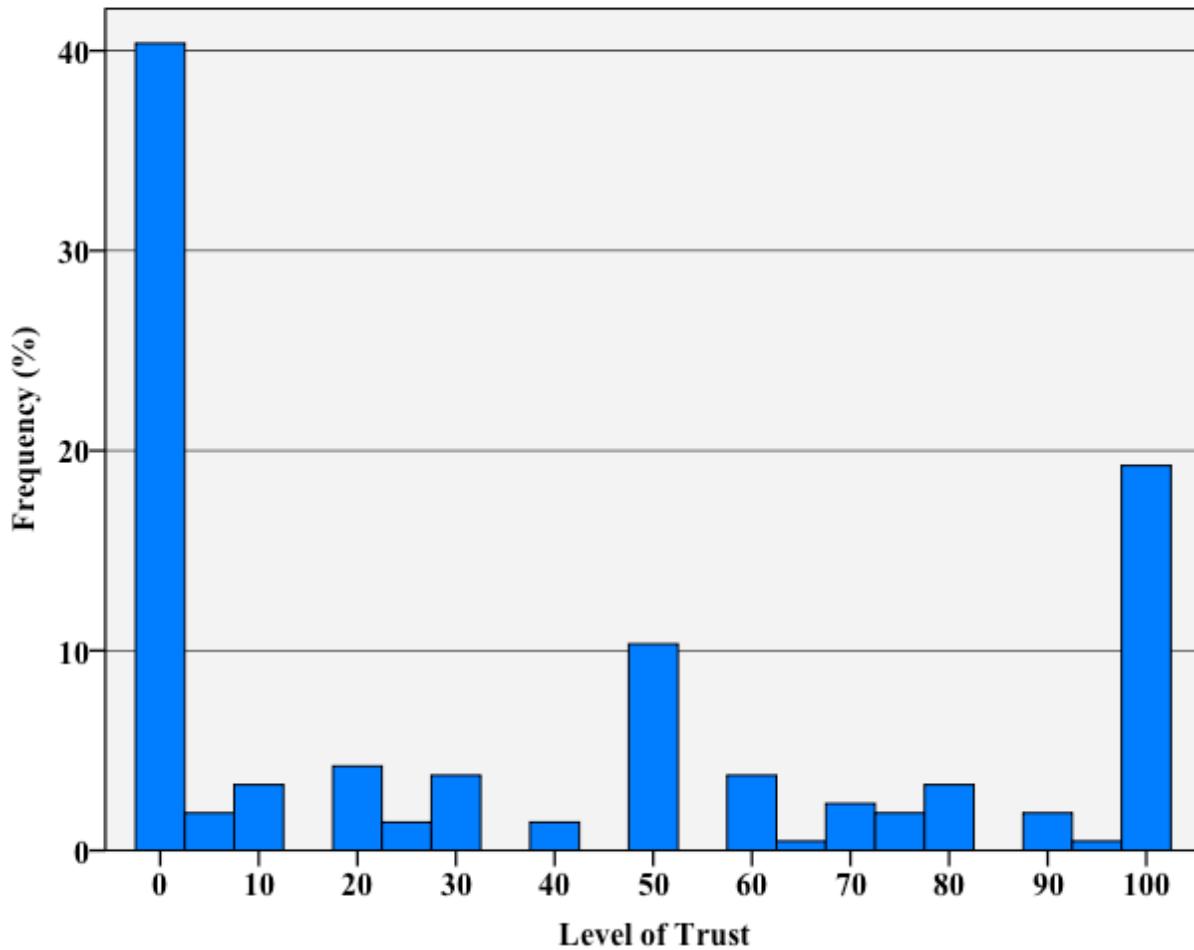
This shows how much percent of subjects rated their trust in police. The trust scale used in this present study asked subjects, "How much did you trust police after the interaction?" Measurements were determined using a rating scale from 0 (no trust in police) to 100 (extensive trust in police). The lower the rating, the less the subject trusted police on their most recent police interaction. (38.1, ± 40.0), n = 213.

Figure 12. Subject Emotional State After Police Interaction
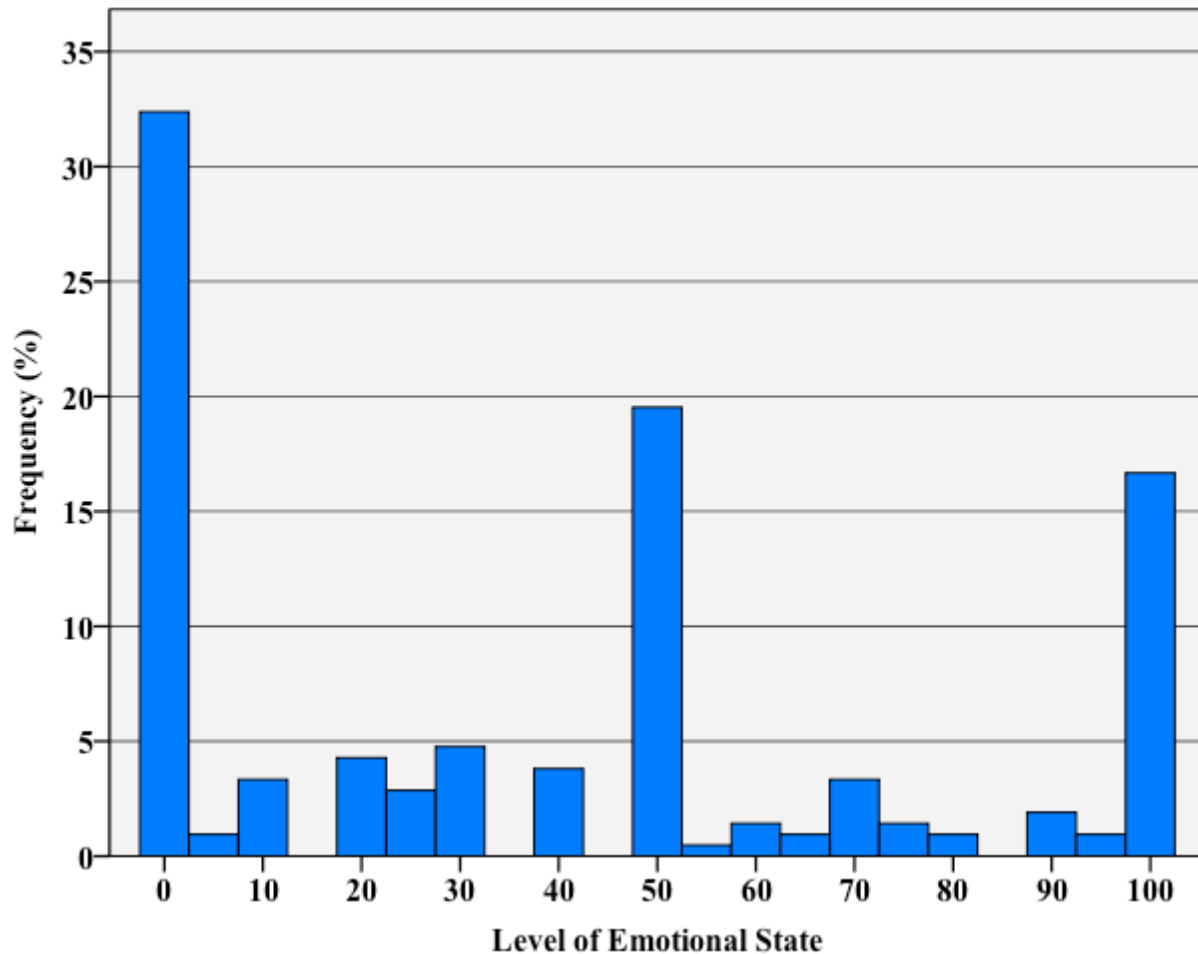
This shows how much percent of subjects rated their emotional state at each level. The emotional state scale used in this present study asked subjects "How did you feel after your most recent police interaction?" Measurements were determined using a rating scale from 0 (extremely angry) to 100 (extremely happy). The lower the rating, the less able police were able to lower the emotional reaction of the subjects to the situation. (39.9 ± 36.9), n = 210.

