

IMPROVING POLICE RESPONSE TO AUTISTIC PERSONS: A COMMUNITY-
INFORMED, ATTRIBUTIONAL APPROACH

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Abstract

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that can affect social interaction, communication, and behaviour. autistic individuals may react differently in stressful situations, such as police encounters, which can subsequently lead to adverse outcomes. The current research examines police response toward autistic individuals. In the first paper, I examined how autistic community members perceive the challenges police may face when interacting with autistic individuals, as well as explored community-informed recommendations on how interactions between the police and autistic people can be better managed. In the second paper, across four studies, I examined decision-making in police interactions with autistic people through a lens of attribution theory, exploring how autistic-characteristic behaviour affects attributions and responses. Taken together, this research represents a novel exploration of decision-making toward autistic people in police encounters, and how these interactions can be better managed, using an evidence-based, community-informed approach.

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CHAPTER 1

GENERAL INTRODUCTION

Police response to autistic people is an important and complex issue that has gained increasing attention in recent years. autistic individuals may experience difficulties in communicating and interpreting social cues, which can lead to misunderstandings and negative interactions with law enforcement officers. There have been several high-profile cases of police interactions with autistic persons that have gone wrong in recent years. In 2016, a police officer in North Miami shot at Arnaldo Rios-Soto, a young autistic man who had wandered away from his group home. In 2018, Texas resident Michael Moore, who has autism, was tased by police after becoming agitated during an interaction nearby his home. Bodycam footage of the incident shows the officers struggling to restrain Michael, who was unarmed, before using a stun gun on him. In 2020, Eric Parsa, a high-support autistic young man, died after being restrained and sat on for 9 minutes by Jefferson Parish police in Louisiana. Eric was experiencing an Autism-related meltdown due to sensory overload; police were called after bystanders witnessed Eric slapping himself and his father.

These cases highlight the need for improved police training and awareness of autism and other disabilities. By better understanding the experiences and needs of individuals with autism, police officers can work to ensure that their interactions with these individuals are safe and respectful. To address this issue, two research projects were undertaken with the overarching aim of better understanding and improving the response of police officers toward autistic individuals.

Community-informed research

In the present dissertation, a community-informed research strategy was adopted. Community-informed research involves engaging and collaborating with members of a community in the research process (Collins et al., 2018). It is a form of participatory research that recognizes the importance of including community members as active partners in the

research process, rather than simply as research subjects. This approach involves building relationships with community members, listening to their perspectives and concerns, and incorporating their feedback into the research design, implementation, and dissemination. This approach also promotes the ethical conduct of research by prioritizing the involvement and respect of those being studied, leading to more effective and sustainable solutions to complex social problems (Collins et al., 2018). Regarding the present research, involving autistic people in the development of training materials for police is valuable because they have first-hand experience of the challenges and barriers they face in their interactions with law enforcement. By involving autistic people in this research, their unique perspectives and insights can be incorporated to create training that is more effective, relevant, and respectful of their needs. This can lead to improved communication, greater understanding, and better outcomes for both autistic individuals and law enforcement officers.

In the first paper, which has been published, a collaborative and community-engaged research strategy was adopted whereby autistic community members (e.g., autistic people, caregivers, advocates, and subject matter experts) were involved in the development and dissemination of a survey. This research also directly solicited the input of autistic community members in Canada regarding their (1) perceptions of the challenges of interacting with autistic people, including problematic behaviours and (2) recommendations as to what the police need to know about people with autism, including behavioural cues that could help a police officer identify an autistic person and how interactions could be better managed with that recognition. In the second paper, a local autistic-led organization was consulted when developing the vignette used in Studies 1 and 2. Members of the organization (autistic adults) completed a short pilot study in which they rated each vignette for the extent to which it depicted a realistic and accurate

portrayal of an autistic person in a police encounter. In addition, and perhaps most importantly, the information collected in the first paper was used to develop the training intervention, resulting in a community-informed intervention.

Attribution Theory

Attribution theory is a psychological framework that seeks to explain how people make sense of and assign meaning to their own behaviour and the behaviour of others. According to attribution theory, people tend to make internal or external attributions when trying to understand the cause of behaviour, and these attributions in turn influence subsequent behaviour (Weiner, 1988). Attribution theory can be applied to understanding police decision-making through examining how officers make attributions about the behaviour of individuals they encounter, in the present context, autistic people. Police officers make causal attributions to determine how to respond to situations they encounter, often in a short amount of time. Weiner's attributional model posits that if a person's non-normative behaviour is judged to be controllable, they are more likely to be held responsible for their actions and reactive emotions such as anger may be evoked; these can lead to what he refers to as punishing responses. In the context of policing, however, these responses would be best described as *enforcement responses* (e.g., arresting or restraining the individual). Conversely, Weiner proposes that if a person's behaviour is judged to be uncontrollable, supportive emotions like pity and sympathy may be more likely, and these may lead to what Weiner refers to as helping behaviours. In the context of policing, these responses would be better described as *supportive responses*. Examples of supportive responses would include de-escalation or referral to external services (Ling et al., 2010). In the present research, I sought to gain a more thorough understanding of the attributions made in the context of a police interaction with an autistic person. Through gaining insight into how typical autistic-

characteristic behaviour influences attributions and subsequent decision-making, as well as the relationship between these variables, we can better determine how and at what point to intervene to improve outcomes.

Overview of Present Dissertation

The overarching goal of the present dissertation was to develop and evaluate an evidence-based intervention to improve decision-making and outcomes in police interactions toward autistic people. In the first paper, I collected data from the autistic community in Canada to better understand the potential challenges that present in an interaction between the police and autistic people, along with community-informed recommendations on how these interactions can be improved. In the second paper, I conducted a series of four studies building up to the creation and evaluation of an evidence-based intervention to improve decision-making and outcomes in police interactions with autistic people. Using attribution theory as a theoretical lens, I explored how cognitive, affective, and behavioural response are influenced when a person presents with autistic-characteristic behaviour in a police interaction. Using the insights gained, I then developed an intervention focused on enhancing recognition of Autism in a police interaction, identified in the first phase of research as a promising avenue to improve decision-making and outcomes. The intervention integrated the insights and recommendations provided by the autistic community from the first paper. Taken together, this work presents a theoretical and empirical examination of how vulnerabilities associated with Autism can impact police interactions, and importantly, how decision-making and outcomes can be improved.

CHAPTER 2

Perspectives from the ASD community on police interactions: Challenges & recommendations.

Chapter 2 is comprised of a manuscript that has been published, minor changes have been made from the original published version on request of the committee:

Salerno-Ferraro, A. C., & Schuller, R. A. (2020). Perspectives from the ASD community on police interactions: Challenges and recommendations. *Research in Developmental Disabilities, 105*, 103732. <https://doi.org/10.1016/j.ridd.2020.103732>

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Salerno-Ferraro, A.	- Conception and design of the project –80%
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	- Analysis and interpretation of the research data – 30%
	- Manuscript writing –20%

Abstract

Background: Research shows that a substantial proportion of people with Autism come into contact with the police in their lifetime, and some research suggests that they are largely unsatisfied with their police interactions.

Method: Thirty-five adults with ASD completed an online questionnaire regarding the challenges police may face when interacting with autistic people, as well as provided recommendations as to how those interactions could be improved.

Results: Respondents reported a variety of different potential challenges that could present in an interaction between the police and people with ASD. For example, respondents felt that typical autistic behaviours, such as stimming or communication difficulties, could be misinterpreted by police officers and lead to adverse outcomes. Respondents discussed several recommendations aimed at improving police interactions with autistic people, including involving autistic people in the training of police officers.

Conclusions: The information collected in this study provides insights into how interactions between the police and people with ASD can be improved. These findings can be used in the development of police training programs or integrated into pre-existing training programs on Autism, contributing the invaluable perspective of the Autism community.

1. Introduction

Adverse interactions between the police and people with autism spectrum disorder (ASD) have become well documented in the media. The case of Arnaldo Rios Soto, a severely autistic man whose aide was shot by police, has received particular attention. Soto's caretaker, Charles Kinsley, was mistakenly shot by police while Soto, the intended target, sat beside him clenching a shiny toy truck, which had been mistaken by the police for the barrel of a gun (Pattani & Quinn, 2018). Unfortunately, what happened to Arnaldo is not an isolated incident. There have been many incidents over the past few years documenting situations where interactions between the police and people with ASD have become problematic, resulting in an increasing concern around policing and disabilities, particularly around police training.

Autism spectrum disorder has become increasingly prevalent over the past decade, with an estimated 1 in 68 children in the US, and 1 in 66 children in Canada diagnosed with ASD by 8 years of age (Center for Disease Control, 2014; Christensen et al., 2016). People with ASD often have highly focused interests, and may exhibit repetitive, stereotypical behaviours, such as extreme adherence to routines, or seemingly bizarre motor mannerisms such as hand flapping or more complex, whole-body movements (American Psychiatric Association, 2013). Many people with ASD also have sensory issues like sensitivity to light or noise (Gudjonsson et al., 2012). They may behave in strange and seemingly inappropriate ways, especially in social situations due to their social naivety (King & Murphy, 2014; Raggi et al., 2013). Some of the very features and characteristics associated with ASD may actually be problematic during a police interaction and could easily be misinterpreted by a police officer as indicative of guilt, aggression, or defiance.

Research suggests that a substantial percentage of people with ASD come into contact with the police in their lifetime. Rava et al. (2016) explored the prevalence of criminal justice

involvement for youth and adults with ASD in the United States using a nationally representative sample, finding that just under a quarter (19.5%) of youth with ASD had been stopped and questioned by police by the time they reached their early 20s. This rate was corroborated in a more recent Ontario-based study, where 16% of parents of children with ASD in their sample reported that their child had police involvement during the 18-month study period (Tint et al., 2017).

Although officers are likely interacting with the ASD community on a regular basis, they receive little to no training on how to recognize or handle autistic people. Training in Canada specifically has been characterized by some (e.g., Coleman & Cotton, 2014) as entirely lacking, inconsistent and not empirically based. The training that does exist focuses on Autism awareness, lacking the instruction on how to manage the special needs of people with ASD. Many police forces instead focus on mental illness training more broadly, incorrectly, and problematically categorizing disabilities as mental illnesses. A recent study by Maras et al. (Maras, et al., 2018) found that police officers in the UK felt frustrated regarding a lack of training on Autism. Furthermore, although police officers in their sample acknowledged that interacting with autistic people would require some level of adjustment or modification, they reported feeling constrained to act given multiple factors, including limited training and knowledge on Autism.

In the absence of proper training, police officers may be unable to adequately support individuals with ASD in a police encounter. For example, behaviours characteristic of ASD like aversion to eye contact, can be misinterpreted as a sign of disrespect or refusal to engage. As noted above, the research conducted by Maras et al. (2019), has shown that police officers often lack knowledge on ASD and developmental disabilities more generally. Modell and Mak (2008)

conducted a preliminary assessment of police officers' knowledge on disability, finding that although most officers could identify key features of disability, they were unable to differentiate between different disabilities and also confused disability with mental illness. Despite a clear lack of knowledge on disability, most officers were overconfident and perceived themselves to be competent and knowledgeable on disability. Similarly, Chown (2010) found that 40% of officers in the study sample failed to demonstrate an understanding of the term "developmental disability", and a staggering 80% were unable to correctly identify the features of ASD.

In an earlier study (Salerno & Schuller, 2019), we found that adults with ASD had multiple diverse lifetime experiences with the police. A large proportion of respondents reported that they were highly unsatisfied with their police interactions, and even experienced adverse effects as a result including trauma, distrust in the police, and even an unwillingness to contact emergency services if needed. This dissatisfaction with police interaction is consistent with other research (e.g., Crane et al., 2016). Importantly, there seems to be a disconnect as research using caregivers of people with ASD have generally found their police interactions favourable (Tint et al., 2017). This discrepancy could indicate a potential discrepancy between the perspective of caregivers of people with ASD compared to actual autistic people reporting directly on their own experiences. This also supports the importance of including autistic adults in research concerning them, rather than relying on caregiver report. Taken together, these results suggest a need for evidenced-based training programs to educate police officers on how to interact with autistic people.

When creating any type of training programs, it is important to include the views of multiple stakeholders, including those with lived experiences. Given the importance of including autistic voices in research, in the present paper, we obtained input from autistic adults on their

views regarding the challenges police may face when interacting with people with ASD, as well as their recommendations on how those interactions could be improved.

2. Method & Participants

As described in our earlier paper (Salerno & Schuller, 2019), this research employed a collaborative and community-engaged research strategy. An online questionnaire was developed in consultation with members of the ASD community as well as subject-matter experts. The questionnaire that will be discussed in this paper contained two major sections: (1) challenges of interacting with autistic people, including potentially problematic behaviours and (2) recommendations as to what police need to know about people with Autism, including how police officers should inquire about a suspected disability and what not to do.

The study was advertised as a survey seeking input from people with ASD about their experiences with the police, their views regarding police knowledge of ASD and what police officers should know about people with ASD. The survey was open to people with ASD, both those who had encountered the CJS, and those who had not. Respondents were recruited through various ASD agencies, organizations, and charities across Canada. Study inclusion criteria were: (a) have been diagnosed with Autism Spectrum Disorder, Pervasive Developmental Disorder, or Asperger Syndrome, and (b) were 18 years of age or older.

As described in our previous paper, the final sample consisted of 35 adults with ASD (21 women, 13 men, one respondent failed to provide this information). Most respondents were of White European descent (64.7%), and the mean age was 36.9 ($SD=11.96$). The sample was well-educated; 70% of respondents had attended or completed a post-secondary degree program. Despite this, most reported that they were unemployed at the time of data collection (60%, $n=21$). Most respondents (76.4%, $n=26$) reported a co-occurring mental health diagnosis. The

overall sample can be characterized as being mildly impaired, given their average score on the Waisman Activities of Daily Living Scale ($M=22$, $SD=4.08$), as well as their ability to complete the survey independently using the internet. Approximately 80% of respondents ($n=29$) reported that they had at least one police encounter in their lifetime.

3. Results and Discussion

3.1 Data Analysis

Our previous paper (Salerno & Schuller, 2019) provided a descriptive, qualitative analysis of the nature of interactions between the police and people with ASD living in Canada, as well as their perceptions of their police interactions. In this article, the focus is on the challenges of interacting with the police as reported by autistic adults themselves, which are presented alongside recommendations to improve future interactions between the police and people with ASD. In this article, we present further results from this survey regarding respondents' views of challenges in interacting with the police, and their personal recommendations, informed by their lived experiences, to improve police interactions with the ASD community. These results are based on respondent's answers to open-ended questions that broadly addressed how police officers should handle people with ASD. We asked respondents to reflect on the challenges of interacting with the police, as well as to provide recommendations as to how the police could interact with autistic people. These responses were analyzed using Braun and Clarke's (2006) thematic analysis. Thematic analysis is used to identify themes or patterns that emerge or repeatedly occur in the data. In accordance with Braun and Clarke's (2006) guidelines, the 1st author read through and became familiar with the data, generating initial codes. All of the text was then analyzed and coded for these themes. Themes and codes were

modified, assimilated, and transformed throughout the coding process, moving from initial codes to final theme categories.

The results will be presented in two parts: (1) perceived challenges of interacting with autistic people and (2) recommendations to improve interactions.

3.2 Part 1: Challenges police may face when interacting with autistic people

Respondents reported several challenges that the police may face in interacting with autistic people. There were three main themes encompassing these challenges: (1) misinterpreting behaviour, (2) Communication differences, and (3) Sensory sensitivities.

3.2.1 Misinterpreting Autism

Many respondents described being misinterpreted as the most significant challenges in a police interaction. This referred to misinterpreting typical autistic characteristics, expressions and behaviours as resistance, deceit, guilt, or aggression. The most commonly reported problematic behaviours included: aversion to eye contact and touch, fidgeting/stimming (self-stimulation), and communication differences.