Figure 13. Subject Confidence in Public
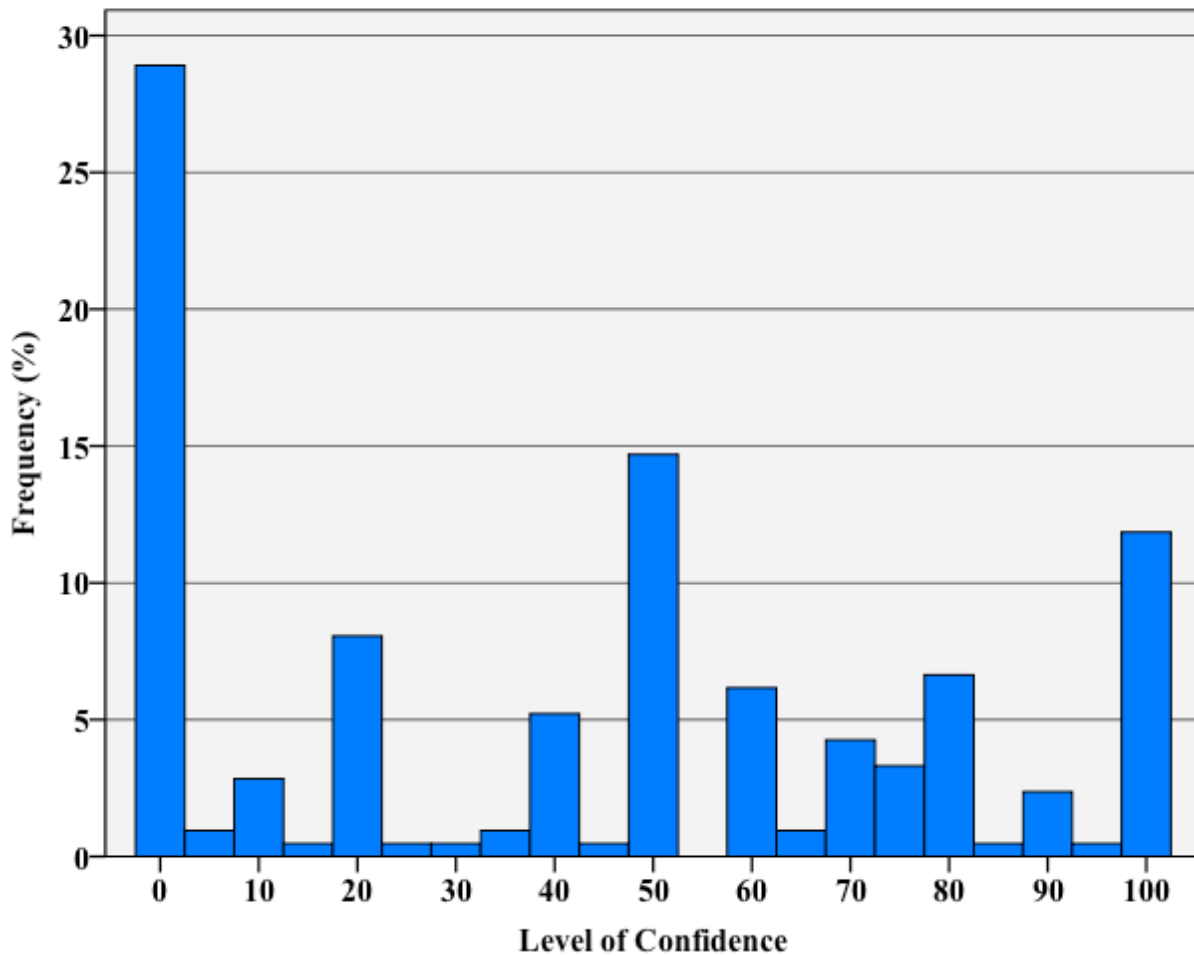
This shows how much percent of subjects rated their overall confidence in police. The confidence scale used in this present study asked subjects, "What is your overall confidence in police?" Measurements were determined using a rating scale from 0 (no confidence in police) to 100 (extensive confidence in police). The lower the rating, the less the subject had confidence in police overall. (42.2 ± 35.7), n = 211.

Figure 14. Overall Impact of Police on Subject
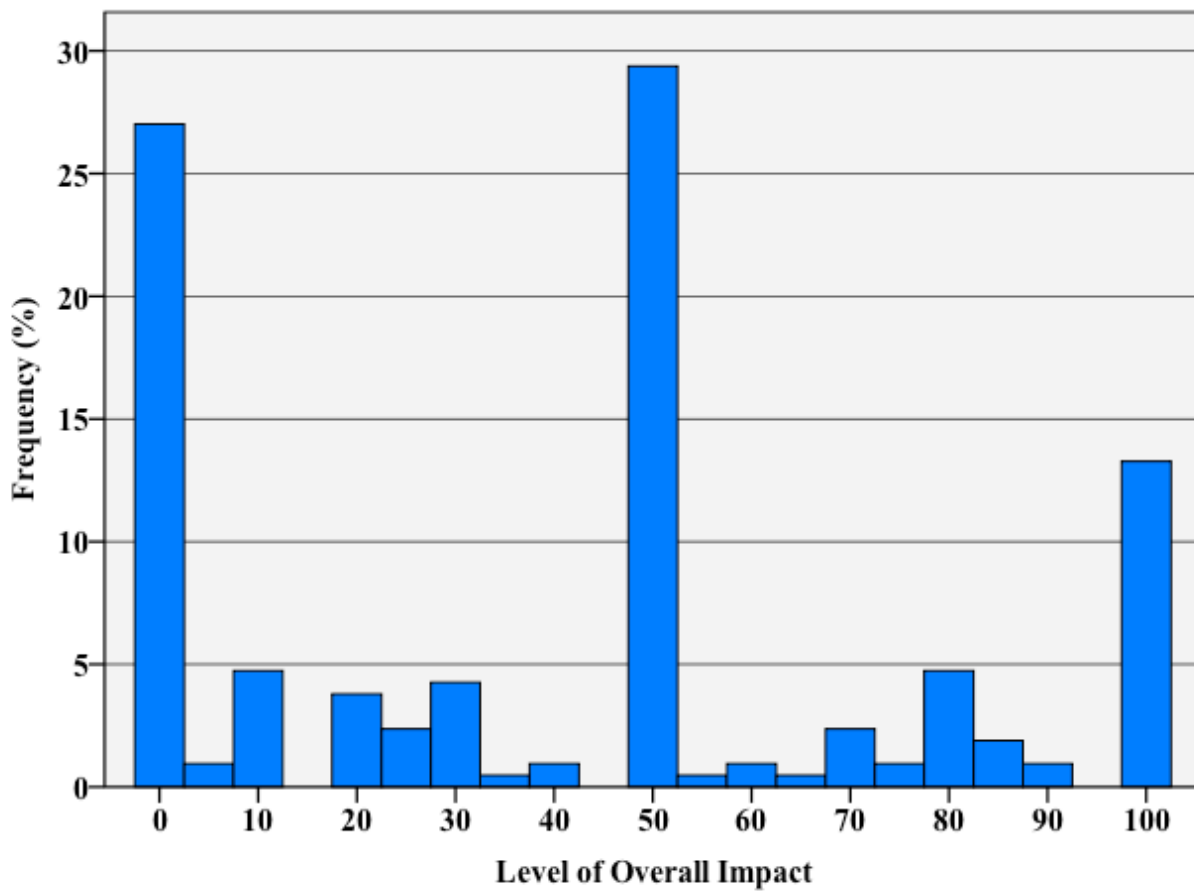
This shows how much percent of subjects rated the overall level of police impact. The overall impact scale used in this present study asked subjects, "What is the overall impact police have had on your life?" Measurements were determined using a rating scale from 0 (my life is much worse because of police) to 100 (my life is extremely better because of police). The lower the rating, the more the subject felt police made their lives worse and not better (41.4 ± 34.6), n = 211.