Many respondents expressed concern that an aversion to eye contact would be misinterpreted as indicative of deceit: *“I don't have the greatest eye contact, which some people interpret as a sign of guilt (in my case it's just a sign that I can't process visual and auditory information at the same time).”* Similarly, fidgeting or the inability to sit still could be misinterpreted as anxiety or guilt. Many also thought “stimming” (self-stimulation) could be problematic in a police interaction if it were to be misinterpreted as aggressive behaviour: *“stimming that may look like the beginning of an attempt to slap or punch, refusal to engage.* As another respondent explained, these constant movements can also be misinterpreted as anxiety:

“I fidget a lot. People have misinterpreted this as anxiety...it’s not. I just need to move regardless of how I feel emotionally.”

One respondent expressed concern that their differences could be interpreted as wilful disobedience, guilt, or even intoxication: *“It depends on the situation, and the police officer. They might treat me badly because I have a disability, if they could see it or knew about it in some other way. Or they might treat me badly because they misinterpreted my difficulties/differences as willful disobedience or intoxication or signs of guilt/anxiety.”*

Respondents also felt that their communication difficulties could be problematic in a police interaction: *“That don't listen to them if autistic person say he is ok. Most of the time we have sensory overload and just can't interact with anyone. We can be silent when in distress.”*

Finally, a few respondents were concerned about commonly held incorrect stereotypes about Autism, for example that autistic people are less competent, child-like, and even violent, *“My disability has the potential to change the way all people in positions of authority treat me. autistic people are considered violent, in spite of all research pointing at disabled people being at an exponentially higher risk of being victims of violence (not perpetrators).”*

3.2.2 Speaking a different language

A recurring sentiment raised by respondents was that communication differences could make police interactions exceedingly difficult. There was a feeling of a disconnect between police expectations concerning communication, and their ability to communicate. For example, many participants mentioned that when they are feeling overwhelmed, they are not able to communicate. Some respondents referred to this as *“selective mutism”* or *“shutting down”*. Respondents provided several examples of this: *“loss of verbal ability during times of crisis”*, *“when I am overstressed, my verbal communication falters”* and *“a person like me can’t really*

process language if I'm having a meltdown; lots of people can't speak if they are very upset/afraid." Respondents felt that their silence would be interpreted as refusal to engage, rather than attributed to their anxiety, *"having the non-response interpreted as opposition and defiant."*

Many respondents discussed their difficulties in processing language and speech, and a lack of communication skills, for example,

"I don't hear their instructions because i am having difficulty processing verbally (both inbound and outbound). I cannot form a narrative very well. I can't think of words or am jumbled when speaking."

Respondents mentioned that their communication difficulties were inherent to their Autism, *"executive function issues impeding communication, understanding and progress"*, and expressed concern about how this would be interpreted by police officers:

"I am always concerned about not being able to find my voice when I need it most. I think if I couldn't respond in a high stress situation, my behaviour may be misinterpreted."

Respondents were particularly concerned about not being given enough time to respond to questions,

"I think they should know about the different ways...it takes us longer times to understand things and process things", "it may make them take a bit more time to communicate."

Regarding language comprehension, a few respondents mentioned literal language as a barrier to communication. As one respondent explained, *"they may not understand what is being said, they take thing said very literally."* Responding to questions literally was identified by a number of respondents, describing this as *"answering questions literally"* or *"literal responses to questions."*

Finally, it was felt that the use of open-ended questions is particularly problematic for people with Autism. Respondents felt that *“open-ended questions can make communication even more challenging.”* As one respondent described it:

“a question like ‘what happened’ definitely causes the kind of anxiety in me that shuts down my ability to verbally [sic], both information coming into my ears and going out of my mouth. I will miss instructions completely actually. I cannot process the words they are saying if I’m feeling overwhelmed by pressure to respond to open ended questions.”

3.2.3 Sensory sensitivity

Respondents described sensitivities to noise, visual stimuli, and physical touch as potentially problematic in a police interaction. Flashing lights and loud sirens alone can be catastrophic for someone with Autism, leading to what many respondents described as “sensory overload.” They explained that many people with ASD have hypersensitivities to touch, sound, and smell, which may manifest as aversions.

A recurring sentiment brought up by respondents was an aversion to loud noises. Many respondents mentioned being yelled at by police officers as a particularly unpleasant experience for someone with ASD. One respondent described this as an unpleasant sensory experience, amongst others: *“...unpleasant sensory experience ie. handcuffs, being pushed in to the back of a cruiser, being yelled at.”*

Being touched was another commonly mentioned unpleasant sensory experience for many people with ASD, as the following respondents described it: *“I don’t like being touched, I hate heat.”* One respondent mentioned that their habit of *“flinching away from touch”* would be problematic from the perspective of a police officer. It was felt that these sensory sensitivities

could further exacerbate communication difficulties or even lead to escalation, as one respondent described:

“we are easily agitated and startled. Any use of physical contact or loudness can drive a disabled person to become aggressive out of anxiety, or meltdown” another respondent explained, *“be very careful about touching ANYONE (but particularly autistic people) -- carelessness in this can exacerbate the crisis.”*

3.3 Recommendations to improve interactions between the police and people with Autism

Respondents made several recommendations aimed at improving police interactions with autistic people. These recommendations were largely related to the challenges presented above. In addition, respondents also provided recommendations for facilitating identification of someone with ASD, facilitating disclosure and recommendations related to police officer training.

3.3.1 Maintain a calm demeanor

Many respondents emphasized the importance of maintaining a calm demeanour and minimal sensory environment when interacting with an autistic person (I.e., *“approach using a calm, respectful way”*, *“stay calm”*, *“be respectful and calm”*). This included speaking in a quiet, calm voice and to avoid yelling or raising your voice at all costs, as one respondent emphasized: *“be calm, low volume, respectful.”* Respondents also indicated that police officers should try to exercise patience: *“Try not to show impatience, as it raises anxiety levels and works against easy conversation.”* There was a general feeling that a soft, calm voice can be an extremely effective tool in de-escalating someone with Autism. Respondents also discussed keeping distractions and environmental stimuli to a minimum, including loud noises (e.g., yelling or sirens), bright lights (e.g., flashlights or bright lights) and any physical contact.

Respondents proposed a “hands off” approach, meaning that officers should avoid touching or making physical contact with an autistic person at all costs: *“approach with hands off first, try to make the person they’re interacting with comfortable.”* As one respondent explained, being touched can be an extremely unpleasant experience for someone with Autism: *“No touching. I would rather strip naked and cough than be touched over my clothes for a second.”*

3.3.2 Communicating effectively

Respondents offered several ways in which police officers could facilitate and improve communication with autistic people. They emphasized a need for patience and allowing more time for people with ASD to answer a question: *“Patience, slow down, give visual/written information, be aware that difficult behaviour or communication may not be an attempt to thwart police but is a result of ASCs and stress.”* They also cautioned police officers against jumping to conclusions when a person with ASD fails to respond or engage with them, as this could be an indicator of sensory overload: *“If we’re in a situation where you feel the need to draw your guns or be rough, we are likely overstimulated and unable to respond. Take a moment to determine whether we’re really a threat or if we’re overwhelmed and unable to respond.”*

Repeating or rephrasing unanswered questions was also brought up as a useful way to engage someone with ASD, for instance as noted by one respondent, *“Using questions to restart someone who has stalled out (redirect or rephrase), talk slower, repeat what they hear.”*

Given that many people with ASD interpret language literally, using unambiguous, clear language emerged as an area of importance, as one respondent stressed: *“Use clear, unambiguous language if gathering language if responses seems especially blunt and direct, don’t take it personally. It is a feature of the communication disorder in some individuals.”*

Respondents also recommended using short, concise questions and offering alternative communication tools, as one respondent explained, *“offer an alternative communication method if needed. A lesson in sign language would be helpful. Offer notebooks to people who prefer to write down or draw what they need to say.”*

Finally, some respondents recommended that police officers offer to call an intermediary (e.g., a parent or caregiver) on their behalf, to facilitate communication: *“see if there is anyone else you can contact on our behalf if we’re distressed. We might need to text/email/call a friend or family member or therapist.”*, *“if the person is having difficulty speaking for themselves, involve family member or caregiver who knows them to speak on their behalf.”*

3.3.3 Allowing autistic behaviours

Allowing people with ASD to engage in typical autistic behaviours (e.g., stimming) was identified as a means toward facilitating interactions and even de-escalation. For example, respondents felt that officers should allow them to engage in stimming, repetitive movements, and fidgeting as it often acts as a self-soothing mechanism:

“don’t prevent us from doing repetitive movements/fidgeting unless there is a good reason (like if whatever we’re doing might cause harm to someone), we probably aren’t getting worked up, we’re probably keeping ourselves calm.”

Respondents also emphasized that police officers should not try and force eye contact, as it can be unnecessarily overwhelming: *“Don’t make an autistic person look you in the eyes if it’s not necessary, especially if we’re distraught.”*

Finally, respondents explained that police officers should allow people with ASD their comforts, which may include objects that resemble toys, electronics, or other therapeutic devices. One respondent warned against taking away, *“anything that person considers therapeutic.”*

Remove the person's communication device (this could be a tablet or a phone the autistic person uses to communicate non-verbally).

3.3.4 Involve autistic people in the development and implement of training programs for police officers

Respondents stressed the importance of including actually autistic people in the development of police training. When asked if it is important for police officers to learn about ASD, one respondent noted, *"Yes. But only if this includes interactions with adult autistics ourselves, not advocates speaking for and about us who are non-autistic.* A few respondents even offered tangible recommendations for how this could be accomplished, *"They should hold meetings with neurodiverse people, (the coffee with a cop program could invite neurodiverse people). They should receive training based on suggestions from neurodiverse people".* Another respondent offered a similar suggestion, *"meet with people on the spectrum to better see and understand what people with AS conditions are like and how to recognize."*

4.1 Facilitating officer recognition of ASD

Respondents were asked about cues police officers could identify to help them identify if an individual has ASD. Respondents provided a variety of behavioural, verbal, and auditory signs that police officers could look for to help them determine whether a person has ASD.

4.1.1 Atypical eye contact

Most respondents mentioned atypical eye contact and/or an aversion to eye contact as potential signs of Autism. As one respondent stated, *"Look at their eyes, like eye contact is very important".* Some respondents mentioned that general difficulty with eye contact could be an indicator of ASD: *"An officer may know that a person is autistic ... if they have difficulty eye contact."* This included an aversion to eye contact, and sometimes intense staring, as the

following respondent discussed: *“There are 2 types, one’s that cannot look a person in the eyes and the other’s that look intently in the eyes.”*

4.1.2 Other Aversions

Many respondents discussed various aversions and subsequent aversive behaviours as potential clues that a person has ASD. This included aversion to noise, physical touch, and other stimuli that may cause an unpleasant sensory experience: *“we often... wear stimulus blockers like sunglasses, headphones, hats or earplugs.”* Flinching or pulling away from physical contact was also mentioned: *“hand-shy flinching at being touched”* as well as becoming agitated or distressed if being touched, *“An officer may know that a person is autistic ... if they become especially distraught if officers put their hands on them.”*

4.1.3 “Stimming” – stereotypic or repetitive motor movements

Respondents mentioned various stereotypic or repetitive motor movements that may assist in the identification of someone with Autism. Many respondents simply referred to “stimming,” while others provided more comprehensive or specific examples. This ranged from gross motor movements like walking, or rocking, to more minor finger or toe movements, as the following respondent discussed: *“Rocking, nail biting, constantly hand movement or foot or toes movements, which is stimming, each person does it different.”* As the respondent stated, these seemingly atypical motor movements are forms of ‘stimming’ or self-stimulatory behaviours, and is one of the most common characteristics of Autism (Kapp, Crane, Elliot, Elphick, Pellicano, & Russel, 2019). A growing body of research suggests that stimming is a useful coping and self-regulatory behaviour for autistic people (Kapp et al., 2019). Other common forms of stimming mentioned by respondents included hand wringing and hand flapping.

4.1.4 Atypical speech and language use

Respondents mentioned that some people with Autism have atypical speech and language patterns. They mentioned having a “*monotone voice*” or “*odder sounding voice*” as well as “*stuttering, repeating words.*” Seemingly inappropriate talking, like talking far too much or not at all, was also mentioned by some respondents, “*Not wanting to talk, or talking wayyyy too much. Talking too much was my issue as a kid and why I was assaulted by police so many time.*”

4.1.5 Identifiable cards or tags

Some respondents mentioned that some people with ASD carry special cards or tags that explicitly declare that they have ASD:

“Look for zipper pulls, necklaces, bracelets with medical info/symbols on them. Service animals often wear vests or harnesses with informative patches on them, or if the handler is unresponsive, a service animal may have a pocket on their vest with medical information in it. Communicating via writing or typing; differences in eye contact may also be present. A person's wallet might have autism info cards and/or business cards of therapists and other support professionals in it.”

5.1 Facilitating disclosure of ASD

Recent research suggests that many people with ASD are hesitant to disclose their disability to the police (Crane et al., 2016; Salerno & Schuller, 2019). We asked respondents what they thought the appropriate way would be for a police officer to ask if they have Autism. Interestingly, some respondents said they would prefer if the officer already knew they had Autism without having to tell them: “*I prefer that if they enter my name, rather than asking me.*” This is similar to how a Vulnerable Person’s Registry or Autism Registry works, though

interestingly, most respondents did not seem to be aware that the registries exist for this very purpose.

Other respondents suggested asking indirect questions, such as asking whether they have a medical condition or disability, as the following respondent suggested:

“Do you need any help? "It seems like you're stressed out or scared. Is there a medical condition or health problem or disability that is giving you problems? Is it okay if we talk about that? (if yes) I am asking because I want to know how to help you.”

Other respondents suggested asking whether the person requires some sort of accommodation, for example, *“They first should ask what accommodation the person needs. They could ask if the person has any neurological difference that may make them appear different.”*

Conversely, other respondents suggested a more straightforward approach, like asking whether the person has Autism, or more generally, special needs, or a developmental disability as the following respondents mentioned:

“Asking if someone has special needs or is 'on the spectrum' is a good start. I self-identify as autistic, to head off misunderstandings of my manner/behaviour and communication needs. I also have an app on my iPhone to help. Offering Augmentative, Alternative Communication (AAC) to the public would make it easier on ASC people to open a dialog on their needs.”

While another noted,

“Just literally ask me if I have a developmental disability. But if a police officer was concerned that would be offensive (which is reasonable but also sad because developmental disability shouldn't be a shameful thing) they could ask about a list of

conditions.... like: "Do you have any medical or developmental conditions?" Something that makes it sound generic, like it applies to everyone."

Importantly, respondents mentioned that any question alluding to a person's disability should be asked discreetly, as the following respondent indicated: *"Privately, in consideration of the person's dignity."*

Finally, a few respondents provided more novel approaches to asking whether a person has Autism. For example, one respondent suggested rather than asking if the person has a disability, to inform them that they have the right to disclose any disabilities:

"Before getting too close to someone who is considered a suspect or person of interest, tell them (Miranda Rights style, only without arresting) that they have the right to disclose whether they have a disability, and that doing so (and providing contact information for someone who can verify) can help their situation immensely. Make sure to give more-than-adequate response time, and remember that just because they don't say it doesn't necessarily mean it's not true."

Interestingly, one respondent mentioned that they did not think it was the police's job to ask whether a person has ASD: *"I don't. I think the problem with police and autistic people is moreso that police aren't the right first call, and they should defer to mobile mental health crisis teams or paramedic care (which would require additional funding to increase those supports)."*

6. Conclusion

The purpose of this study was to integrate the views, lived experiences, and recommendations of the autistic community relating to police interactions with autistic people. In summary, recommendations reflected a need for police officers to make adjustments when interacting with autistic people, both to their behaviour as well as the environment. Respondents

offered several tangible recommendations as to how interactions with autistic people could be better managed. As a whole, respondents raised concerns that typical autistic behaviours may be easily misinterpreted by police officers, leading to a negative encounter. They felt that police officers should receive training on how to better handle people with ASD, and they emphasized the importance of including autistic people in this process.

The information collected in this study can be used in the development of training programs for police and first-responders. Insights and recommendations offered by respondents could easily be integrated into police education on Autism. For example, respondents felt that interactions could be improved by creating a calmer, less stimulatory environment. In practice, this could be accomplished by training officers to reduce sensory experiences, like flashing lights or loud sirens, when interacting with an autistic person. Similarly, drawing on the insights offered by respondents, officers could receive training on how to recognize the signs of Autism and its impact on their behaviour.

6.1 Limitations and Future Directions

The limitations of the present study are similar to those reported in our previously published study (Salerno & Schuller, 2019). The survey was administered online, which may have inadvertently excluded those without internet access or those who are not computer literate. This is problematic as we may not have captured the perspectives of those who are more vulnerable, such as those who live in poverty. Online administration may have inadvertently excluded certain autistic individuals for issues associated with their Autism, for example, those with severe communication impairments. Future research should focus on using more inclusive strategies, such as in-person interviews with communication aids.

It is also important to note that these insights and recommendations are informed by respondents' beliefs and expectations regarding police officers, which may not necessarily reflect reality. Thus, many of the concerns discussed by respondents in the present study may not be an actual concern in the real world, but these concerns nevertheless influence their behaviour toward the police, which in turn impacts how their interaction with the police proceeds. Future research should attempt to integrate both the perspective of autistic persons and the police, to determine whether their concerns align.

Furthermore, given that most police services are already overtasked or overburdened, some of the recommendations may not be feasible, given time and budget constraints. Thus, moving forward, it would be beneficial to work in conjunction with police services to determine how this information could be utilized and delivered.

Finally, ASD exists on a spectrum meaning that everyone with ASD is different. This point was emphasized by many of the respondents in the present study. Thus, though informative, the results of this study may not be representative of the entire ASD community. Given the nature of the sample, the results of the present study may be more representative of a mildly impaired adult ASD population. This population might be most problematic from a policing perspective, given the fact their disability may not be immediately apparent. Nonetheless, by consulting with actually autistic people we can begin to develop better training programs and determine best practice, integrating the views of those who are directly affected.

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CHAPTER 3

An attributional model of police response toward autistic people: evaluating a community-informed training module.

Chapter 3 is adapted from a manuscript that is currently being prepared for submission:

Salerno-Ferraro, A. C., & Schuller, R. A. (in preparation). An attributional model of police response toward autistic people: evaluating a community-informed training module.

Author	Contribution
Salerno-Ferraro, A.	- Conception and design of the project –80%
	- Analysis and interpretation of the research data –70%
	- Manuscript writing –90%
Schuller, R.	- Conception and design of the project – 20%
	- Analysis and interpretation of the research data – 30%
	- Manuscript writing –10%

Abstract

Purpose: Research has demonstrated that autistic individuals often experience negative interactions with the police, which can have lasting effects on their mental health and trust in law enforcement (e.g., Salerno & Schuller, 2019). Research suggests that police training on how to effectively communicate and interact with autistic people would be beneficial in reducing the likelihood of adverse outcomes. The purpose of this research was to design and evaluate a theoretical, evidence-based intervention to improve response to autistic persons in a police interaction context.

Method: A series of four police interaction simulation studies were conducted to programmatically evaluate how police officers interpret and make decisions in interactions involving autistic people through a lens of attribution theory, culminating in the development of an evidence-based, community-informed training intervention. We empirically examined how autistic-characteristic behaviour influences decision-making in a police-interaction context (Study 1), how disclosure influences these processes (Study 2 and 3), as well as the relationship between these attributional and response variables (Study 3). In the final study (Study 4), we evaluated a community-informed training module focused on enhancing an officer's recognition of Autism using a randomized controlled between-groups design.

Results: Broadly, the results from Studies 1 through 3 showed that most people were unable to recognize that the person in the simulated interaction was autistic. Encouragingly, however, identifying that the person was autistic (either through recognition or disclosure) was found to reduce the likelihood of adverse outcomes through decreasing judgments of blame and negative affect. The intervention was successful in improving recognition of Autism, as well as improving responses toward the autistic suspect. Participants who completed the intervention attributed less

blame and anger toward the suspect and were less likely to choose enforcement police-specific behavioural responses (i.e., arresting or detaining).

Conclusion: Taken together, the results evidence the effectiveness of a brief, community-informed training intervention on improving police response to autistic persons.

Keywords: Autism, Autistic, Autism Spectrum Disorder, policing, police response, police decision-making, attributions

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that affects social communication and behaviour (American Psychiatric Association, 2013). Autistic characteristics such as difficulty with social communication and sensory processing can have a significant impact on everyday life. For example, an autistic person may struggle to navigate noisy or crowded environments such as shopping malls or parties. The most profound and devastating impacts, however, might be seen in interactions with law enforcement. Unfortunately, these interactions can escalate, causing harm or injury to autistic individuals, such as in the recent case of Abdullah Darwich. Abdullah, 19, who is autistic and nonverbal, was tasered by police after they received reports of a “suspicious person in a state of undress, attempting to enter a vehicle and a house”. Police deployed a Conductive Energy Weapon (taser) after they judged Abdullah to be noncompliant due to him not responding to them. The incident occurred just a few blocks from his home, from which he had wandered. Abdullah’s father, Majd, realized his son had left their family home after the sound of police sirens prompted him to check his son’s room. When Majd arrived at the scene, just 10 houses away from his own home, he saw his son restrained on the ground with a bloodied face (Longwell, 2022). Unfortunately, Abdullah’s case is just one of many incidents over the past few years documenting situations where interactions between the police and autistic people have become problematic.

Research finds that a substantial percentage of autistic people encounter the police in their lifetime. In the US, Rava and colleagues (2016) found that 19.5% of autistic people have been stopped and questioned by the police by the time they reached their early 20s. This rate was corroborated in a more recent Ontario-based study. In their sample, 16% of parents of autistic people (aged 12 to 56) reported that their child had police involvement during the 18-month

study period (Tint et al., 2017). In some cases, autistic people may experience repeated encounters with the police in their lifetime (Salerno & Schuller, 2019).

Given the growing concern around adverse police interactions between the police and autistic people, it is important to understand why these interactions sometimes become so problematic. To address this question, we need only to look at the clinical features of ASD and their potential to elevate the risk of police contact. Characteristics associated with clinical features of ASD may elevate individuals diagnosed with ASD to be more at risk for coming into contact with the CJS for a variety of reasons. For instance, an increased social naivety may leave people with ASD more susceptible to the influence and manipulation of others (King & Murphy, 2014; Raggi et al., 2013). Difficulties with social understanding can also lead to inappropriate or aggressive behaviour, while disruption of habitual routines can lead to unpredictable and aggressive outbursts (Freckelton, 2013). Excessive or obsessive preoccupations may be pursued while ignoring the legal or social consequences of one's actions (Freckelton, 2013; King & Murphy, 2014). Impulsivity, propensity to panic, and unpredictability in new environments are also characteristic of ASD (Freckelton, 2013) and can lead to unpredictable behaviour.

Research has generally shown that autistic people report having negative experiences in their police interactions (Crane et al., 2016; Holloway et al., 2020; Salerno & Schuller, 2019). In a recent study surveying the ASD community in Canada on their experiences with police, it was found that a large proportion of autistic respondents reported that they were highly unsatisfied with their police interactions, and experienced adverse effects such as trauma, distrust in the police, and even an unwillingness to contact emergency services in the future if needed (Salerno & Schuller, 2019). Similar findings of dissatisfaction with police interactions have been reported in Australia (Gibbs & Haas, 2020) and the UK (Crane et al., 2016).

Police misinterpreting typical autistic characteristics and behaviours may be one potential reason underlying these unsatisfactory interactions. In an earlier study, it was found that fear of being misinterpreted was perceived to be one of the most significant challenges in a police interaction (Salerno-Ferraro & Schuller, 2020). Autistic respondents expressed concern that typical autistic characteristics and behaviours would be misinterpreted as something more sinister. For example, they feared that aversion to eye contact would be misinterpreted as indicative of guilt, or that stimming would be misinterpreted as aggressive behaviour. Similarly, Haas and Gibbs (2020) found that, when typical autistic characteristics were perceived as affecting the police interaction, it was more commonly associated with negative perceptions of the interaction. Indeed, experimental research has shown that the presentation of typical autistic-characteristic behaviour can result in negative impressions and evaluations, evidencing that these concerns of autistic people and their caregivers may be warranted. Maras et al. (2019) found that mock jurors presented with an autistic defendant exhibiting atypical behaviours perceived him to be deceitful, unremorseful, rude, and aggressive when they were not informed that he had ASD. Conversely, when they were told the individual had autism, they instead attributed the behaviours to his ASD, and were more empathetic. Thus, disclosing an ASD diagnosis to the police may be an effective way to improve police interactions (Crane et al., 2016; Gibbs & Haas, 2020; Lim et al., 2022; Holloway et al., 2020; Rava et al; Salerno & Schuller, 2019). Research, however, has found that many autistic people are reluctant to disclose their diagnosis (Crane et al., 2016; Gibbs & Haas, 2020; Holloway et al., 2020; Salerno & Schuller, 2019), sometimes out of fear of being stigmatized or mistreated by police (Gibbs & Haas, 2020). Given the increasing concern around policing and Autism, it is important to understand how police officers interpret

and make decisions in situations involving autistic people to better determine how to intervene effectively.

An attributional approach to police interaction with autistic people

How police officers perceive and understand Autism plays a significant role in how police interactions unfold. Attribution theory provides a potentially useful framework for thinking about how police officers interpret and respond to situations involving autistic people. Attribution theory has been used in prior research to examine police decision-making in regard to other vulnerable populations, mainly people with mental illness (e.g., schizophrenia) (Watson et al., 2004a, 2004b). Attribution theory rests on the assumption that people have an innate desire to understand why people do what they do (Heider, 1958), particularly when the things people do are important, unexpected, and/or negative. According to Weiner's theory of attribution (1988), attributions regarding a person's responsibility for a given situation shape affective responses and subsequent behaviour. Simply put, whether a person is judged to be personally responsible for their condition or not has a substantial impact on a perceiver's emotional reaction, and subsequent behaviour. Applied to police decision-making, understanding how police officers interpret situations involving autistic persons may provide insight into why some interactions become problematic and others may not.

As part of their job, police officers regularly make causal attributions about situations and the people involved in them to determine how to respond, typically in a very short amount of time. According to attribution theory, if a person's behaviour is judged to be controllable by the person exhibiting the behaviour, they will be judged responsible for their action, and reactive emotions like anger and irritation are more likely to be provoked, which may consequently leads to punishing responses (Ling et al., 2010). Conversely, if a person's behaviour is judged to be

uncontrollable by the person, they will be judged as not responsible for their condition, and supportive emotions like pity and sympathy are more likely to ensue, which are more likely to lead to helping responses (Menec & Perry, 1998; Schwarzer & Weiner, 1991). In the context of policing, these responses would be better described as supportive or enforcement responses. Supportive behaviours may include offering the individual a ride home, referring them to external services, or simply providing them with informal help. In contrast, enforcement police behaviours may include placing the individual under arrest, or placing them in restraints.

Whether a police officer recognizes that an individual is autistic may impact this process. If an officer correctly recognizes that a person is autistic, they may attribute atypical behaviours to their ASD, feel empathetic, attribute less personal responsibility, and try to support them. If, on the other hand, a police officer fails to recognize that a person is autistic, they may instead perceive them to be deceitful or aggressive (Maras et al., 2019), judge them to be personally responsible and respond with anger, fear, and subsequent enforcement behaviours mentioned above. The case of Abdullah Darwich described earlier can be considered a tragic misunderstanding that was largely due to bystander's and officers' failure to recognize that Abdullah was autistic.

Gender may also influence these processes. A recent study by Loomes et al. (2017) found evidence of a diagnostic bias against girls who meet the criteria for ASD, meaning that girls expressing ASD characteristics are less likely to be detected and diagnosed compared to boys. The authors suggest that gender stereotypes may potentially contribute to this bias, in that professionals may be less sensitive to the presence of autistic characteristics when expressed by girls. If police officers hold these same stereotypes, it is possible that they may be less likely to recognize ASD characteristics in female person of interest than in a male person of interest.

Police training regarding Autism

Although research suggests that police interact with autistic people regularly, in Canada, they receive little to no training regarding how to handle interactions with the autistic community (Coleman & Cotton, 2014). This lack of autism specific training is consistent with research conducted in the USA and the UK. Specifically, Holloway and colleagues (2022) found that 72% of police officers (N=142) from the UK in their sample had not received any autism training. A survey conducted by Gardner and colleagues (2019) in the US with 72 police officers found that 72.2% had not received any type of autism training. A more recent study with 51 police officers in the US reported that 53% had received some autism training, and about half of the officers who did receive training felt it was not sufficiently helpful to assist them in interactions (Christiansen et al., 2021).

Without specific training, police officers may not be able to recognize that a person is autistic. Research shows that police officers often lack knowledge regarding Autism and developmental disabilities more broadly (Chown, 2010; Modell & Mak, 2008; Railey et al., 2020), as well as report concerns regarding how to appropriately support autistic people during police interactions (Railey et al., 2020). Other studies show that police officers commonly misidentify developmental disability as mental illness or substance use (Bailey et al., 2001; Henshaw & Thomas, 2012), and hold generally negative attitudes toward those with disabilities (Eadens et al., 2016). Typical autistic characteristics may be especially problematic in a police interaction as many of these behaviours directly overlap with behaviours and cues that police officers are trained to base judgments of credibility and guilt on, such as lack of eye contact or fidgeting (DePaulo et al., 2003). Moreover, without training, officers' perceptions, attributions, and subsequent decision-making are likely to be based on misconceptions, negative stereotypes,

and stigmatized beliefs regarding autistic people. If an officer fails to recognize that a person is autistic, or has no formal knowledge or training regarding Autism, they may perceive the individual's behaviours to be suspicious or criminal, rather than characteristic of their disability.

Present Studies

In summary, research suggests that autistic people have negative experiences with the police, and that training is paramount to improving outcomes. To create an effective training module, it is important to better understand how police officers interpret situations involving autistic people and how their judgments affect outcomes. The goal of the present research was to explore decision-making and responses toward autistic people in a police interaction context through a lens of attribution theory to determine how typical autistic characteristics and behaviours influence cognitive and behavioural responses. In particular, we sought to identify the key variables, the relationships between them, and the process to provide insight into key factors that may be useful to target in an intervention. In phase 1 of this research (Studies 1 through 3), the decision-making and response toward autistic people in a police interaction context is explored to determine how typical autistic characteristics and behaviours influence cognitive and behavioural responses of decision-makers. In phase 2, a brief training intervention is developed and empirically evaluated.

In short, four studies were conducted to answer the following questions: (1) are autistic characteristics recognizable in a police-interaction context? (2) how do evaluations about an autistic person influence police-relevant decision-making? (3) how does recognizing a person has Autism, either through recognition or disclosure, influence the decision-making processes?

In Study 1, the influence of autistic-characteristic behaviour on response in a police interaction context is explored. In Study 2, how disclosing a person's Autism influences these

processes is explored. In Study 3, a conceptual replication of Study 2 using real police bodycam footage is used and an estimated model of the relationship between cognitive attributions, affective response, and behavioural responses is explored. Finally, in Study 4, the effectiveness of a brief training intervention focused on improving outcomes by enhancing recognition of autistic characteristics is evaluated. This research was approved by the Office of Research Ethics Human Participants review committee (certificate #:STU 2020-057).