The data also show that 34% of the homeless population rated police as only between a 0-2/100 for their level of empathy (i.e. to the question "How were police at being able to understand and share your feelings in your most recent police interaction?" they answered "Not at all") (Figure 9). Thus, approximately 1/3 of the homeless population believe that the police have absolutely no understanding about them. Similarly, 40% rated police as only between a 0-2/100 on the level of trust (i.e. in answer to the question "How much did you trust police after the interaction?" they answered "Not at all") (Figure 11), while 29% rated their confidence in police at 0-2/100 (i.e. in answer to the question "What is your overall confidence in police?" they answered "Not at all") (Figure 13). In contrast, other ratings were more balanced, for example in terms of communication skills, police were rated 0-2/100 by 23% while 22% rated them 95-100/100 (Figure 10).

The other striking finding from these results was that those that were arrested or handcuffed show a highly statistically significant difference in seeing the police as not being empathetic ($p = 0.003$), compared to those who were not arrested or handcuffed. This was also true when comparing the two groups on, seeing the police as not being able to communicate ($p = 0.004$), as the police causing escalation of their anger (emotional state/mood) after the interaction ($p = 0.004$), as having low overall confidence in the police ($p = 0.003$), and perceiving the police to have negatively impacted their life (Overall Impact) ($p < 0.0005$) (Figure 15).

Figure 15. Vulnerable Persons' Mean Ratings of their Perception of Police Empathy, Communication, Trust, Emotional State, Confidence and Overall Impact
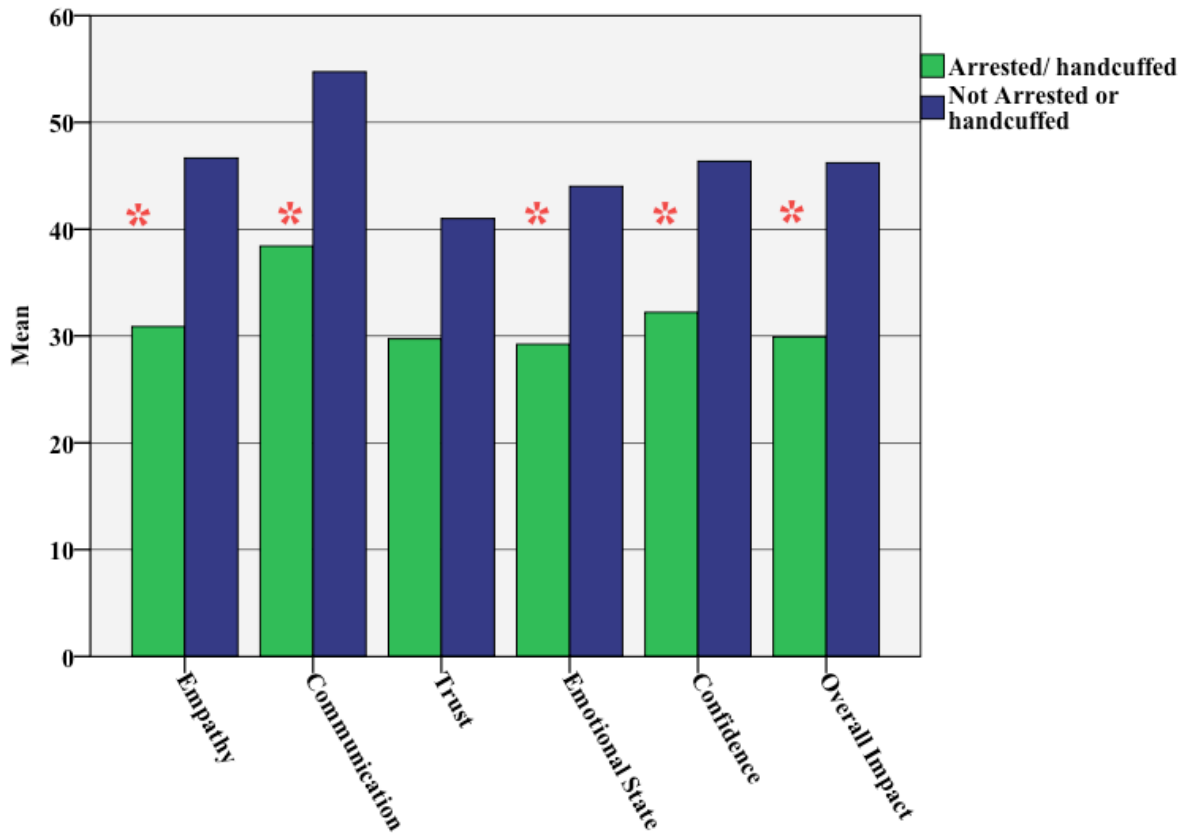
Green bars signify that the individual was arrested or handcuffed in last interaction (n = 60), and blue bars signify not arrested or handcuffed (n = 148). The results are shown for subjects' most recent police interaction. Subjects rated police more positively if they had not been arrested or handcuffed on all accounts, although this did not reach statistical significance for "trust" (* is p < 0.05).

When looking at subject perceptions when arrested or handcuffed, the time when subjects were arrested or handcuffed did not influence the level of ratings. The time during these interactions were spaced out over the last 2 years (Table 14).

Table 14. Subject Perception of Police when Arrested/Handcuffed at Varying Times

Time of Interaction	Empathy	Communication	Trust	Mood	Confidence	Overall	n (%)
This week	0.154	0.978	0.155	0.103[a]	0.009*	0.009*	13.56
This month	0.018*	0.15	0.203	0.143	0.423	0.853	18.64
Between 1 & 3 months	0.696	0.679	0.919	0.989	0.405	0.991	25.42
Between 3 months & 1 year	0.8	0.387	0.965	0.544	0.599	0.786	16.95
Between 1 & 2 years	0.801	0.925	0.411	0.643	0.705	0.456	20.34
More than 2 years	0.985	0.85	0.142	0.527	0.862	0.044*	5.08

n = 59 (arrested or handcuffed)
[a] one individual missing
* Statistically significant

Those who had the most negative interactions with the police, such as those with any type of force (19%), show uniformly poor views of police on every measure ($p < 0.0005$). Interestingly the use of a baton (2%) was statistically significant in only ratings of Empathy ($p = 0.025$), Trust ($p < 0.0005$), escalation in anger (Emotional State/Mood) ($p = 0.002$) and Confidence in police ($p < 0.0005$), the use of a holding technique (7%) was statistically significant in only ratings of Empathy ($p < 0.0005$), escalation in anger (Emotional State/Mood) ($p < 0.0005$), Confidence in police ($p < 0.0005$), and perceiving police to have negatively impacted their life (Overall Impact) ($p < 0.0005$), while all measures in strike with hand (8%) and Take down (10%) show negative perceptions ($p < 0.0005$). In regards to weapon force (2%), statistically significant measures were shown in Empathy ($p < 0.0005$), Communication ($p = 0.001$) and Confidence in police ($p = 0.009$) only (Table 15).

Table 15. Subject Perception of Police During Use of Force

Use of Force	Empathy	Communication	Trust	Mood	Confidence	Overall	n (%)
Any force	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	19.25
Any physical force (PF)	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	18.31
PF - Baton	0.025*	0.053	0.000*	0.002*	0.000*	0.101	1.88
PF - strike with hand	0.003*	0.000*	0.000*	0.000*	0.000*	0.000*	7.51
PF - Take down	0.000*	0.000*	0.003*	0.000*	0.001*	0.000*	9.86
PF - holding technique	0.000*	0.112	0.123	0.000*	0.000*	0.000*	6.57
Any weapon force (WF)	0.000*	0.001*	0.427	0.547	0.009*	0.174	2.35
WF - Taser out	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	0.47
WF - Taser shot	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	0.47
WF - Gun low ready	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	0.47
WF - Taser pointed	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	0.47
WF - Gun pointed	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	$p>0.05^a$	0.47
No force	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	80.75

n = 213
[a] Not enough information
* Statistically significant

In contrast, the 49% who were either left where they were and were not ticketed, had much more positive views of the police in all instances, with statistical significance in viewing the police as more empathetic (p = 0.032), believing the police communicated better (p = 0.049), trusting the police more after the interaction (p = 0.037), leaving them happier after the interaction (Emotional State/Mood) (p = 0.001), having more confidence in police (p = 0.027) and perceiving police to have positively impacted their life (Overall Impact) (p = 0.001) (Figure 16).