Study 1

Study 1 investigated the effects of typical autistic-characteristic behaviour on response in a police interaction context. The design was a 2 (autistic-characteristic behaviour: present, absent) by 2 (Gender of person of interest: female, male) between-subjects, factorial design. The term “person of interest” is used to refer to the individual in the police interaction, who is not yet a suspect but rather the focus or target of the interaction. Our main dependent variables were: (a) whether participants recognized the autistic-characteristic behaviour and (b) whether the presence of autistic-characteristic behaviour influenced cognitive, affective (attributions) and behavioural response. We also explored whether gender moderated these effects.

Method

Participants

The original sample size for each study was based on previous research in our laboratory using similar designs. Overall, 430 participants were recruited from a large Canadian university. Respondents who failed to complete the study (i.e., aborted participation) were not included in analyses, leaving a final sample of 385 participants (192 men, 193 women) with an average age of 20.19 years ($SD=11.41$). The sample showed a wide range of ethnic diversity, with 24.9% identifying as South Asian, 17.9% identifying as White, 14.7% identifying as Middle Eastern,

12.1% identifying as Black, 11.6% identifying as East Asian, 3.5% identifying as Hispanic, and 9.3% identifying as a different or mixed ethnicity. The sample also showed a wide range of religious diversity, with 31.9% identifying as Christian/Catholic, 21.2% identifying as Muslim, 18.9% identifying as Atheist or Agnostic, and 18.5% identifying with a different religious affiliation.

Materials

Police interaction vignette

To manipulate autistic-characteristic behaviour, a series of vignettes based on real scenarios were developed and evaluated by a group of autistic adults. The vignette that was rated as most representative of autistic behaviour was chosen. For the absent condition, the typical autistic behaviours were replaced with other similarly aggressive behaviours. Prior to being presented the vignette, participants were told to imagine themselves as a police officer as they would be asked to review a brief vignette of a police interaction, fill out a police report, and respond to a series of questions regarding the interaction. Participants in the autistic-characteristic behaviour present condition read:

You are dispatched to a call in the lobby of a building where someone has called in a person in distress. You find a young man wearing a large set of headphones who appears to be in his late teens, early 20s at the front entrance door. He is slamming his head into the glass window repeatedly, screaming something unintelligible. The person who called, John, says that he became upset after realizing he had missed his cab. You approach him and ask him if he is okay, but he doesn't respond. Instead, he balls his hands into fists and begins hitting himself in the head, rocking back and forth and screaming. You place your hand on his shoulder and he recoils, taking a few steps back.

In the autistic-characteristic behaviour absent condition read:

You are dispatched to a call in the lobby of a building where someone has called in a person in distress. You find a young man who appears to be in his late teens, early 20s at the front entrance door. He is slamming his hands into the glass window repeatedly, screaming something unintelligible. The person who called, John, says that he became upset after realizing he had missed his cab. You approach him and ask him if he is okay, but he doesn't respond. You place your hand on his shoulder and he shrugs your hand off.

Dependent Measures

The dependent measures were embedded within a police-report template that contained both open and close-ended questions.

Recognition of Autism

Recognition in the present study is defined as the participant correctly identifying that the autistic POI was autistic, as indicated in their open-responses in the police-report. The recognition measure was embedded within the police report template. Three open-ended responses asked respondents about the POI's (1) suspected mental illness or psychiatric history (2) suspected medical conditions, and (3) mental state. Independent coders analyzed all three responses for whether the participant suspected the target was autistic. If the participant mentioned any of the following terms in any of the three responses it was coded as Autism-suspected: developmental delay, delay, disability, disabled, autism, autistic, ASD, Asperger's.

Attributions toward person of interest (POI)

Attributions were assessed using the Attribution Questionnaire (AQ) developed by Corrigan and colleagues (2003). The AQ is a 27-item self-report assessment tool that was

developed to measure public stigma towards people with mental illness, though it has subsequently been applied in research examining stigma toward autistic children (Ling et al., 2010). It assesses causal attributions, emotional reactions, and discriminatory responses on nine different subscales: blame ($\alpha=.75$), anger ($\alpha=.87$), pity ($\alpha=.70$), help ($\alpha=.83$), dangerousness ($\alpha=.88$), fear ($\alpha=.88$), avoidance ($\alpha=.71$), segregation ($\alpha=.82$), and coercion ($\alpha=.58$). Responses are provided on a 9-point scale ranging from 1 (*not at all*) to 9 (*very much*). The full scale is available in appendix B.

Police-specific behavioural intentions

Participants were presented with a list of possible police-specific behavioural responses, both supportive and enforcement focused. In the context of this research, the terms “supportive” and “enforcement” are used to describe behaviour that is oriented toward interacting with others in a positive or negative manner, respectively. These terms do not inherently refer to whether a behaviour is good or bad, as they are value-neutral descriptors. Supportive behaviours are those that are more assistance-oriented interventions while enforcement behaviours are more apprehension or arrest-oriented interventions. They were asked to indicate the extent to which they would engage in any of the listed behaviours on a Likert scale from 1 (*not at all likely*) to 9 (*very likely*). A dimension reduction analysis was then performed on all 11 items. The dimension reduction analysis revealed two dimensions, which were then used to create two composite variables, one representing supportive intentions and the other representing or enforcement intentions. The supportive police specific-behavioural responses variable was comprised of the following items: transporting the person to hospital, calling someone on their behalf, referring them to medical services, referring them to psychiatric services, providing them with informal support ($\alpha=.70$). The enforcement police-specific behavioural responses variable ($\alpha=.80$) was

comprised of the following four items: arresting the individual, detaining the individual, placing them in handcuffs/restraints, issuing a formal citation. Two of the items failed to load onto either factor and were dropped from further analysis.

Procedure

Participants access the study via a Qualtrics link where they were firstly presented with an online informed consent document. Participants were informed that the purpose of the study was to examine factors that influence decision-making in a police context. Participants were then instructed to imagine themselves as a police officer in a fictional police service as they would be asked to review a brief vignette of a police interaction, fill out a police report, and respond to a series of questions about the interaction. Participants were then randomly assigned to review one of the four vignettes based on the 2 x 2 design. Immediately after reviewing the vignette, they were prompted to provide their first impression of the situation and POI in an open-ended response format. Following this, they completed the *AQ* (Corrigan et al., 2003) to assess their perceptions of the situation including the extent to which they perceived the POI is to blame (responsible, fault, controllable), and their affective response (fear, anger, and sympathy). They were then prompted to provide their response to the situation, including how likely they would be to choose various types of police responses. Following these measures, they completed a brief demographics questionnaire. At the conclusion of the study, all participants were thanked.

Results

Gender manipulation

Examination of the gender manipulation check revealed that the variations in the gender of the POI were noted by most participants, 90% (N=341) of participants correctly identified the gender of the POI.

Recognition of Autism

Table 1
Suspicion of autism by Presence of autistic Characteristics

Autistic Characteristics	Autism suspected? (frequency)	
	Yes	No
Present	30	163
Absent	19	173

A chi-square test of independence revealed no significant main effects of either independent variable on recognition of autistic behaviours in the police interaction. Overall, participants were not able to identify that the autistic suspect had a disability. Only 15.5% (n=30) of participants correctly suspected that the POI was autistic, $X^2(1, N=385) = 2.76, p = .10$. There was no significant main effect of gender and there were no statistically significant interactions.

Attributions

A 2 (autistic characteristics: present, absent) by 2 (gender of POI: male female) multivariate analysis of variance revealed main and interaction effects on many of the subscales of the AQ. The main effects of autistic characteristics are displayed in Table 2, with higher scores indicating greater endorsement of the attribution. The results indicated a significant main effect of the presence/absence of autistic characteristics on evaluations of blame, anger, and pity. Participants' attributions were largely more favourable toward the POI displaying autistic characteristics compared to the POI not displaying these characteristics. Specifically, they attributed less blame, less anger and greater pity, toward the autistic POI than the non-autistic POI.

The main effect of the presence of autistic characteristics on anger, however, was qualified by a significant two-way interaction involving gender, $F(1, 375) = 4.213, p = .041$,

$\eta^2=0.011$. An analysis of simple effects showed that this effect was significant for the POI with autistic characteristics, $F(1,188)=4.12, p=.04, \eta^2=.02$, but not for the POI without the autistic characteristics. Within the autistic characteristics present condition, ratings of anger were higher toward the male POI ($M=3.01, SD=1.77$) than the female POI ($M=2.52, SD=1.52$). Similarly, there was a significant two-way interaction on ratings of danger, $F(1, 378)=8.19, p=.004, \eta^2=.021$, and fear, $F(1,376)=8.16, p=.005, \eta^2=.021$. Simple effects analyses revealed that these effects were only significant for the autistic-characteristic behaviour present condition, $F_{\text{danger}}(1,190)=10.29, p=.002, \eta^2=.05$, and $F_{\text{fear}}(1,188)=10.70, p=.001, \eta^2=.054$. When autistic characteristics were present, participants perceived the male POI ($M=4.46, SD=1.92$) as more dangerous than the female POI ($M=3.62, SD=1.74$). They were also more fearful of the male ($M=4.23, SD=2.09$), compared to the female POI ($M=3.33, SD=1.67$).

Table 2
Attributions of POI by presence/absence of autistic-characteristic behaviour

Subscale	Presence of autistic-characteristic behaviour	
	Present	Absent
Blame *	3.51	3.98
Anger*	2.76	3.44
Pity *	6.52	6.20
Help	6.62	6.48
Dangerousness	4.04	4.11
Fear	3.78	3.83
Avoidance	4.49	4.47
Segregation	3.68	3.72
Coercion	5.28	5.00

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Police-specific behavioural intentions

Police specific-behavioural responses were examined using a two-way 2 (autistic characteristics: presence, absence) x 2 (gender: male, female) analysis of variance. There was a significant main effect of the presence of autistic characteristics on supportive intentions, $F(1, 370) = 53.89, p < .001, \eta^2 = .13$. Although enforcement intentions did not differ across the two conditions, supportive intentions were higher for the autistic POI ($M = 7.43, SD = 1.35$) compared to the non-autistic POI ($M = 6.19, SD = 1.87$). Results also revealed a significant two-way interaction between presence of autistic characteristics and gender on enforcement intentions, $F(1, 364) = 7.96, p = .005, \eta^2 = .021$. Simple effects analyses showed that this gender effect was

significant only within the Autistic-characteristic behaviour present condition, $F(1, 181)=8.38$, $p=.004$, $\eta^2=.04$. Participants were more likely to choose enforcement police-specific intentions for the autistic male POI ($M=4.04, SD=1.98$) compared to the autistic female POI ($M=3.25, SD=1.70$). Ratings did not differ in the autistic behaviour absent condition, $p > .05$.

Table 3

Police-specific behavioural intentions by presence/absence of autistic characteristic behaviour

Behavioural intention	Autistic-characteristic behaviour	
	Absent	Present
Enforcement	3.59	3.64
Supportive	6.19	7.43

Discussion

The present study explored whether autistic characteristics are recognizable in a police-interaction context, as well as how the presence of these characteristics influences perceptions and decision-making in a police interaction context. First, although participants were largely unable to label or recognize autistic-characteristic behaviour as such, they seemed to have understood the POI's vulnerability in some way. The POI displaying autistic-characteristic behaviour received lower ratings of blame and anger, and higher ratings of pity, and greater help compared to the non-autistic POI. Participants also reported higher police-specific supportive intentions toward the autistic POI than the non-autistic POI. There were no differences in enforcement intentions, however, enforcement intentions in general were very low, well below the midpoint of the scale. These results suggest that participants may have detected the POI's vulnerability, even if they were unable to label it as a disability. Alternatively, it is possible that participants perceived the non-autistic POI as more violent or aggressive overall. Given that, to keep the conditions as equivalent as possible, the non-autistic POI displayed similarly

‘aggressive’, but different, behaviours. For example, in the autistic-characteristic condition, the POI is seen slamming his/her head against a glass window, rocking back and forth, recoiling when the officer touches them, and hitting themselves in the head. Conversely, in the non-autistic characteristic condition, the POI is seen slamming his hands into a glass and shrugging the officer off when he touches him.

It is quite possible that the non-autistic characteristic behaviours were perceived as more outwardly aggressive than the autistic-characteristic behaviours, which displayed more aggression toward the self. This may have led to increased pity and in general, more favourable ratings toward the autistic POI. Future research should address questions of whether perceived aggression plays a role in these evaluations.

Second, the results of the study suggest that autistic males may be judged more harshly than autistic females in a police interaction context. Participants rated the male displaying autistic-characteristic behaviour as more dangerous than the female exhibiting the same autistic characteristics, were more fearful of them, and were more likely to choose enforcement police-specific behavioural responses. Autism Spectrum Conditions are much more common in males than females (Baron-Cohen et al., 2011). Thus, problematic myths and misconceptions surrounding the idea that autistic people are violent or aggressive may be more commonly associated with autistic males than autistic females (Brewer et al., 2017). Of note, the effect sizes were relatively small, and this study employed a low-impact vignette decision-making paradigm.

Study 2

Study 1 demonstrated that autistic-characteristic behaviour is difficult to identify and label as such in a police-interaction context. In Study 2 and 3, the question of interest was whether disclosing one’s Autism in a police interaction would contribute to the processes of

recognition. In this context, disclosure refers to explicitly revealing to an observer that the individual in the interaction is autistic. The vulnerable person's registry is a tool used by many people and services across Canada that encourages "vulnerable" people (like autistic people) to register their name, diagnosis, and information regarding their vulnerability with their local police, in the hopes that if they were to ever encounter the police, the police would be able to quickly realize that they are 'vulnerable' and make decisions accordingly. As noted earlier, attribution theory suggests that applying a label to a person's condition can evoke sympathetic responses. For example, Wadley and Haley (2001) found that providing participants with a diagnostic label to atypical/inappropriate behaviour produced greater sympathy, willingness to help and less blame. Logos and colleagues (2021) found that autistic-characteristic non-verbal behaviour led to negative evaluations of a suspect in an interrogation context, but this bias could be attenuated by providing observers with an Autism information card. The discounting principle (Kelley, 1973) states that when there is a more plausible explanation for an unusual outcome, such as atypical behaviour, people tend to discount or downplay other reasons for the behaviour. Thus, in the present study, we empirically evaluated whether knowledge of a person's Autism reduced the likelihood of a negative outcome through changing observer's attributions about the POI. Might providing a label lead an observer to attribute the unexpected or unusual behaviour to the condition rather than indicative of something more menacing?

Study 2 investigated how disclosing a person's Autism in a police interaction context influences attributions and responses. The design was a 2 (Autism disclosure: disclosed, undisclosed) by 2 (Gender: female, male) between-subjects factorial design. Similar to study 1, the main dependent variables were (a) would disclosure improve recognition of Autism and (b)

how would disclosure influence attributions and police-specific behavioural responses. Gender was again explored as a moderator.

It was hypothesized that respondents would consider a person labeled as autistic as less responsible for their situation than a person who was not described as having a disability. Accordingly, it was also hypothesized that respondents would feel more pity, express more willingness to help, and would express intentions to engage in more supportive and less enforcement police specific behaviours toward the POI labeled autistic compared to the POI that was not described as autistic. We further hypothesized that recognition would have the same effect, in that respondents who recognized that the POI is autistic would show more supportive attributions and responses.

Participants

In total, 304 participants were recruited from a large Canadian university. Respondents who aborted participation were excluded from analyses. The final sample consisted of 276 participants (137 women, 129 men) with an average age of 21 years ($SD=5.15$). The sample showed a wide range of ethnic diversity, with 31.5% identifying as White, 20.1% identifying as South Asian, 15.8% identifying as Middle Eastern, 13.6% identifying as Black, 11.4% identifying as East Asian, 3.8% identifying as Hispanic, and 7.6% identifying as a different or mixed ethnicity. The majority of the sample identified as Christian/Catholic ($n=87$, 28.6%), Muslim ($n=61$, 20.1%) or Atheist/Agnostic ($n=49$, 16.1%).

Procedure

Except for the addition of the disclosure manipulation, the materials and procedure for Study 2 were similar to those employed in Study 1. In terms of the disclosure manipulation, half of the participants (those in the disclosure condition) were given the following information:

The [fictional police service] Registry is a voluntary database that provides important information to first responders about the issues that vulnerable persons in their community might be coping with. You are notified by dispatch that the young [man/woman] is in the Vulnerable Persons Registry and has Autism

whereas the remaining participants (those in the no disclosure condition) did not receive this information. After reviewing the vignette, participants advanced through the same procedure as those employed in Study 1. Following their completion of the measures, participants were again thanked.

Results

Gender manipulation

Examination of the gender manipulation check revealed that the variations in the gender of the POI were noted by most participants, 87.27% (N=240) of participants correctly identified the gender of the POI.

Recognition

A chi-square test of independence showed that when the POI's disability was disclosed, participants were more likely to correctly identify that the POI was autistic (N=64, 47.41%), compared to when the POI's disability was not disclosed (N=30, 21.74%), $X^2(1, N=273) = 19.91$, $p < .001$, $\phi = .270$.

Attributions toward POI

The influence of disclosure on attributions was explored using a two-way 2 (disclosure: disclosed, not disclosed) x 2 (POI gender: male, female) analysis of variance. There was no significant main effects or interactions on any of the attributional variables, $ps > .05$.

To explore whether correctly recognizing that a person has a disability influences perceptions and attributions, a series of *t* tests using participants' recognition of the POI's

disability as the independent variable (Recognized: yes, no) was conducted. This revealed main effects of recognition on all but two of the subscales of the AQ, displayed in Table 4.

Participants who recognized that the POI was autistic showed more favourable attributions toward the autistic POI; they attributed less blame, less anger, less fear, less danger, less segregation, greater pity, and were more willing to help the autistic POI compared to participants who did not recognize that the POI was autistic.

Table 4
Attributions by recognition of Autism

Subscale (α)	Recognized	Not recognized	Cohen's d
Blame (.74)***	2.62	3.70	.714
Anger(.89)**	2.27	3.02	.437
Pity(.72)**	7.10	6.38	-.439
Help(.77)**	7.04	6.37	-.376
Danger(.90)***	3.31	4.31	.541
Fear(.89)***	3.15	4.21	.061
Avoidance(.73)	4.60	4.48	-.106
Segregation(.85)**	3.15	4.00	.449
Coercion(.64)	5.15	5.21	.037

*= $p < 0.05$

**= $p < 0.01$

***= $p < 0.001$

Police-specific behavioural intentions

The effect of disclosure on police-specific behavioural intentions was examined using a two-way 2 (disclosure: disclosed, not disclosed) x 2 (gender: male, female) analysis of variance. There was a significant main effect of disclosure on supportive intentions, $F(1,260)=4.44$, $p=.036$, $\eta^2=.017$. Unexpectedly, participants were more likely to endorse supportive intentions

when the POI's disability was undisclosed ($M=7.45$, $SD=1.72$), than when it was disclosed ($M=6.99$, $SD=1.85$). There was no main effect of disclosure on enforcement intentions.

Table 5

Disclosure by police-specific behavioural intentions

Behavioural intention (α)	Disclosed	Undisclosed
Enforcement (.84)	3.68	3.42
Supportive (.83)	6.99	7.45

This main effect of disclosure on supportive intentions was qualified by a significant two-way interaction of gender, $F(1,260)=5.37$, $p=.021$. Simple effects analyses revealed that this effect was only significant for the male POI, $F(1,129)=11.13$, $p=.001$, $\eta^2=.079$. For the male POI, participants were more likely to choose supportive intentions when the disability was undisclosed ($M=7.78$, $SD=1.35$) compared to when it was disclosed ($M=6.81$, $SD=1.91$). There was no difference for the female POI as a function of disclosure, $F(1,131)=.020$, $p=.888$.

A series of t tests were used to examine the influence of recognition (recognized: yes, no) on police specific behavioural intentions. Recognition had a significant effect on both supportive, $t(260)=-3.17$, $p=.002$, $d=-.411$. and enforcement intentions, $t(264)=3.92$, $p<.001$, $d=.502$. When participants recognized that the POI had a disability, it led to higher supportive intentions ($M=7.70$, $SD=1.27$), and lower enforcement intentions ($M=2.9$, $SD=1.72$) compared to when they failed to recognize the disability ($M=6.97$, $SD=1.99$ and $M=3.90$, $SD=2.10$ respectively).

Discussion

Study 2 investigated the effects of disclosure on recognition and response in a police interaction context. As predicted, disclosing that the individual had a disability led to greater, though not perfect, recognition of autistic characteristic behaviour. This is consistent with our previous research (Salerno & Schuller, 2019) where some autistic participants reported that the

police officer was not able to recognize they had a disability, even after they tried to inform the police. In the context of this study, it is possible that participants did not know what to do with this information (i.e., they did not know what autism is), thus why it was not recorded in the mock police report. Alternatively, perhaps they were not paying attention when this information was presented to them. Whatever the case, both possibilities could also potentially occur in a police interaction, especially considering the added stress, anxiety, and time constraints that are likely present in this type of interaction.

Surprisingly, disclosure did not influence attributions or enforcement intentions. Disclosing that the POI was registered with the Vulnerable Person's Registry and was autistic did not lead to more favourable perceptions or attributions. In fact, participants in the Autism disclosed condition actually displayed fewer supportive intentions than those in the undisclosed condition, meaning that when participants were told the POI was autistic, they were less likely to choose police-specific supportive responses than when they were not told. Encouragingly, however, as was hypothesized, recognition did seem to improve both attributions and responses. When the participant recognized the POI's disability (i.e., recorded the information in the mock police report), it led to decreased perceptions of blame, anger, fear, segregation, and danger, as well as increased pity and help. In addition, recognition led to higher supportive intentions and lower enforcement intentions.

These findings seem to suggest that it is not enough to simply inform someone that a person has a disability, as is assumed with the use of the VPR, but rather the observer must also process this information. Simply put, in a police interaction, disclosing that a person has a disability is not sufficient if the observer doesn't recognize the disclosure. Recognition, however, independent of whether the observer was explicitly informed of the POI's disability, seems to

have a positive impact on the interaction. Targeting an officer's ability to recognize that a person is autistic may be more effective in reducing the likelihood of an adverse interaction than explicitly telling them. This could be a potential avenue to pursue in a training intervention.

Building on the findings of Study 1, Study 2 provided more evidence for a possible bias against autistic males in a police-interaction context. Specifically, participants were more likely to choose supportive intentions when they did not know the male POI was autistic compared to when they did know. Thus, disclosing that the male POI was registered with the VPR and was autistic seemed to harm the male POI rather than help them. Again, problematic myths and misconceptions surrounding the idea that autistic people are violent and dangerous may be partially to blame for this decrease in willingness to help. Interestingly, this effect disappears for those participants who recognized (and recorded) that the POI has a disability. Thus, there is something about disclosing that someone has a disability that is not only unhelpful, but potentially harmful, toward autistic males if the observer does not understand what the implication of this information is. The fact that disclosure harms responses toward the autistic male POI suggest that participants are indeed paying attention to the disclosure information. Perhaps there is something about the process of recording that the POI has a disability and the thought process behind it that bridges the gap between disclosure and recognition.

Taken together, these findings suggest that we should encourage people with disabilities to disclose their diagnosis to police, however, unless the police officer understands and processes this information, it is unclear that it would lead to improved outcomes. Our results, however, do suggest that it is certainly not harmful to disclose a disability, given that it did not harm perceptions or lead to increased enforcement intentions. A more promising route to decrease the likelihood of a negative police interaction may be to POI recognition through increasing an

officer's ability to recognize when a person is autistic, given that recognition was shown to improve attributions and led to more supportive responses.

The next step in this research program is to examine these attributions at a deeper level, through examining the relationship between them. For example, Study 2 demonstrates the effectiveness of recognition in improving response. However, what is the mechanism driving this relationship? Study 3 examines the relationship between cognitive, affective, and behavioural response to explore the mediational relationships between these variables, to gain a deeper understanding of the decision-making process. Given that we used the same police interaction vignette used in Study 1, reading about a police interaction lacks intensity and external validity. In light of these limitations, Study 3 used a more realistic and impactful stimulus in the form of bodycam footage from an actual police interaction.

Study 3

In Study 3, we conducted a conceptual replication of Study 2 to further explore the effects of disclosure and recognition, independently, on recognition, attributions, and behavioural responses in a police interaction context. In Study 3, to increase realism and external validity, we used a higher impact stimulus in the form of genuine bodycam police footage depicting a police interaction with an autistic man. The design was a between-subjects, experimental design with two conditions (Autism: disclosed, undisclosed).

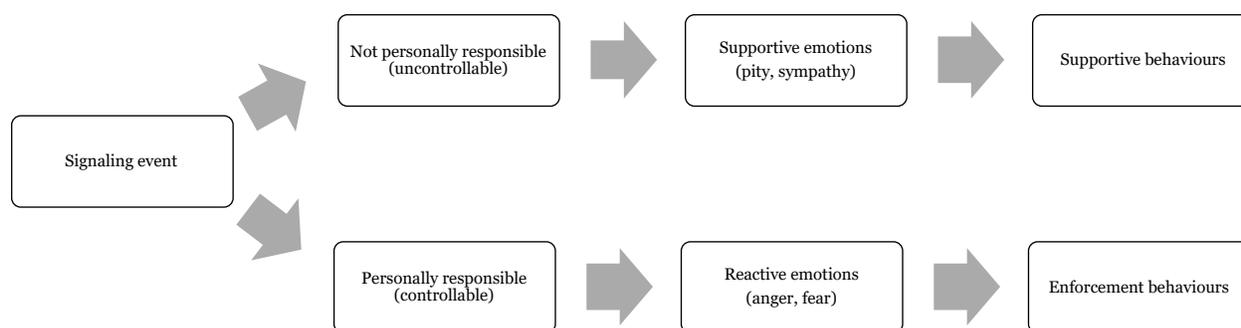
We were particularly interested in further exploring the positive effects of recognition that were uncovered in Study 2. Like Study 2, participants' recognition of the suspect's disability was entered as an independent variable in several analyses to explore this further. Additional measures were included to further explore how both disclosure and recognition impacts judgments and evaluations of an autistic suspect in a police interaction context. Three additional

dichotomous measures probing participants' evaluations of the use of force in the interaction were included, more specifically, (1) whether they thought the suspect was cooperative, (2) whether the suspect's behaviour toward the officers warranted use of force, and (3) whether the force used against the suspect was reasonable.

In addition, the goal of study 3 was to examine the relationship between cognitive attributions, affective responses, and the likelihood of supportive versus enforcement behavioural intentions toward an autistic POI. A conceptual model of the attribution appraisal process, as it relates to police responses to autistic persons is presented in Figure 1.

Figure 1

A path model representing the relationship between cognitive mediators, affective, and behavioural response



This figure was largely adapted from the work of Weiner (1988) and Corrigan (2000). The model hypothesizes that when a police officer judges a POI to be personally responsible, the likelihood of enforcement-oriented police-specific behavioural responses will increase through increasing reactive, negative emotions (e.g., fear, anger). Conversely, if the POI is judged to not be personally responsible, this will increase the likelihood of supportive-oriented police-specific behavioural responses behaviours through increasing positive, supportive emotions (e.g.,

sympathy). It was hypothesized that providing a label for the behaviour, either through disclosing it or through participant recognition, would lead to lower endorsement of enforcement responses through lowering judgments of blame and negative affect.

Method

Materials

Police Bodycam Footage

The video footage used in this study was filmed through a police body-worn camera during a real interaction between Graham Police Services in North Carolina and a 19-year-old autistic man named Michael Moore. The footage depicts two police officers approaching and questioning a young man who is suspected of throwing rocks into a neighbor's yard. The footage depicts Michael growing more confused while repeatedly apologizing. The officers perform a field sobriety test and attempt to handcuff Michael. A struggle then ensues, with the officers physically forcing Michael to the ground and then deploying a conductive energy weapon on him twice. Throughout the video, the young man expresses several typical behavioural characteristics of Autism including avoiding eye contact with police, erratic, atypical behaviour, and aversion to physical contact.

Participants

In total, 184 participants were recruited from a large Canadian university. Respondents who aborted participation were excluded from analyses, leaving a final sample of 180 participants (88 women, 92 men) with an average age of 20 years ($SD=5.23$). The sample showed a wide range of ethnic diversity, with 31.5% identifying as White, 20.1% identifying as South Asian, 15.8% identifying as Middle Eastern, 13.6% identifying as Black, 11.4% identifying as East Asian, 3.8% identifying as Hispanic, and 7.6% identifying as a different or

mixed ethnicity. The majority of the sample identified as Christian/Catholic (42.4%), Muslim (21.7%), or Atheist/Agnostic (16.8%).

Procedure

Participants were told that they were participating in a study examining the knowledge and skills that civilians bring when acting as members of a police review board. Participants were told that they were to act as mock Special Investigations Unit (SIU) members in deciding whether a police officer's actions were justifiable or not. They were also provided some information regarding the SIU including their mandate and purpose. Prior to reviewing the bodycam footage, all participants were given the following information: *You are patrolling a local neighborhood when you are dispatched to attend to a call in a residential area where there have been reports of a man throwing rocks at houses.* Participants were randomly assigned to either the Autism disclosed or not disclosed condition. Participants in the Autism disclosed condition received the following additional information:

You are notified by dispatch that this person is registered in the vulnerable persons registry. The vulnerable persons registry is a voluntary database that provides important information to first responders about the issues that vulnerable persons in their community might be coping with. You are notified by dispatch that the man has Autism.

Participants in the undisclosed condition did not receive this additional information. After reviewing the footage, participants advanced through the same procedure as in Studies 1 and 2. At the conclusion of the study, all participants were thanked and debriefed.

Results

Recognition of suspect's autism

A chi-square test of independence showed a significant association between disclosure and recognition of Autism, $X^2(1, N=181) = 22.17, p < .001, \phi = .351$, with participants in the disclosed condition more likely to recognize that the suspect had Autism ($N=43, 50\%$) compared to participants in the undisclosed condition, ($N=16, 17\%$)

To explore the question of whether participants who failed to recognize that the suspect had a disability were unaware of what to do with this information or simply were not paying attention, we included a manipulation check where we asked participants whether they received information regarding whether “James”, the suspect in our interaction, was registered in the VPR and had Autism. Results revealed that most participants ($N=148, 81.8\%$), passed the manipulation check. Interestingly, of the 122 participants who failed to recognize that James had a disability, about half of them passed the manipulation check, which suggests that they were indeed paying attention to this information but did not know what to do with it.

Attributions toward suspect

A series of t tests were performed on each subscale of the AQ revealed that disclosure had a significant effect on almost all attributions, as displayed in Table 6. When the suspect's Autism was disclosed, participants' attributions were more favourable than when it was not disclosed; more specifically, participants in the Autism disclosed condition had lower ratings of blame, anger, fear, segregation, coercion, danger, and avoidance compared to participants in the undisclosed condition.