Figure 16. Vulnerable Persons' Mean Ratings of their Perception of Police Empathy, Communication, Trust, Emotional State, Confidence and Overall Impact
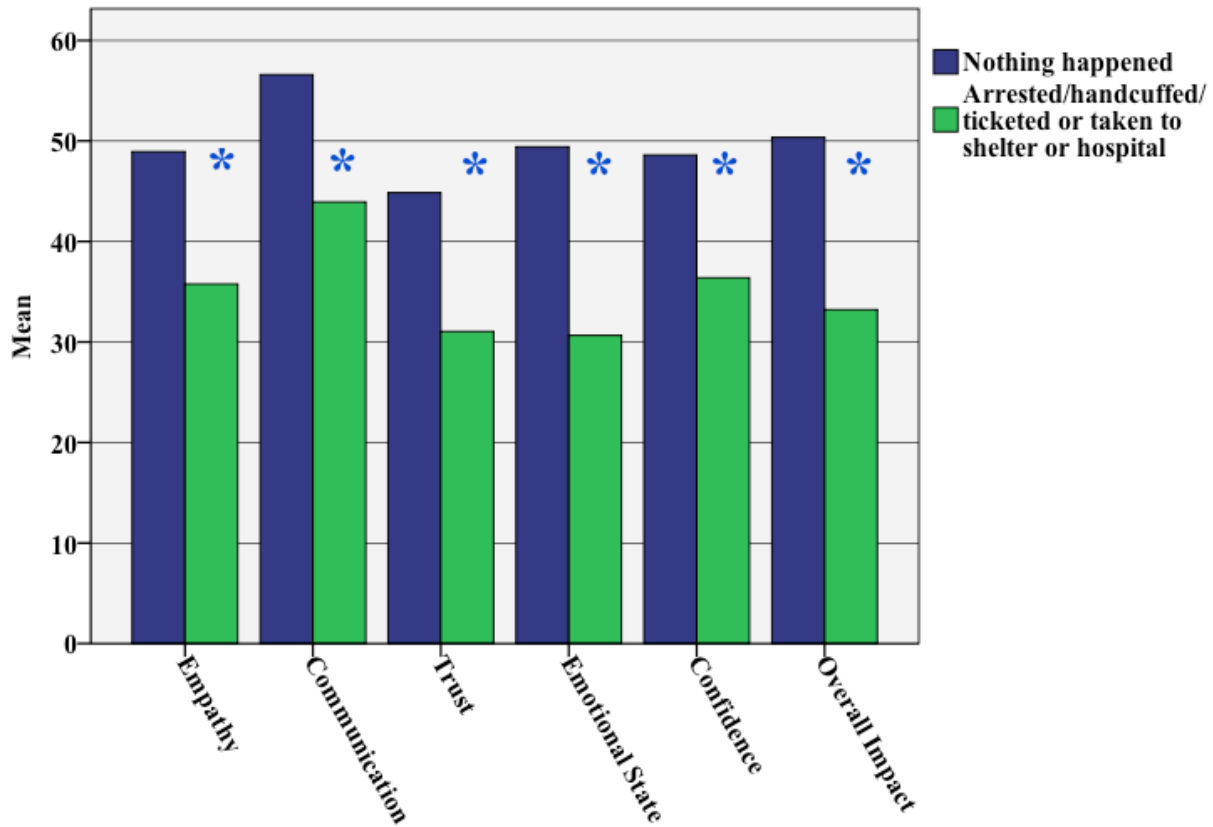
Blue bars signify that nothing happened to the subject (subject was interacted with then police left, n = 103), and green bars signify the subject was arrested, handcuffed, ticketed, or taken to a shelter or hospital (n = 105). The results are shown for subjects' most recent police interaction. There were statistically significant differences on all measures, suggesting that subjects rated police more positively if they had not been arrested, handcuffed, ticketed, or taken to a shelter or hospital during their most recent interaction.

Perhaps somewhat surprisingly, individuals with a self-reported mental illness (n = 122) did not rate police significantly better or worse in measures of empathy, communication, trust, mood, confidence and overall life impact compared to individuals who were not self-diagnosed with a mental illness (n = 34).

5.4.2   Qualitative feedback

A qualitative analysis on what vulnerable populations believe police should know about interacting with the homeless populations was conducted. A majority of homeless individuals (52%) detailed something consistent with the statement that police need to "treat people better, to respect [them] and to not take advantage", emphasizing that "homeless people are people too." Indeed, this approach to being treated with a perceived lack of respect underlay much of the subsequent negative views in those who had been handcuffed.

Other statements that were repeated were consistent with statements that the police need to have "a better understanding of what it is like to be homeless [so they can stop being] judgmental" and to "understand the situation before jumping to conclusions [by] look[ing] at both sides." Interestingly, it was also suggested that police need "empathy and sensitivity training" and that they need to "have more consideration about peoples' feelings and what they are saying." One individual challenged the way police stereotype individuals by stating that "just because I have done something [wrong] before does not mean I will do it again, so do not assume that I will make the same mistakes." In contrast, other individuals highlighted the fact that they "love the police" and that they are "satisfied with their professional conduct", stating they think police are doing a "great job" and that if you treat police poorly then they will treat you poorly in return.

5.4.3   Psychological health

A total of 172 individuals agreed to answer questions about their psychological health (Figure 17).

Figure 17. Self-Reported Mental Health Diagnosis in Vulnerable Population
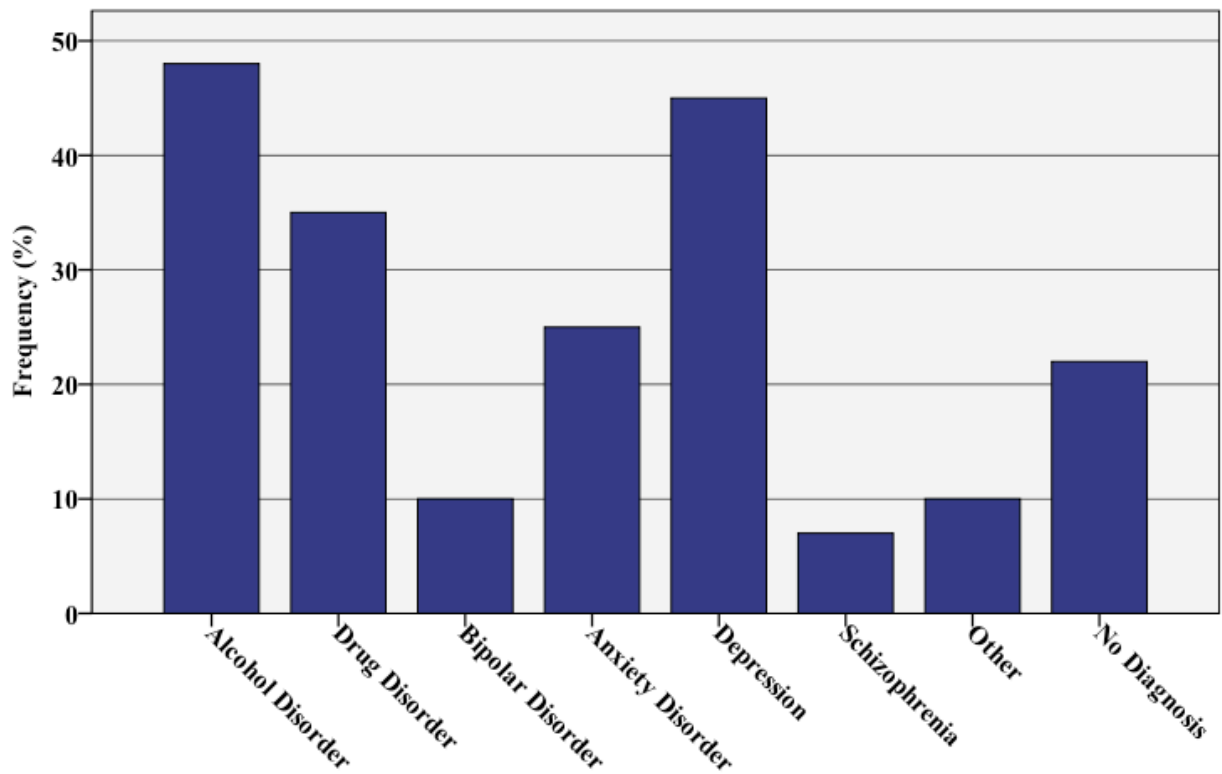
Results show the percent of various mental illnesses that were self-reported in the study population (n = 172) Note that the total does not equal 100% as individuals could self-report more than one diagnosis. No external validations of these diagnoses were obtained. Other refers to those who reported one or more of Attention Deficit Hyperactivity Disorder (ADHD), Post Traumatic Stress Disorder (PTSD), Fetal Alcohol Spectrum Disorder (FASD), sleep disorder, and brain injury.

Of these, 38 individuals (22%) said they have never been diagnosed with any mental illness, while the remaining 134 (78%) stated that they suffered from Alcohol Addiction (48%), Drug addiction (35%), Bipolar disorder (10%), Anxiety Disorder (25%), Depression (45%), Schizophrenia (7%) and others (a total of 10% suffered from one or more of Attention Deficit Hyperactivity Disorder (ADHD), Post Traumatic Stress Disorder (PTSD), Fetal Alcohol Spectrum Disorder (FASD), sleep disorder and brain injury).

Out of the 78% of those who signified mental illness or substance abuse, 49% had a co-morbid mental illness with substance abuse (with 2 to 6 diagnosis each), while 33% reported a single mental illness or addiction, and 18% reported 2 to 4 separate disorders (of whom 60% had 2 to 4 mental illnesses, and 40% had two types of addictions diagnoses only). In regards to addiction, a total of 23% of individuals had both drug and alcohol addictions, while 25% had just alcohol use issues and 12% reported drug use issues.

Further analysis was conducted on use of force by diagnosis. Findings suggest that a diagnosis of drug abuse ($p = 0.039$) and anxiety disorder ($p = 0.018$) were more frequently associated with statistically significant increases in the use of force during interactions. Alcohol abuse ($p = 0.894$), Schizophrenia ($p = 0.605$), Bipolar disorder ($p = 0.207$), Depression ($p = 0.730$), any Addiction ($p = 0.507$) and individuals with more than one diagnosis ($p = 0.252$) did not have significant increases in the reported use of force when interacting with police.

5.5 Discussion

The purpose of this research was to examine the views of the homeless and mentally ill population towards the police force, and to determine the impact specific interactions have upon this. There has been long-term recognition in the need for improvements in the interaction between police and homeless individuals, especially those with mental illness (Coleman & Cotton, 2010, 2014; Cotton & Coleman, 2008). It has been suggested that there is a need to focus on reducing injury and death, and increasing satisfaction in the interactions (Psarra et al., 2008), particularly since there are high rates of mental illness in homeless populations (Cougnard et al., 2006). As well, decreasing stereotypes or perceived schema's police have been found to hold

during encounters (Krishan et al., 2014; Watson et al., 2014) may increase positive outcomes in police interactions. The present research is novel in that it has examined details of these police interactions with homeless individuals, and related them to views towards the police. In the present study 62% of homeless individuals were dissatisfied in their most recent interaction with the police, findings which are consistent with one previous findings suggesting a negative level of trust in police by homeless individuals (Zakrison et al., 2004), but inconsistent with a more recent finding where 32% of homeless mentally ill individuals were dissatisfied by police conduct (Livingston et al., 2014). However, perhaps most interestingly, negative feedback from this population was significantly greater if they had been arrested or handcuffed during their most recent interaction with the police. Verbal feedback strongly suggested that it was being handcuffed that significantly made the interaction more negative, as individuals did not believe they were treated with respect by the police in these cases. In contrast, there were significantly more positive attitudes towards the police if homeless individuals had not been given a ticket or taken somewhere. It should be noted that these impacts appeared to be long lasting, and our study findings suggest that even a single negative interaction with the police can have impacts that may last for more 2 years.

In terms of the use of handcuffs by police, and its impacts, has also been poorly studied despite how commonly this occurs. The use of handcuffs has been mainly reported in the medical and psychological literature primarily in terms of potentially long-term neurological complications (Chariot et al., 2001; Grant & Cook, 2000), and to our knowledge there are no previous studies looking at the psychological effects of handcuffs in the homeless population. In terms of the use of handcuffs, it is perhaps interesting that one recent manual from the UK, discussing the use of handcuffs starts off "Any intentional application of force to the person of another is an assault. The use of handcuffs amounts to such an assault and is unlawful unless it can be justified" (Association of Chief Police Officer of England Wales & Northern Island, 2012). In this context the apparent requirement by some police policies that individuals require handcuffing whenever an individual is arrested, frequently reported on-line (i.e. "It is my agency's policy to handcuff everyone we arrest" (Scott, 2008), may be something that is worth reconsidering given this impact. With little information available regarding handcuff use during mental health interactions, police policies and procedures require further study and examination behind best

practice methods (Chappell & O'Brien, 2014) and more study of the psychological impact of being handcuffed, both in those with mental illness, the homeless, and other groups, is certainly warranted.

The reported range for mental illness in the homeless population has varied widely (Langle et al., 2005; Madianos et al., 2013), but our findings for the prevalence of self-reported psychiatric disorders are consistent with these. In the present study we found that 60% reported problems with drug or alcohol abuse, 25% just alcohol, 12% just drug abuse or both (23%). Although these are self-reported figures, they are very consistent with previous findings in the literature which have suggested that between 41-84% of homeless adults have substance use disorders (Bassuk et al., 1998; Goldfinger et al., 1996; Gonzalez & Rosenheck, 2002; North et al., 2004). As well we found increases in use of force during interactions with individuals suffering from drug addiction or anxiety disorders. Previous research has suggested that police use of force does not increase with interactions between those who have mental illness (Johnson, 2011; Kaminski et al., 2004; Mulvey & White, 2014; Terrill & Mastrofski, 2002), however, while the majority of individuals suffering from mental illness are not violent, findings do indicate that individuals suffering from serious mental illness are over represented in fatally shot individuals (Kesic et al, 2010), have increased rates of violence towards police (Short et al, 2013), and as a group have an increased risk for violence and offending compared to other community members (Ogloff, 2012). Additionally, previous studies have suggested that the rates of mental illness in homeless women is greater than in homeless males (Rees, 2009), and again this is consistent with what we found in that 86% of our female population reported having a mental illness. Taken together these findings suggest that the self-reports for both the prevalence of addictions and other mental illnesses by this subject group may not be dissimilar from those detected by more rigorous interview techniques. Nonetheless, it is a limitation of this study that there was no independent confirmation for the presence (or absence) of an addiction or mental health problem in this group.

Somewhat unexpectedly, individuals that had mental illness did not rate police differently than if they did not have a mental illness. We also found that, compared to those who did not report an addiction or mental health problem, there were no differences in terms of use of force during the interaction, or in the percentage who were arrested or handcuffed. This finding might suggest that

the high figures for arrests and use of force reported by the homeless mentally ill may be more related to being homeless than being mentally ill.

Importantly, the main recommendation from subjects in this study to the police, were focused on the aspect of perceived respect. Vulnerable populations believe that if they were treated as equals, with a clear emphasis on respect and less emphasis with what they feel are police stereotypes, then these frequent interactions would be less troubled, which was found in previous research (Watson et al., 2008). These populations similarly felt more training for police on how to improve their empathy during interactions would be a significant benefit. Nonetheless, it should also be pointed out that this was not universal, and that many individuals who had frequent interactions with the police described them as "friendly" and felt that the police were doing the best they could in difficult situations that arose.

Conclusion

When police handcuff a homeless individual this can lead to long-term negative views about the police across several domains that appear to be long lasting, and were linked to feelings of not being respected by the police. These feelings could potentially have several negative implications, not the least of which is that such individuals may want to co-operate less with police. It is therefore proposed that police officers should be made aware of the potential long-term negative consequences of this single action, that they receive specific training to minimize its frequency, and that this is also aligned with police policies. We believe there should be significantly more study on the psychological impacts of handcuffing on a range of populations, and based upon this, police policies may need to be significantly changed.

individuals who assisted with the surveys: Elizabeth Ryan, Ritu Parmar, Jameela Krameddine, Deena Hamza and Emel Ghafari.