Regarding recognition, replicating the findings from Study 2, results showed that participants who recognized the suspect's disability had lower ratings of blame, $t(174) = 3.84$,

$p < .001$, $d = .62$, anger, $t(177) = 4.11$, $p < .001$, $d = .65$, danger, $t(176) = 3.59$, $p < .001$, $d = .57$, fear, $t(175) = 2.39$, $p = .009$, $d = .38$, and segregation, $t(175) = .59$, $p < .001$, $d = 1.86$, compared to participants who did not recognize the suspects Autism, as well as higher ratings of help $t(175) = 3.14$, $p = .001$, $d = -.51$, and pity $t(176) = -3.31$, $p = .001$, $d = -.53$.

Table 6
Attributions of suspect by disclosure

Subscale (α)	Disclosed	Not disclosed	Cohen's d
Blame(.70)**	3.48	4.22	.464
Anger(.90)**	2.96	3.98	.528
Pity(.69)	5.99	5.82	-.114
Help(.73)	6.21	5.83	-.230
Danger(.91)**	3.37	4.36	.500
Fear(.92)*	3.11	3.75	.324
Avoidance(.74)***	5.19	6.31	.624
Segregation(.82)**	3.34	4.16	.432
Coercion(.57)**	5.00	5.66	.400

*: $p < 0.05$

** : $p < 0.01$

***: $p < 0.001$

Police-specific behavioural intentions

A series of t tests compared the effects of disclosure independently on both enforcement and supportive intentions. Results showed a significant main effect of disclosure on enforcement intentions¹, $t(175) = 4.65$, $p < .001$, $d = .700$, but not supportive intentions², $t(174) = 1.14$, $p = .25$.

¹ $\alpha = .86$

² $\alpha = .71$

Participants in the disclosed condition were less likely to endorse enforcement intentions ($M=4.35$, $SD=2.23$) than those in the not disclosed condition ($M=5.98$, $SD=1.66$).

Also, t tests were used to compare the effects of participant recognition of the suspect's disability on supportive and enforcement intentions. The results showed that participants who recognized that the suspect had a disability had lower enforcement intentions ($M=4.39$, $SD=2.53$) than those who did not recognize his disability ($M=5.47$, $SD=1.90$), $t(174)=3.19$, $p=.002$, $d=.51$. Supportive intentions, however, did not differ based on recognition and were high overall ($M=6.14$), $p > .05$.

Use of force evaluations

A series of chi-square analyses were performed to examine the impact of both disclosure and recognition independently on use of force evaluations. Participants in the disclosed condition reported that the suspect was cooperative more often ($n=36$, 41.9%) than participants in the undisclosed condition ($n=25$, 26.6%), $X^2(1, N=180)=4.67$, $p=.031$, $\phi =-.161$. Disclosure did not influence evaluations of whether the force was warranted or reasonable, $ps > .05$.

Participants who recognized that the suspect had a disability more often reported that the suspect was cooperative with police ($n=27$, 45.8%), $X^2(1, N=179)=5.35$, $p=.021$, $\phi =-.173$ and that the force used against him was not reasonable ($n=38$, 65.5%), $X^2(1, N=180)=5.82$, $p=.016$, $\phi=.18$, compared to participants who did not recognize the suspect's disability ($n=34$, 28.3% & $n=56$, 46.2%, respectively). Recognition, however, did not influence judgments of whether the force used was warranted.

Serial mediation analysis

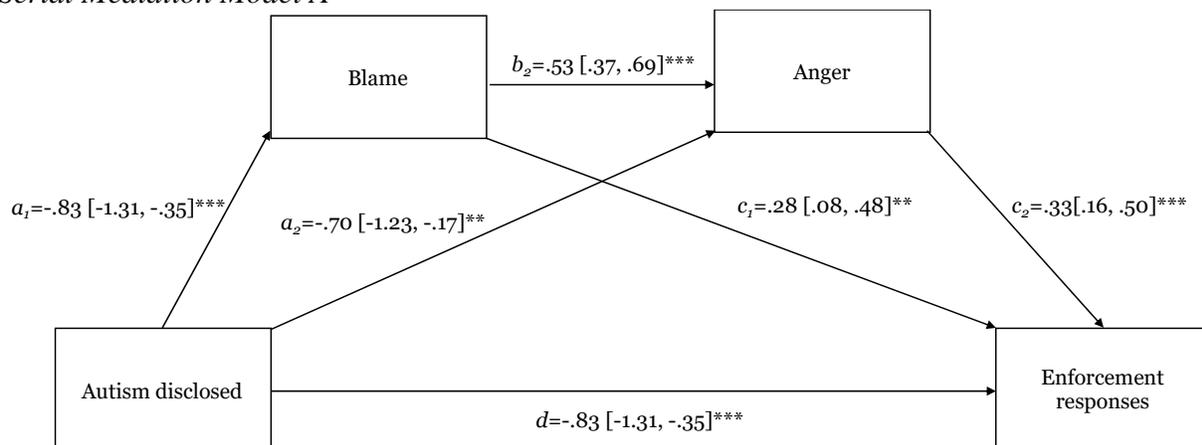
To test whether the attributional process reflected the sequence of processes suggested by Weiner (1988) and Corrigan (2000), the PROCESS tool (Model 6; Hayes, 2018) was used to conduct serial mediation analyses using ordinary least squares path analysis. Two models were run testing the effects of both disclosure (Model A) and recognition (Model B) on enforcement police-specific behavioural responses via blame and anger. Given the fact that there were no main effects on supportive behavioural intentions, only the enforcement intentions model was tested. Enforcement police-specific behavioural intention was entered as the outcome variable, disclosure (Model A; Figure 2) and participant's recognition of ASD (Model B; Figure 3) were entered as predictors, and, in line with attribution theory, participants' mean ratings of blame, and anger were entered as separate mediators in that order. The indirect effects were subjected to a bias-corrected bootstrap analysis with 5,000 bootstrap samples and 95% confidence intervals. Figures 2 and 3 present the relationship between the variables in the proposed sequence. Overall, support was found for both models. Consistent with our predicted model, both disclosure and recognition led to decreased enforcement responses via decreasing judgments of blame, which in turn reduce anger.

Figure 2 (Model A) presents the relationship between disclosure, blame, anger, and enforcement behavioural intentions in the proposed sequence. Specifically, we found a significant negative relation between disclosure and blame, $B = -.83$, $SE = .24$, $t = 3.40$, $p < .001$, 95% CI [-1.31, -.35], a significant positive relation between blame and anger, $B = .53$, $SE = .08$, $t = 6.47$, $p < .001$, CI [.37, .69]. and a significant positive relation between anger and enforcement responses $B = .33$, $SE = .08$, $t = 3.85$, $p < .001$, CI [.16, .50]. Importantly, the indirect effect of the

serial mediator model was significant, indirect effect=-.14, SE=.06, CI [-.29, -.04], indicating support for the serial model of disclosure on enforcement responses.

Figure 2

Serial Mediation Model A



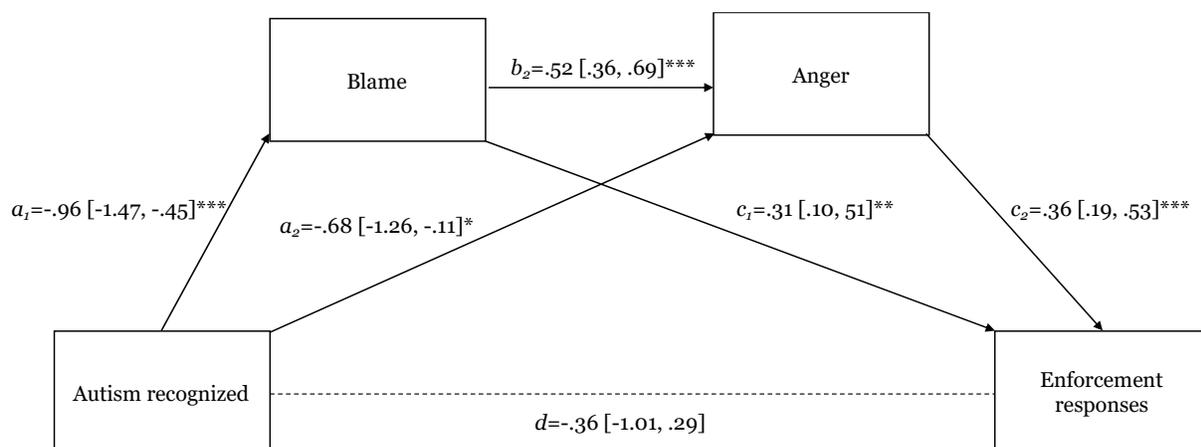
* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Figure 3 (Model B) presents the relationship between recognition, blame, anger, and enforcement behavioural intentions in the proposed sequence. We found a significant negative relation between recognition and blame, $B = -.96$, $SE = .26$, $t = 3.75$, $p < .001$, 95% CI [-1.47, -.45], a significant positive relation between blame and anger, $B = .52$, $SE = .08$, $t = 6.47$, $p < .001$, 95% CI [.36, .69], a significant positive relation between anger and enforcement response, $B = .36$, $SE = .09$, $t = 4.15$, $p < .001$, 95% CI [.19, .53]. The indirect effect of the serial moderator was significant, indirect effect=-.18, SE=.07, CI [-.34, -.07], indicating support for the serial model of recognition on enforcement responses.

Figure 3
Serial Mediation Model B



* $p < 0.05$
 ** $p < 0.01$
 *** $p < 0.001$

Discussion

In Study 3, a conceptual replication of Study 2 using a higher impact stimulus to investigate the impact of an Autism disclosure in a police interaction context was conducted. Rather than a vignette, authentic bodycam footage from a police interaction involving an autistic suspect was used. In contrast to Study 2, which used a vignette, disclosure had a positive impact on both attributions toward the suspect as well as behavioural intentions.

Similar to what was found in Study 2, Study 3 confirmed that disclosure leads to improved recognition, although again not perfectly. About half of the participants who received the disclosure information recorded that the suspect had a disability in the mock police report. Importantly, this did not seem to be due to a lack of attention on the participants part, as most participants were able to accurately report whether they received the disclosure information or not. This issue warrants further exploration. In the present studies, a police-report template was used out of concerns of introducing demand characteristics, and out of consideration of how a

police interaction would unfold in real life. In future studies, perhaps including dependent measures explicitly asking participants whether they suspect a disability could help shed light on this.

In contrast to the findings from Study 2, disclosing that the suspect had a disability had a positive impact on almost all attributions toward the suspect, leading to more supportive evaluations. This difference in results between study 2 and 3 may be explained by the differing stimuli used in the two studies. Compared to the vignette (Study 1), the bodycam footage used in Study 3 was more realistic and, as a result, was likely higher in impact. Given that Study 3 was more realistic and impactful, it is more likely that participants were meaningfully engaged in the task in comparison to Study 2. A final consideration is that the effects of disclosure on attributions seen in both studies are small to moderate, thus, they were only likely to be seen in a study with greater realism. Disclosure led to decreased enforcement police-specific behavioural intentions, but did not impact supportive attributions, replicating what was found in Study 2. Building on these findings, disclosure also had a positive impact on evaluations regarding use of force. More specifically, disclosing that the suspect was autistic led participants to view his behavior as more cooperative compared to when his Autism was not disclosed.

Taken together, these results suggest that disclosing Autism, particularly via the Vulnerable Persons Registry, in a police interaction seems to have a positive impact on the interaction, leading to more supportive attributions, perceptions, and behavioural intentions. These findings evidence that the use of the Vulnerable Persons Registry may be an effective tool in improving interactions. Logistical limitations in its use, however, must be kept in mind. For example, the officer must know that the person is on the registry prior to the interaction, as was the case in this study, which would not be the case if an officer organically encountered an

autistic person during a routine patrol. In fact, this is precisely what occurred in the case of Abdullah Darwich, whose case was described in the introduction. Abdullah was on the Vulnerable Persons Registry, but police did not identify this fact before he was tasered (Longwell, 2022). In fact, Peel Regional Police, the police service involved in the incident, made the following statement regarding the utility of the Vulnerable Persons Registry: “The registry is only effective if that known information is provided to us. For example: If we responded to the individuals address, or the caller provided the individuals name, or simply mentioned that it could be them, then the responding officers would be alerted to the specific vulnerabilities and how to address them. This was not the case in this incident” (Aguilar, 2022).

These findings provide support for the discounting principle, in that providing a label for the behaviour seems to offer some protection as it decreases the likelihood of enforcement police responses. Thus, it might also be the case that having an autistic person disclose to an officer that they are autistic, either through telling them directly or providing them with some sort of documentation, would have similar results. This is an avenue that should be explored in future research. Unfortunately, research also suggests that autistic people are hesitant to disclose their diagnosis to police (Haas & Gibbs, 2020; Salerno & Schuller, 2020). Educating autistic people and their caregivers on the potential positive impact of disclosing their Autism in a police interaction may be a way to decrease this hesitancy.

The positive effects of recognizing that a person is autistic during a police interaction are clear. Replicating the results of Study 2, recognizing that the suspect was autistic led to more supportive responses, such as reduced anger, reduced blame, as well as a lesser likelihood of enforcement police-specific behavioural responses. Recognition also had a positive impact on use of force evaluations, in that respondents who recognized that the suspect was autistic

perceived him as more cooperative, and also thought the force used against him by police was less justified than participants who did not recognize his disability. These findings in particular carry implications for civilian oversight of law enforcement agencies, who play a crucial role in providing accountability and transparency in policing practices. These oversight bodies are responsible for reviewing, managing, and overseeing public complaints about the police, as well as investigating serious incidents between the police and public. In the present study, recognizing the presence of autism spectrum disorder characteristics in the suspect altered their perceptions of his cooperation and the extent to which the force used was justified. In an investigation, these assessments carry significant weight in shaping their perceptions of the incident, determining the appropriateness of police actions, as well as influencing the potential consequences for both the officer and the case as a whole.

Advancing our understanding of attributional theory and how it can be applied in a police decision-making context, the path analysis indicated that the relationship between disclosure of Autism and enforcement responses, as well as recognition of Autism and enforcement responses, are mediated by blame and anger. Both disclosure and recognition lead to a lower likelihood of enforcement behavioural intentions through decreasing judgments of personal responsibility, which in turn decreased negative emotions. Consistent with Weiner's theory of attribution (1988), realizing that a person is autistic, either through explicitly being told or recognizing it independently, lowers the blame they attribute to that individual for their behaviour. In turn, this then decreases the negative affect towards that individual and lessens the likelihood of an enforcement response such as placing them in restraints, or arresting them, which would increase the likelihood of a negative interaction. Conversely, when they are unaware, it leads to the

evaluation that they are to blame, triggers reactive emotions (such as anger), which leads to enforcement responses.

Taken together, these results demonstrate the positive impact that both recognition and disclosure of a person's disability in a police interaction have on outcomes. From a training perspective, this suggests that focusing on improving an officer's ability to recognize when a suspect or person of interest is autistic may be a simple yet effective way to improve police interactions. Study 4 explores the effectiveness of a brief, community-informed training intervention focused on enhancing recognition of autistic characteristics in a police interaction context.

Study 4

Prior studies have shown that there is a need for police officers to receive formalized training regarding ASD (Gardner et al., 2019; Modell & Mak, 2008; Teagardin et al., 2012). Additionally, research on police training regarding Autism suggests that training can indeed improve police officers' knowledge and understanding of autism. Copenhaver and colleagues (2020) found that police officers who were more knowledgeable about ASD were more confident in their ability to identify an autistic person. Love et al. (2021) discovered that amongst the US-based police officers in their study, police officers who had a greater knowledgebase of ASD felt better equipped to engage with individuals on the spectrum. Gardner and Campbell (2020) found that a police officer's knowledge of ASD was associated with reduced likelihood of adverse outcomes. Hinkle and Lerman (2021) examined the effectiveness of behavioural skills training for Autism using a performance-based approach, finding that it was effective in teaching police officers how to interact with autistic people more effectively. Most recently, Holloway and colleagues (2022) evaluated a training package coproduced by academics, autistic people,

and the police, finding that training led to improvements in perceived knowledge of Autism and intended behaviour toward autistic people. Though these studies demonstrate the effectiveness of training in increasing Autism-related knowledge, it is unclear whether this knowledge, in turn, influences decision-making.