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6 <u>Discussion</u>

6.1 Mental health training program

We have previously developed a comprehensive 1-day mental health training program, created at the University of Alberta in partnership with the Edmonton Police Service (EPS) (Silverstone et al., 2013). In this program police officers interacted with professional actors in a "hands-on" training program comprising six realistic mental health scenarios. Both direct and indirect measurements of changes in attitudes and behaviours were collected before and 6 months after training, as well as attitudinal data, 2.5 years after training, allowing a detailed analysis of the impact of training (Krameddine et al., 2013).

The training objectives were focused on improving officer communication (both verbal and non-verbal), de-escalation techniques, officer empathy, and symptom recognition. One unique aspect of this training program was the feedback given to each officer after every scenario. Each of the scenarios was designed to be highly emotionally arousing, and it was intended that by the end of 6 scenarios, in which the key messages were repeatedly reinforced, there would be stronger retention of what was taught. Four separate individuals gave feedback, a senior facilitating officer (focusing on officer performance and safety), a mental health professional (consisting of a member from the EPS Police And Crisis Team (PACT) who gave recommendations and addressed concerns and questions), and the professional actors (one acting and another one watching) who were trained to provide feedback regarding police behaviour. Actor feedback focused on positive behaviours as well as behaviours that could be improved upon such as non-verbal communication skills (body language, facial language, active listening) and verbal communication skills (tone of voice, word choice, portrayed empathy, rapport, de-escalation techniques). This feedback provides a unique link for each officer regarding how their behaviour affected those they interact with, and increased their behavioural self-awareness.

The outcome of this training was very positive, and after training over 650 officers significant behavioural improvements were still present 6 months later (Krameddine et al., 2013). The behavioural changes were noted primarily by the supervising officers, who found that police

patrol officers were significantly better in communication, empathy and de-escalation techniques following training. Additionally, measurements of the average number of mental health calls increased by over 40%, emphasizing an enhanced ability of officers to recognize a mental health issue. Furthermore, police officers spent nearly 20% less time on each mental health call, supporting an improvement in communication, empathy, de-escalation and knowledge of appropriate solutions, which translated into a more effective interaction with improved efficiency of these. Supporting the positive outcome of the training, police officers who took training at time one (n = 72) self-reported a 19% increase in confidence when interacting with individuals in psychiatric distress 6 months after training, while continued improvement contributing to a 31% increase in confidence (n = 115) existed 2.5 years after training.

The overall increase in police efficiency over a 6-month period led to over $80,000 in cost savings. Lastly, there was more than a 40% decrease in any use of force following training, although it should be noted that there were other specific initiatives to try and address this issue that were co-occurring and may also have led to this decrease in use of force, and it was therefore unlikely that the training program was the sole reason for this decrease in the use of force.

Interestingly, no changes in police attitudes were found 6 months after training, although this was expected since training focused on behaviour and not attitudes. This is of importance, as it demonstrates that attempting to change attitudes may not be the most effective approach, while methods to change behaviours alone (without focusing on attitudes) can be very effective. As well, at 2.5 years after training, attitudes towards those with mental illness remain consistent for the most part, except for authoritarian attitudes (pessimistic views) which decrease from baseline to 2.5 years after training, and Social Restrictiveness (belief that individuals with mental illness are more dangerous and threatening), increased from baseline to 6 months after training, then decreased back to where it was before at 2.5 years after training. Symptom recognition in depression, bipolar disorder and anxiety was also found to increase up to 2.5 years after training. Taken together, these outcomes emphasize the positive impact of this focused training program.

Other analysis relate to the attitudes that those with mental illness hold towards police. We found that individuals who were arrested or handcuffed, compared to those who were not arrested or

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handcuffed in their most recent mental health interaction had increased negative views towards police. These individuals stressed the fact that they are individuals that just want to be treated with respect.

6.2 Current limitations of training programs

6.2.1   Need to focus training programs on outcomes:

Current police training focuses on symptom recognition, crisis management techniques and increased communication between law enforcement and mental health services (Watson et al., 2008). Findings have shown improvements in confidence levels of officers (Bonfine et al., 2014; Krameddine et al., 2013; Pinfold et al., 2003), increases in positive attitudes/decreases in stigma towards mental illness (Compton et al., 2008; Hansson & Markstrom, 2014; Pinfold et al., 2003), and more optimal changes in behaviour (Compton et al., 2008; Compton et al., 2014; Dupont & Cochran, 2000; Krameddine et al., 2013; Prenzler et al., 2013). Despite these positive findings there are other initiatives that have not found any positive changes following training (Compton et al., 2008; Corrigan et al., 2002; Geller, 2008; Godschalx, 1984). As previously noted, while police training on mental illness is common, with a variety of training programs worldwide (Cotton & Coleman, 2008), only a very few of these programs have been properly evaluated to determine that they lead to meaningful behavioural changes (Tucker, 2008). For example, although several programs describe changes in attitudes and thoughts of police and law-enforcement individuals towards those with mental illness, on its own this is not sufficient information to demonstrate a positive outcome. It has been frequently noted that if any training program lacks an appropriate research design, the effectiveness of such a program cannot be tested (Coleman & Cotton, 2010). Thus, these programs, usually associated with high costs, fail to establish a cost-benefit relationship, which does not allow a determination of if they are successful or not.

To ensure some consistency between police forces, both in the items measured and recommendations made, we have a total of 10 suggestions that we believe should be carried out consistently when police training is given in this area. Training efficacy can then be reliably and

reproducibly measured, both within a specific police force and between them. These suggestions include outcome measurements used in our recent study:

1. The number of mental health calls police attend
2. The time required during each mental health call
3. The number of use-of-force occurrences in mental health calls
4. Supervisor ratings of officers for empathic communication (from 0-10)

As well as recommendations from other reviews (Coleman & Cotton, 2014):

5. Satisfaction measures of mentally ill individuals that interacted with a police officer (although it should be noted that this can be difficult to measure consistently, however)
6. Satisfaction measures of community and mental health services that interacted with a police officer
7. Number of arrests compared to the total number of mental health interactions
8. Number of injuries during a police interaction with those who may have a mental illness

Other recommendations for measurement:

9. Overall number of complaints
10. Officer self-reported measurements of their behaviour (since findings have shown that self-reported measurements are 11% more accurate then those rated by observers) (Armitage & Conner, 2001)

By incorporating this data, along with details regarding what each training program consisted of, more information can be collected to determine overall efficiency of programs. This would allow police forces and other law-enforcement agencies to determine if their current training was appropriate and having the desired impact.

6.2.2 *Need to focus training programs on behavioural change not attitudinal change*

As described in the introduction chapter, police attitudes and behaviours are difficult to correlate with studies finding resistance in attitude change after police training initiatives (Hails & Borum, 2003; Krameddine et al., 2013). Thus, even if police officers have better or worse attitudes towards those with mental illness, there is no guarantee that they will behave more positively (or negatively). It is important to understand the complexity of the relationship between attitudes and behaviours. This information is consistent with the findings from our studies which have shown that behavioural change in this group is independent of changes in attitude (Krameddine et al., 2013; Silverstone et al., 2013), where initial attitudes officers held towards mental illness were consistent with those of control populations (Cotton, 2004; Finkelstein et al., 2008; Link et al., 1999; Litzcke, 2005; Nordt et al., 2006).

This is supported by suggestions that training should primarily focus on changing behaviours of officers instead of attitudes (Kermode et al., 2009). Nonetheless, it remains important to address attitudes about mental illness in a positive manner to avoid negative stereotypes towards those suffering from mental illness. To increase the probability that officers have positive and empathetic views of mental illness, attitudes must be addressed in the early stages of training. By priming officers towards a greater understanding of mental illness, negative attitudes may be prevented from forming.

In the program we have outlined, police officers received multiple different feedbacks. While the impact of the feedback is clear, it is not possible to determine what effect each individual type of feedback is having, nor if one type is the most important of these. The goal remains to change behaviour, and adopting training approaches that target changing behaviour can therefore produce better results. Further research is needed to determine the impact of critical and constructive criticisms of police officers on their behaviour, and it may be of help to more specifically refocus the feedback from actors to be more in line with the behavioural change desired in police officers. Scripting such feedback more closely could also potentially improve outcomes. All of these issues warrant further research, and in this regard it should be acknowledged that any training program requires continual evaluation / research to determine what elements are most important, and what can be best improved.

6.2.3   A training program needs to be repeated

A third issue with current training programs is the lack of repeated, or refresher training. While police forces recognize the need for regular and repeated training on a range of areas, this does not seem to apply to the issue of interactions with the mentally ill, where single training activities are the rule. This is despite compelling research regarding memory retention, which suggests a challenge for even the most intelligent students to remember material over time. As an example, medical students forget 25-35% of material in the first year, and more than 50% by the second (Custers, 2010). Another review suggests that memory is imperfect, and that skills and knowledge decay by 6-months to one-year post training, with skills deteriorating faster than knowledge (Yang et al., 2012). Other evidence regarding health related skills and knowledge retention suggest that refresher training should occur at least every three years (Avisar et al., 2013; Grześkowiak, 2006; McKenna & Glendon, 1985; Nicol et al., 2011). Additional support for the need for police organizations to implement repeated training in this area is research showing that police retention of knowledge decreases over time (Compton & Chien, 2008). For these reasons, training on mental health awareness needs to be repeated regularly, with current evidence suggesting training must occur every three years for all individuals involved in interactions with those who may have a mental illness.

6.3 Future directions

Current recommendations for police training continue to emphasize the importance of training law-enforcement officers to interact more appropriately with individuals suffering from mental illness. The future direction of training for these individuals needs to address the specific factors identified in this review. These are firstly the need to accurately measure the outcomes from training. Without this it is impossible to determine if any training programs are successful. Considering the large sums of money and time it takes to carry out a training program, outcome measures are increasingly important for all police training programs, and this should also apply to those involving training for interacting with mentally ill individuals. Secondly, there is a need for training programs to focus on changing behaviours and not simply attitudes, since attitudes and behaviours may not be strongly correlated. Evidence to date suggests that this can be achieved by focusing on communication, empathy, and de-escalation skills. Thirdly, it is essential to

continuously train officers throughout their careers, and to work to maintain these skills and specific knowledge, preferably by having a training program every 3 years. By continuing the opportunity for officers to increase their mental health awareness, improvements in the relationship between police and mentally ill individuals will continue to improve over time. Officers will then be better equipped to know what to look for, to ask the right questions, and to behave appropriately towards individuals with these conditions, thus increasing the number of positive interactions between these two groups.

6.4 Conclusion

Appropriate police training is becoming recognized as a critical component in improving interactions between officers and those with mental illness. To minimize the number of tragic outcomes, it is important to continue to improve this training. Evidence to date supports the use of a scenario-based training program using testing methods supported by research-based outcomes. This training program significantly improved police awareness of mental illness, increased police efficiency in mental health calls and contributed to a substantial decrease in use of force during mental health calls. We believe these positive outcomes have resulted from the unique and novel nature of the training. Specifically, this training program created scenarios in which officers were emotionally engaged as well as intellectually engaged. The ability of the high quality actors to engage the officers we believe is the largest single reason why this training program was so successful. Overall, the benefits of training appear very cost-effective, and we suggest that this training program, and others like it, need to become widely used in the training of police officers to help them interact with those individuals who have a mental illness.

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Appendices
Questionnaire for Edmonton Police Service

Note that all answers to this questionnaire will remain private and WILL NOT be shared with any group within the Edmonton Police Service except as anonymous group results.

Regimental Number: _____

Age: _____

What sex are you? Male ☐ Female ☐

How long have you been a part of the Edmonton Police Service? _____

What is your highest form of education?

      High school diploma   ☐
      Post Secondary Certificate/Degree ☐
      Graduate degree (Masters/Doctoral)   ☐

Do you believe that your previous EPS training in dealing with those who have mental health problems or mental illness is sufficient?

               Yes ☐   No ☐

Did you take part in the previous GDM Mental Health Training in May–June of 2011?
(One day at Ritchie school with 6 mental health scenarios revolving around depression, addictions, schizophrenia, mania and suicide).

               Yes ☐   No ☐

What division are you currently working in?

    North ☐   South East ☐   South West ☐   West ☐   Downtown ☐

These are some personal questions about your own experience of mental illness, **outside** of your job in the EPS. Tick all that apply:

I have had no exposure with anyone suffering from a mental illness…………..…….☐	I have never observed anyone with a mental illness (that I know of)………………….☐	I have observed someone with a mental illness in passing……………☐
I have watched a movie depicting mental illness……………..….☐	I have had training on mental illness..........☐	I have worked with someone with a mental illness…….….……☐
I have provided service for an individual with mental illness………………☐	One of my friends suffers from a mental illness…………..…….☐	Someone in my family suffers from a mental illness……….…..….☐
I live with someone who has a mental illness……………....☐	I have had a mental illness……………..☐	I am comfortable in dealing with individuals with mental illness…….….…….☐

Note that all answers to this questionnaire will remain private and WILL NOT be shared with any group within the Edmonton Police Service except as anonymous group results.

This questionnaire is expected to take approximately 10 minutes to complete.

Please complete on your own without discussing with anyone.

It is very important that when you complete these questions you answer what you truly think, not what you think is expected of you

Part #1

Which of the following do you believe the term "mental illness" applies to?

Please tick all that you think this term applies to. There is no right or wrong, and some of these terms are deliberately ambiguous.

Those who have a "nervous breakdown"	☐	Those with emotional problems	☐	Those who take illegal drugs once per week	☐
Those who are depressed	☐	Those under chronic stress	☐	Schizophrenia	☐
Individuals who avoid social contact when possible	☐	Asthma when associated with stress	☐	Following the death of someone close	☐
Individuals who experience a severely traumatic event	☐	Allergy to wide number of food "additives"	☐	Individuals who have problems from childhood	☐
Attention Deficit Hyperactivity Disorder	☐	Those who have a bipolar disorder	☐	A male who has 3 alcoholic drinks every night	☐
A man who murders somebody for having an affair with his wife	☐	Individuals who have a weakness of character	☐	Somebody like Tiger Woods with a "sex addiction"	☐
Individuals with anxiety that holds them back at work	☐	Autism	☐	A suicide bomber	☐
Individuals with Down's syndrome	☐	Agoraphobia	☐	Individuals with Alzheimer's Disease	☐
Migraines when associated with stress	☐	Post Traumatic Stress Disorder	☐	Individuals with cerebral palsy	☐

Part #2
Now consider the following statements about Mental Illness. Please indicate whether you agree or disagree with the following statements. There is no correct or incorrect answer. Answer how you truthfully feel at the moment. Please circle the number you agree with most.

| 1 = strongly disagree   2 = disagree a little   3 = neutral   4 = agree   5 = strongly agree |

Section #1

One of the main causes of mental illness is a lack of self-discipline and will-power
1 2 3 4 5

The best way to handle the mentally ill is to keep them behind locked doors
1 2 3 4 5

There is something about the mentally ill that makes it easy to tell them from normal people
1 2 3 4 5

As soon as a person shows signs of mental disturbance, he should be hospitalized
1 2 3 4 5

Mental patients need the same kind of control and discipline as a young child
1 2 3 4 5

Mental illness is an illness like any other
1 2 3 4 5

The mentally ill should not be treated as outcasts of society
1 2 3 4 5

Less emphasis should be placed on protecting the public from the mentally ill
1 2 3 4 5

Mental hospitals are an outdated means of treating the mentally ill
1 2 3 4 5

Virtually anyone can become mentally ill
1 2 3 4 5

Section #2

The mentally ill have for too long been the subject of ridicule	**1 2 3 4 5**
More tax money should be spent on the care and treatment of the mentally ill	**1 2 3 4 5**
We need to adopt a far more tolerant attitude toward the mentally ill in our society	**1 2 3 4 5**
Our mental hospitals seem more like prisons than like places where the mentally ill can be cared for	**1 2 3 4 5**
We have a responsibility to provide the best possible care for the mentally ill	**1 2 3 4 5**
The mentally ill don't deserve our sympathy	**1 2 3 4 5**
The mentally ill are a burden on society	**1 2 3 4 5**
Increased spending on mental health services is a waste of tax dollars	**1 2 3 4 5**
There are sufficient existing services for the mentally ill	**1 2 3 4 5**
It is best to avoid anyone who has mental problems	**1 2 3 4 5**