Taken together, it becomes clear that training for police officers on Autism is beneficial. There are many barriers, however, to implementing extensive training programs and care must be taken in their design. Police departments may have limited resources or infrastructure in place to make training easily accessible to all police officers, particularly those in remote areas or who have limited access to training materials. In addition, police officers are often busy and may not have time to attend additional training sessions, especially if they take place outside of their normal work hours. As such, a brief, evidence-based intervention that can be delivered with limited resources would be ideal, and this was precisely the aim of the present study.

The goal of Study 4 was to develop and evaluate a brief, module-based training intervention, developed with the intention of reducing adverse outcomes between the police and autistic people through enhancing ability to recognize behavioural cues of Autism. Developing such an intervention in carefully controlled conditions such as in the present study allows for thorough testing and refinement before its implemented with actual police officers, ensuring its effectiveness and minimizing any potential risk or negative consequences.

The design was a randomized controlled design with two conditions (training: intervention, control). The primary questions asked were (a) does training improve recognition of Autism? (b) does training lead to more supportive attributions? (c) does training lead to greater endorsement of supportive intentions and lower endorsement of enforcement intentions? and (d) does training improve use-of-force evaluations? It was hypothesized that the training

intervention would improve recognition, attributions, evaluations, and behavioural intentions toward the autistic suspect.

Development of Intervention

A training module was developed utilizing the results from Studies 1 through 3 and a previously published paper (Salerno & Schuller, 2020). The goal was to develop a brief theory and evidence-based intervention designed to have an impact on attributions and response. The training intervention focused on improving participants' ability to recognize when a person may be autistic, given that recognition was identified as an effective way to decrease the likelihood of enforcement responses.

Drawing on data from an earlier published study (Salerno & Schuller, 2020), an online training intervention entitled: "Understanding and Recognizing Autism Spectrum Disorder in a Police Encounter" was developed. The format of the training modules follows that of courses that are hosted on the Canadian Police Knowledge Network (CPKN), an online learning platform that provides training and professional development opportunities for Canadian law enforcement personnel. Most courses on the platform are brief, delivered entirely online, and include a comprehension quiz at the conclusion of the course. We followed this format because the use of CPKN training programs is common in the law enforcement community. It is a convenient and cost-effective way to deliver training and professional development opportunities to police officers.

The training modules included an introduction, which included a brief description of ASD, and a slide on policing and ASD, focusing on the potential issues that could occur and the importance of recognition. This was followed by the presentation of five cues that were identified in an earlier study by a group of autistic adults as cues that police could look for to

help them identify if an individual is autistic (Salerno & Schuller, 2020). Each cue or indicator was presented individually along with a description, and an illustrative quote. At the end of the module, there was a summary listing all five cues. In total, the training intervention contained 12 slides.

A second module was developed as the “control” intervention. The control module was entitled “Understanding and Interpreting Dog Behaviours in a Police Encounter” and focused on training participants to recognize typical dog behaviours in a police interaction in order to create safe and successful encounters with dogs for emergency and service personnel. This module was modelled after a pre-existing police training module hosted on the Canadian Police Knowledge Network on canines. The control module followed the same format as the ASD training module and included an introduction, a section on policing and dogs focusing on the potential issues that could occur in an interaction and the importance of recognizing typical dog behaviours. Like the ASD training intervention, five typical canine behaviours were presented and described (e.g., the meaning of stretching, growling). The final slide containing a brief summary listed all five cues. The control module contained the same number of slides as the ASD training.

Procedure

Study 4 was a 2-part online experimental study with a 48-hour delay between part 1 and part 2. Participants were told that the purpose of the study was to explore the factors that influence decision-making in a police context. In Part 1, participants were told that they would receive a training module that should take between 10 and 20 minutes to complete. Participants were then randomly assigned to receive either the ASD training (intervention) or the canine training (control). Timers were placed on each slide to ensure that participants spent a minimum of 30 seconds on each slide. Once participants completed the training, they were asked to

evaluate the training module they received (e.g., whether they found the training informative, whether they learned from it). They were then presented with a comprehension quiz with five questions regarding the module they received. Finally, they were asked to complete a brief demographics questionnaire.

Part 2 became available to participants 48 hours after completing Part 1. Participants were told to imagine themselves as a police officer and that they would be randomly assigned to review some police body camera footage. All participants then viewed the same body camera footage from Study 3. After reviewing the footage, participants advanced through the same procedure as in Study 3³. At the conclusion of the study, all participants were thanked and debriefed.

Participants

Participants were recruited from a large Canadian university. In total, 239 participants completed part 1, and 75.3% (N=180) completed both part 1 and part 2. Only participants who completed both parts of the study were included in the analyses. The final sample consisted of 180 participants (106 women, 73 men) with an average age of 19.77 years ($SD=4.59$). The sample showed a wide range of ethnic diversity, with 19.4% identifying as White, 30% identifying as South Asian, 20.6% identifying as Middle Eastern, 13.3% identifying as Black, 7.2% identifying as East Asian, 3.3% identifying as Hispanic, and 9.4% identifying as a different or mixed ethnicity. The majority of respondents identified as Christian/Catholic (31.1%), Muslim (30.6%), or Atheist/Agnostic (16.7%).

³ all measures demonstrated sufficient reliability: $\alpha_{\text{BLAME}}=.68$, $\alpha_{\text{ANGER}}=.89$, $\alpha_{\text{ADVOIDANCE}}=.74$, $\alpha_{\text{PITY}}=.64$, $\alpha_{\text{FEAR}}=.92$, $\alpha_{\text{HELP}}=.81$, $\alpha_{\text{SEGREGATION}}=.87$, $\alpha_{\text{COERCE}}=.61$, $\alpha_{\text{DANGER}}=.93$, $\alpha_{\text{ENFORCEMENT}}=.8$, $\alpha_{\text{SUPPORTIVE}}=.76$

Manipulation/comprehension check

Descriptive analyses revealed that all but one participant correctly identified which training they received. Participants also completed a brief comprehension quiz regarding the intervention immediately after completion. The comprehension quiz contained five questions, and participants received a point for each correct response. The average score on the comprehension quiz for the ASD intervention was 75.8% ($M=3.79$, $SD=1.13$), while the average score for the dog behaviour intervention was 72.8% ($M=3.64$, $SD=1.24$), indicating that participants had sufficient comprehension of the material. A t test revealed there was no significant difference between these scores, $t(178)=-.818$, $p=.414$.

Recognition of suspect's autism

A chi-square test of independence revealed that more of the participants who participated in the ASD training indicated that the POI was autistic (40%) compared to participants in the control training group (21%), $X^2(1, N=179) = 7.31$, $p=.007$, $\phi = .202$. Frequencies are presented in Table 7.

Table 7
Recognition by Training type

Intervention type	Recognition of suspect's Autism (frequency)	
	Recognized	Not recognized
ASD intervention	36	54
Control	19	70

Attributions toward suspect

The participants who received the ASD training showed more prosocial attributions regarding blame, $t(175)=2.02$, $p=.04$, $d=.303$, anger, $t(174)=2.39$, $p=.01$, $d=.360$ and avoidance,

$t(174)=2.82, p=.005, d=.425$. In particular, participants who received the ASD training attributed less blame ($M=3.84, SD=1.42$) toward the autistic suspect, reported less anger ($M=3.31, SD=1.80$), and had lower ratings of avoidance ($M=5.55, SD=1.76$) compared to participants in the control group ($M_s=4.28, 3.98 \& 6.26, SD_s=1.51, 1.94, 1.76$) respectively). Training had no impact, however, on ratings of pity, fear, help, segregation, coercion, or danger, all $p_s > .05$.

Police-specific behavioural intentions

Participants who received the ASD training showed lower enforcement intentions ($M=4.64, SD=1.93$) compared to those who completed the canine training ($M=5.56, SD=1.73$), $t(173)=3.31, p=.001, d=.500$. Supportive intentions did not differ based on training type, $p>.05$.

Use of force evaluations

More participants who received the ASD training were likely to indicate that the suspect was cooperative with police ($N=41, 63.07\%$) than participants who received the canine training ($N=24, 36.92\%$), $X^2(1, N=180)=6.96, p=.008, \phi =-.197$. Training type did not influence perceptions of whether force was warranted, $p > .05$.

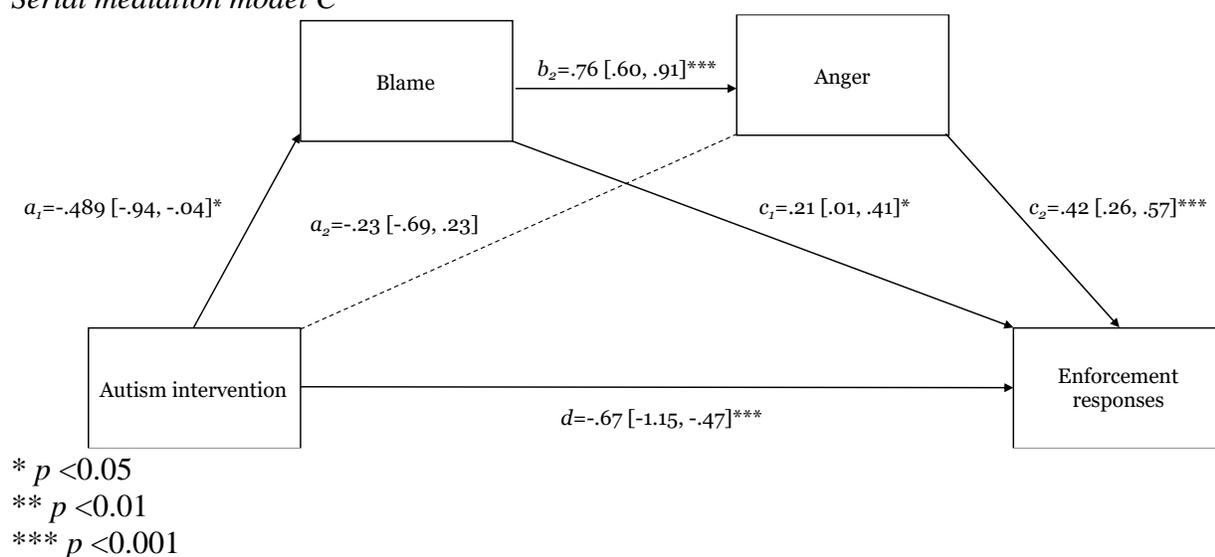
Serial mediational analysis

As was done in Study 3, the PROCESS tool (model 6; Hayes, 2018) was used to conduct a serial mediation analysis using ordinary least squares path analysis to explore the relationship between completion of the ASD training module, enforcement responses, and cognitive mediators. Enforcement police-specific behavioural intention was entered as the outcome variable, completion of the training intervention was entered as the predictor, and participants' mean ratings of blame, and anger, were entered as separate mediators in that order. The indirect effects were subjected to a bias-corrected bootstrap analysis with 5,000 bootstrap samples and 95% confidence intervals. Figure 4 presents the relationship between completion of

the ASD training, blame, anger, and enforcement behavioural intentions in the proposed sequence (Model C). We found a significant negative relation between completion of the ASD module and blame, $B=-.49$, $SE=.23$, $t=-2.15$, $p=.03$, 95% CI $[-.94, -.04]$, a significant positive relation between blame and anger, $B=.76$, $SE=.08$, $t=9.65$, $p<.001$, 95% CI $[.60, .91]$, and a significant positive relation between anger and enforcement responses, $B=.42$, $SE=.08$, $t=5.24$, $p<.001$, 95% CI $[.26, .57]$, largely replicating the results from Study 3. The indirect effect of the serial moderator was significant, indirect effect $=-.08$, $SE=.04$, CI $[-.33, -.01]$, indicating support for the serial model of completion of the ASD training module on enforcement responses.

Figure 4

Serial mediation model C



Discussion

The current study assessed whether completing a brief training module on Autism would enhance recognition of ASD and responses toward an autistic individual in a police interaction context. It was found that completion of the intervention did indeed lead to improved recognition of Autism, as well as improved cognitive and behavioural responses toward the autistic individual. Participants who completed the intervention were more likely to recognize that the suspect was autistic and showed more prosocial attributions regarding blame, anger, and

avoidance toward the autistic suspect compared to the participants in the control condition. Participants who completed the intervention were also less likely to choose enforcement police specific behavioural intentions. The intervention did not influence other attributions such as pity or fear and did not affect the likelihood of choosing supportive behavioural intentions. Like Study 3, however, ratings of pity were relatively high overall (mean of around 6). In the bodycam footage, the suspect is visibly distressed, and is heard crying out for his mother several times before and after he is tased. It would be difficult for people to not feel sympathetic toward him, regardless of whether they believe he has done something wrong or not. Similarly, although the intervention decreased the likelihood of enforcement intentions, it did not have an influence on supportive intentions, which were high overall ($M=6.18$, $SD=1.59$).

Given that this research was conducted using undergraduate participants, these results may be optimistic in comparison to a police population as police officers may be more likely to hold a more skeptical or jaded view compared to undergraduates, given their greater exposure to criminal behaviour. Conversely, ratings of fear and segregation were low overall (i.e., means of 3 to 4). This may be because participants are just viewing a simulated interaction, which lacks the intensity or realism of a genuine encounter. Though it depicts a real interaction, it might not be powerful enough to elicit a strong negative response such as fear.

Given that the intervention focuses on recognition, it has the potential to be adapted into a screening tool that could be used by police officers on scene or even during intake, similar to the interRAI Brief Mental Health Screener (BMHS), a screening tool that is used to enhance the ability of police to identify persons with serious mental disorders (Hoffman et al., 2016). It could also be integrated into larger training programs as a supplement or periodic refresher, given the ease of administration and brevity.

General Discussion

A series of four studies were conducted with the overall goal of developing and evaluating an empirically based intervention to improve response toward autistic people in a police-interaction context. In Phase 1, we examined decision-making and response toward autistic people in the context of a mock police interaction, through the lens of attribution theory, to determine how typical behaviours and characteristics associated with Autism influence cognitive and behavioural responses. In Phase 2, a brief intervention was developed and empirically evaluated with the goal of improving response toward autistic people focusing on enhancing recognition, an issue that was identified in Phase 1.

In Study 1, it was found that autistic characteristics and behaviours were difficult to recognize in the context of a mock police interaction. As well, the autistic male was judged more harshly than the autistic female, suggesting a possible bias against autistic males in a police-interaction context. In Study 2, disclosure of the individual as having autism was found to improve recognition but did not seem to influence most variables related to potential responses. Most importantly, in Study 2, recognition (i.e., the participant recognizing that the POI was autistic) was identified as a possible issue to POI to improve overall response. In Study 3, which used a higher impact stimulus, we found that, in contrast to Study 2, disclosure did, in fact, have a positive impact on responses. A path analysis showed that both disclosure and recognition reduced the likelihood of enforcement behavioural intentions through lowering perceptions of blame, which in turn reduced anger toward the individual. Finally, in Study 4, a community-informed training intervention was effective in enhancing recognition of Autism, as well as improved overall response toward an autistic suspect in a police-interaction context.

Past research has found that autistic individuals may be at an increased risk of negative interactions with law enforcement due to the very features and characteristics associated with Autism (e.g., Haas & Gibbs, 2020). The current findings demonstrate that enhancing recognition may be an effective way to reduce the likelihood of an adverse interaction. As the path models explored in Studies 3 and 4 evidence, when a person recognizes that an individual is autistic, it reduces perceptions of blame, which in turn reduce feelings of anger toward the suspect, which subsequently lead to a lower likelihood of enforcement behavioural responses.

There are two main factors that make the training intervention developed in this research project particularly unique; firstly, the training materials were informed by the autistic community. Past research has highlighted the importance of including autistic people in the development and delivery of Autism training (e.g., Herbert et al., 2022; Holloway et al., 2022; Salerno & Schuller, 2019), and this study has shown that autistic voices can be easily integrated into training materials that can then improve interactions with autistic people. Secondly, the training module developed in this research is brief and can be delivered online, meaning it is resource efficient and does not require much time, money, or personnel to deliver it. This is particularly important given that police officers are already over-tasked and required to participate in many other types of regular training sessions. Thus, a brief, resource-light training intervention that can improve police response with a minimal amount of information and time is ideal.

The findings of this research have implications for understanding police decision-making and developing training more broadly. Overall, this research provided insight into our understanding of decision-making in a police-interaction context. Exploring police decisions through the lens of attribution theory provides insight into the relationship between responsibility

judgments, affective reactions, and police responses. Specifically, it allows for a deeper understanding on how interactions may become problematic, and at what point it is most effective to intervene.

For example, the same path models and subsequent training module explored in this study could be applied broadly to other disabilities that do not necessarily have easily identifiable features, such as fetal alcohol spectrum disorder. The training module could be easily adapted to enhance an officer's ability to recognize other disabilities or mental health issues. Future research should explore whether focusing on enhancing recognition of other conditions improves subsequent decision-making and outcomes.

Although the current research has contributed to the police response to autistic individuals literature, there are at least three aspects of the current research that may limit the generalizability of the finding. First, the present studies used undergraduate participants as proxies for police officers. It is important to note that the decision-making processes of undergraduate students may differ from those of police officers, and thus some of the findings may not generalize to a police population. However, research suggests that undergraduate students may provide a valid representation of police decision-making in certain contexts. Prior research has shown that beliefs held by, and judgements made by, police officers do not differ significantly from that of laypersons (Akehurts et al., 1996; Kassin et al., 2005; Meissner & Kassin, 2002). In addition, given that attributions are often influenced by social biases, it is likely that these biases would not differ significantly between law enforcement officers and laypeople. This means that both groups may exhibit similar patterns of attribution and respond accordingly in situations involving individuals with atypical behavior, such as those with disabilities, at least in a scenario-based training paradigm. Future research could build on these studies by including

a more diverse sample of participants, such as police officers or other law enforcement personnel, to provide a more comprehensive understanding of decision-making in this context. Second, although attempts were made to present realistic cases through using situations based on real cases that were rated as accurate by the autistic community in Studies 1 and 2, and using bodycam footage in Study 4, these cases don't necessarily capture the diversity of interactions in the real world.

Finally, although scenario-based training is common practice in police training, reading about a police interaction lacks the intensity, stress, anxiety, and fear that would be present in a genuine interaction. Participants in this study were making decisions under ideal conditions – safe, in their homes, and never in any real danger. In a real police interaction, arousal likely plays a significant role in perceptions and decision-making. For example, a study conducted by Nieuwenhuys and colleagues (2012) found that police officers in a high anxiety situation were more likely to discharge their firearm, and fired more accidental shots than officers under low anxiety situations. A simulated scenario lacks the intensity and realism of a real-world encounter, and thus, our results may be optimistic as participants were operating under ideal conditions. In a real police encounter, an officer may be under greater stress or threat, which could impact their decisions. Thus, perhaps these results are more representative of how a police officer would react under ideal circumstances, that is, given the resources and time to make such decisions. Future research should attempt to address this issue through using higher impact stimuli such as virtual reality paradigms or video-game based scenarios.

Concluding remarks

Despite the limitations of the current studies and the need for future research, the contributions and practical implications are clear. Through this research, we have gained insight

into how vulnerabilities associated with ASD may impact police interactions. In addition, to the authors' knowledge, this is the first study to directly evaluate a brief, community-informed training program to enhance recognition of Autism in a police-interaction context. Our research demonstrated that voices of communities directly affected, can be effectively incorporated into evidence-based training materials. Finally, and perhaps most importantly, this research has resulted in a training module that is evidence-based, empirically evaluated, and community-informed.

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CHAPTER 4

General Conclusion

Across two papers and five studies, I explored response to autistic persons in a police-interaction context. I explored perceived challenges of interacting with the police from the perspective of autistic people, and then used this information to programmatically develop and evaluate a training intervention to improve response. In the first paper, I found that autistic people perceive a variety of unique challenges that could present in an interaction between the police and autistic individuals. This paper captured valuable information from the autistic community in a form that could be easily integrated into pre-existing training for police or used to develop a community-informed training program. In the second paper, across four studies using undergraduate participants to evaluate police-interaction simulations, I uncovered how typical autistic-characteristic behaviours affect attributions and subsequent decision-making in a police-interaction context. Importantly, I also explored the relationship between these attributional and response variables, finding that when a person fails to recognize that a person is autistic, it is more likely to lead to enforcement responses via increasing perceptions of blame, which then evoke negative emotions. Using this information, I then developed and empirically evaluated a brief community-informed training module that was found to enhance recognition and improve overall response. Overall, the findings from the current program of research advance attribution theory by demonstrating the key role of attributions in police decision-making paradigms, as well the utility of labelling a person's condition or behaviour in improving response.

Future directions

The findings of this research suggest that the primary responsibility for improving the relationship between the police and the autistic community primarily falls on the police. However, it is equally important to consider the autistic community's role in this process.

Research has shown that the autistic community has concerns around using emergency services (Salerno & Schuller, 2019), and express fear regarding future police contact (Wallace et al., 2021). This is sometimes in the absence of any personal negative experiences. Future research could provide insight on how these perceptions, and sometimes misconceptions, concerning the police could be addressed. For example, many police services have introduced community engagement programs whereby the community can meet and interact informally with the police (e.g., Coffee with a Cop) in hopes of improving perceptions of officers' approachability (Geldenhuys, 2020). Future research focused on developing empirically evaluated programs to improve relations between the autistic community and the police would be valuable.

The present research has demonstrated the effectiveness of an intervention in a controlled environment using scenario-based training. This type of training allows individuals to practice and apply their skills in a simulated setting, which can be highly beneficial for developing expertise and confidence in their abilities. However, it is important to note that police work takes place in complex environments where many other factors are at play. In their scoping review on Autism training for law enforcement, Skreckovic and colleagues (2022) highlight the lack of research on the actual impact of Autism training in the field. Therefore, the natural next step would be to evaluate whether the intervention influences real outcomes in these more challenging and unpredictable situations. By testing the intervention in real-world scenarios, researchers can assess its practical application and effectiveness in improving police performance and outcomes in interactions involving interactions with autistic persons.

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Appendix A

Vignettes

Autistic characteristics present vignette [male example]

You are dispatched to a call in the lobby of a building where someone has called in a person in distress. You find a young man wearing a large set of headphones who appears to be in his late teens, early 20s at the front entrance door. He is slamming his head into the glass window repeatedly, screaming something unintelligible. The person who called, John, says that he became upset after realizing he had missed his cab. You approach him and ask him if he is okay, but he doesn't respond. Instead, he balls his hands into fists and begins hitting himself in the head, rocking back and forth and screaming. You place your hand on his shoulder and he recoils, taking a few steps back.

Autistic characteristics absent vignette [female example]

You are dispatched to a call in the lobby of a building where someone has called in a person in distress. You find a young man who appears to be in his late teens, early 20s at the front entrance door. He is slamming his hands into the glass window repeatedly, screaming something unintelligible. The person who called, John, says that he became upset after realizing he had missed his cab. You approach him and ask him if he is okay, but he doesn't respond. You place your hand on his shoulder and he shrugs your hand off.

Appendix B

Police-specific behavioural response items

Imagine you are the responding police officer in the situation described above. How would you respond in the situation? What would you do?

1. Arrest the individual
2. Detain the individual
3. Place the individual in handcuffs or other restraints
4. Transport the individual to the hospital
5. Issue the individual a formal citation
6. Issue the individual a formal warning
7. Call someone on their behalf
8. Refer them to medical services
9. Refer them to psychiatric services
10. Provide them with informal support

Appendix C

Attributions questionnaire (AQ-27)

1. I would feel aggravated by Jordan.
2. I would feel unsafe around Jordan.
3. Jordan would terrify me.
4. How angry would you feel towards Jordan?
5. If I were in charge of Jordan's treatment, I would require them to take their medication.
6. I think Jordan poses a risk to the neighborhood.
7. If I were an employer, I would consider interviewing Jordan for a job.
8. I would be willing to talk to them about their problems.
9. I would feel pity for Jordan.
10. I would think that it was Jordan's own fault that they are in the present condition.
11. How controllable is the cause of Jordan's present condition?
12. How irritated would you feel by Jordan?
13. How dangerous would you feel Jordan is?
14. How much do you agree that Jordan should be forced into treatment even if he does not want to?
15. I think it would be best for Jordan's community if they were put away in an institution.
16. I would share an Uber or Taxi with Jordan.
17. How much do you think an asylum or institution where Jordan can be kept away from their neighbours is the best place for him?
18. I would feel threatened by Jordan.
19. How afraid of Jordan would you be?

20. How likely is it that you would try and help Jordan?
21. How certain would you feel that you would step in and help Jordan?
22. How much sympathy would you feel for Jordan?
23. How responsible do you think Jordan is for their present condition?
24. How frightened of Jordan would you feel?
25. If I were in charge of Jordan's treatment, I would force them to live in a group home.
26. If I were a landlord, I would probably rent an apartment to Jordan.
27. How much concern would you feel for Jordan?

Subscales:

1. Blame = AQ10+ AQ11 +AQ23
2. Anger = AQ1 + AQ4 + AQ12
3. Pity = AQ9 + AQ22 + AQ27
4. Help = AQ8 + AQ20 + AQ21
5. Dangerousness = AQ2 + AQ13 + AQ18
6. Fear = AQ3 + AQ19 + AQ24
7. Avoidance = AQ7 + AQ16 + AQ26 (Reverse score all three questions)
8. Segregation = AQ6 + AQ15 + AQ17
9. Coercion = AQ5 + AQ14 + AQ25

Appendix D

Police-worn body camera footage

Bodycam footage used in Study 4 can be found at the following links:

Disclosed: <https://youtu.be/6AG8BTDg7D0>

Undisclosed: <https://youtu.be/DZ9cbSKCMQ>

Appendix E

Informed Consent

Before taking part in this study, please carefully read over the following information.

The following research is being conducted under the supervision of Dr. Regina Schuller. This research has received ethics review and approval by the Human Participants Review Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. If you have any questions about this process, or about your rights as a participant in the study, please contact the Sr. Manager & Policy Advisor for the Office of Research Ethics, 5th Floor, Kaneff Tower, York University (telephone 416-736-5914 or e-mail ore@yorku.ca).

The researcher(s) acknowledge that the host of the online survey (e.g., Qualtrics may automatically collect participant data without their knowledge (i.e., IP addresses.) Although this information may be provided or made accessible to the researchers, it will not be used or saved without participant's consent on the researchers system. Further, because this project employs e-based collection techniques, data may be subject to access by third parties as a result of various security legislation now in place in many countries and thus the confidentiality and privacy of data cannot be guaranteed during web-based transmission.

Purpose and Procedure: This study will take approximately an hour to complete. The purpose of this study is to explore factors that influence decision-making in a police context. You will be asked to review some materials and answer a series of questions.

Voluntary Participation and Withdrawal: For your participation, you will receive 1 research credit. You are free to withdraw from the study at any time, and may refuse to answer any question you do not want to answer. If you decide to participate, you are free to withdraw from the study at any time without penalty, and will still be able to obtain compensation. Your decision to stop participating or to refuse to answer any questions, will not affect your relationship with the researchers, York University, or any other group associated with this project. Should you decide to stop participating in this study, all data generated as a consequence of your participation will be destroyed.

Potential Risks and Benefits: There are no foreseeable risks or discomforts associated with participating in this study. Participation is entirely voluntary and you do not have to answer any questions that make you uncomfortable. Potential benefits include developing an understanding of the research process and methods used in psychology, as well as greater insight into how we think about stranger harassment.

Confidentiality: Confidentiality will be provided to the fullest extent possible by law. All information will be kept in strict confidence. You will not be required to indicate your name on the questionnaire you complete and your name will not be associated in any way with the data obtained. All questionnaire data will be stored (electronic form) in a locked office for 7 years, after which it will be destroyed. Consent forms will be stored for 2 years upon completion of the

study, stored separately from the results, and will be destroyed after this period. Should data from this study be published in the future, individual data will not be presented (only group summary data will be reported). Only research staff will have access to this information.

Legal Rights and Signature:

By clicking below, I consent to participate in this study. I have understood the nature of this project and wish to participate. My click below indicates my consent.

If you have any questions during, or following, the study, please feel free to contact one of the investigators below.

Researchers:

Alisha Salerno	Dr. Regina Schuller
Ph.D. Candidate	Professor
Department of Psychology	Department of Psychology
York University	York University
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Appendix F

Study 3 Debrief

Study Explanation

Thank you for your participation! The study you just participated in is interested in how the police respond to Autistic people, and how disclosure of disability can influence a police interaction. In this study, we varied whether the person in the video "James Sully" was known to the police as an Autistic man. The footage you watched was real body-worn camera footage from a police interaction in Texas. The man in the video's real name is Michael Moore. You can read more about the real case here: <https://abcnews.go.com/US/body-cam-footage-shows-19-year-autism-shocked/story?id=56564836>

Research shows a substantial proportion of people with Autism encounter the police in their lifetime. Police interactions may be especially difficult for Autistic people because of some of the features associated with Autism. For example, studies have found that issues with perspective taking may make it difficult for Autistic people who are wrongly suspected of a crime to convince people of their innocence. In addition, behaviours and characteristics associated with Autism can be misinterpreted by police in a negative way (e.g., aversion to eye contact being misinterpreted as deceit). The study you just participated in is part of a larger research program exploring how police interactions with Autistic people can be improved in the future.

Thank you very much for your participation. If you have any questions, please feel free to contact the researchers below. Two research articles have been referenced below for your interest.

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References

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Please use the space below to include any final thoughts or comments about the study you just participated in. What did you think about this study? Do you have any feedback?

Appendix G

Study 4 Debrief

Study Explanation

Thank you for your participation! The study you just participated in is part of a larger study that explores lay judgments to police encounters with Autistic people, and whether prior training on recognition can improve those interactions. Some of you received a training module on recognizing dog behaviours, while others received a training module on recognizing Autism. The footage you watched was real body-worn camera footage from a police interaction in Texas. The man in the video's real name is Michael Moore. You can read more about the real case here: <https://abcnews.go.com/US/body-cam-footage-shows-19-year-autism-shocked/story?id=56564836>

Research shows a substantial proportion of people with Autism encounter the police in their lifetime. Police interactions may be especially difficult for Autistic people because of some of the features associated with Autism. For example, studies have found that issues with perspective taking may make it difficult for Autistic people who are wrongly suspected of a crime to convince people of their innocence. In addition, behaviours and characteristics associated with Autism can be misinterpreted by police in a negative way (e.g., aversion to eye contact being misinterpreted as deceit). The study you just participated in is part of a larger research program exploring how police interactions with Autistic people can be improved in the future.

Thank you very much for your participation. If you have any questions, please feel free to contact the researchers below. Two research articles have been referenced below for your interest.

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References

Salerno, A. C., & Schuller, R. A. (2019). A mixed-methods study of police experiences of adults with autism spectrum disorder in Canada. *International journal of law and psychiatry*, 64, 18-25.

Salerno-Ferraro, A. C., & Schuller, R. A. (2020). Perspectives from the ASD community on police interactions: Challenges & recommendations. *Research in Developmental Disabilities*, 105, 103732.

Please use the space below to include any final thoughts or comments about the study you just participated in. What did you think about this study? Do you have any feedback?