Section #3

1 = strongly disagree   2 = disagree a little   3 = neutral   4 = agree   5 = strongly agree

The mentally ill should not be given any responsibility   **1 2 3 4 5**

The mentally ill should be isolated from the rest of the community   **1 2 3 4 5**

A woman would be foolish to marry a man who has suffered from mental
illness, even though he seems fully recovered   **1 2 3 4 5**

I would not want to live next door to someone who has been mentally ill   **1 2 3 4 5**

Anyone with a history of mental problems should be excluded from
taking public office   **1 2 3 4 5**

The mentally ill should not be denied their individual rights   **1 2 3 4 5**

Mental patients should be encouraged to assume the responsibilities of
normal life   **1 2 3 4 5**

No one has the right to exclude the mentally ill from their neighborhood   **1 2 3 4 5**

The mentally ill are far less of a danger than most people suppose   **1 2 3 4 5**

Most women who were once patients in a mental hospital can be trusted
as babysitters   **1 2 3 4 5**

Section #4

Residents should accept the location of mental health facilities in their neighborhood to serve the needs of the local community	**1 2 3 4 5**
The best therapy for many mental patients is to be part of a normal community	**1 2 3 4 5**
As far as possible, mental health services should be provided through community based facilities	**1 2 3 4 5**
Locating mental health services in residential neighborhoods does not endanger local residents	**1 2 3 4 5**
Residents have nothing to fear from people coming into their neighborhood to obtain mental health services	**1 2 3 4 5**
Mental health facilities should be kept out of residential neighborhoods	**1 2 3 4 5**
Local residents have good reason to resist the location of mental health services in their neighborhood	**1 2 3 4 5**
Having mental patients living within residential neighborhoods might be good therapy but the risks to residents are too great	**1 2 3 4 5**
It is frightening to think of people with mental problems living in residential neighborhoods	**1 2 3 4 5**
Locating mental health facilities in a residential area downgrades the neighborhood	**1 2 3 4 5**

Now consider the following statements about Mental Illness after reading a paragraph of Jane's behaviour. Please indicate whether you are definitely willing, neutral or definitely unwilling. There is no correct or incorrect answer.

One of your (male) friends (who is not a police officer) has recently started dating a new girlfriend, called Jane. Your friend has recently told you that he is very happy, but sometimes wonders about Jane as her behaviour changes dramatically at times. About 4 weeks later you meet Jane, you like her, and see that she makes your friend happy. Nonetheless, you are concerned about a non-specific feeling you have about her behaviour. It therefore does not come as a complete surprise to you when 2 months after this, when your friend has been going out with Jane for 3 months, that your friend tells you that Jane has a problem with drug use. Your friend noticed first that she was using marijuana frequently, but recently he became aware that she also uses other drugs purchased on the street at times. He is not sure which ones she uses, and she denies that this is anything "significant", but does admit to use of codeine containing drugs. This does not appear to impair her work. Your friend remains very committed to Jane and is very happy, but is concerned about her use of drugs. This situation continues until the present time, and it is likely that they will get married in the near future.

Please indicate whether you are definitely willing, neutral or definitely unwilling. There is no correct or incorrect answer. Answer how you truthfully feel at the moment using the following scores as a guide

1 = definitely willing   2 = willing   3 = neutral   4= unwilling   5= definitely unwilling

Would you…

- Be willing to start work with a person like Jane?   **1 2 3 4 5**

- Like to move next door to a person like Jane?   **1 2 3 4 5**

- Make friends with a person like Jane?   **1 2 3 4 5**

- Rent a room to a person like Jane?   **1 2 3 4 5**

- Recommend a person like Jane for a job?   **1 2 3 4 5**

- Like your child to marry a person like Jane?   **1 2 3 4 5**

- Trust a person like Jane to take care of your child?   **1 2 3 4 5**

Answer the following questions by ticking all that you think are true:

People with an addiction, like Jane, are:

A danger to others	☐	Unpredictable	☐	Hard to talk to	☐
Feel different than others	☐	Have themselves to blame	☐	Can pull themselves together	☐
Will not improve if treated	☐	Will never recover	☐	Are weak in character	☐

Part #4
Now consider the following statements about Mental Illness after reading a paragraph of John's behaviour. Please indicate whether you are definitely willing, neutral or definitely unwilling. There is no correct or incorrect answer.

John is 30 years old. He has been feeling unusually sad and miserable for the last few weeks. Even though he is tired all the time, he has trouble sleeping nearly every night. John doesn't feel like eating and has lost weight. He can't keep his mind on his work and puts off making any decisions. Even day-to-day tasks seem too much for him. This has come to the attention of John's boss who is concerned about his lowered productivity. John feels he will never be happy again and believes his family would be better off without him. John has been so desperate, he has been thinking of ways to end his life.

Answer how you truthfully feel at the moment using the following scores as a guide

| 1 = definitely willing | 2 = willing | 3 = neutral | 4= unwilling | 5= definitely unwilling |

Would you…

- Be willing to start work with a person like John?   **1 2 3 4 5**

- Like to move next door to a person like John?   **1 2 3 4 5**

- Make friends with a person like John?   **1 2 3 4 5**

- Rent a room to a person like John?   **1 2 3 4 5**

- Recommend a person like John for a job?   **1 2 3 4 5**

- Like your child to marry a person like John?   **1 2 3 4 5**

- Trust a person like John to take care of your child?   **1 2 3 4 5**

Answer the following questions by ticking all that you think are true:

People with Severe depression, like John, are:

A danger to others	☐	Unpredictable	☐	Hard to talk to	☐
Feel different than others	☐	Have themselves to blame	☐	Can pull themselves together	☐
Will not improve if treated	☐	Will never recover	☐	Are weak in character	☐

Part #5
Now consider the following statements about Mental Illness after reading a paragraph of Paul's behaviour. Please indicate whether you are definitely willing, neutral or definitely unwilling. There is no correct or incorrect answer.

For over 6 months one of your friends, let's call him Paul, has changed. He withdraws from his co-workers and friends more and more. He keeps out of everybody's way. If ever a conversation with him is possible there is just one single topic to talk about: the question whether certain people have the ability to read others' thoughts. He occupies himself with nothing but this exclusively. Contrary to his former habits he does not take care of his appearance any longer and seems to neglect himself increasingly. At work he seems absentminded and often makes mistakes. Therefore, he already had to see his superior. Finally, your friend did not go to work for a whole week, without giving any excuse. Since then he seems to be anxious and badgered. He says to be absolutely sure now that not only are people able to read others' thoughts but they are also able to directly influence these thoughts. But he does not know yet who is controlling his thoughts. Moreover, his thoughts were interrupted. He even hears these persons talking to him and giving him orders. Sometimes, they speak to one another making fun of him. In his apartment the situation is particularly bad. There, he feels like threatened and is terribly scared. Thus, he has not been staying at home for a week but did hide in a hotel and did not dare to go out.

Please indicate whether you are definitely willing, neutral or definitely unwilling. There is no correct or incorrect answer. Answer how you truthfully feel at the moment using the following scores as a guide

| 1 = definitely willing   2 = willing   3 = neutral   4= unwilling 5= definitely unwilling |

Would you…

- Be willing to start work with a person like Paul?   **1 2 3 4 5**

- Like to move next door to a person like Paul?   **1 2 3 4 5**

- Make friends with a person like Paul?   **1 2 3 4 5**

- Rent a room to a person like Paul?   **1 2 3 4 5**

- Recommend a person like Paul for a job?   **1 2 3 4 5**

- Like your child to marry a person like Paul?   **1 2 3 4 5**

- Trust a person like Paul to take care of your child?   **1 2 3 4 5**

Answer the following questions by ticking all that you think are true:

People with Schizophrenia, like Paul, are:

A danger to others	☐	Unpredictable	☐	Hard to talk to	☐
Feel different than others	☐	Have themselves to blame	☐	Can pull themselves together	☐
Will not improve if treated	☐	Will never recover	☐	Are weak in character	☐

Thank you very much for completing this questionnaire