

POLICE RESPONSE TO DEVELOPMENTAL DISABILITY

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Abstract

Individuals with developmental disabilities (DD) are at considerable risk for encounters with the criminal justice system. This study examined the experiences and perceptions of people with DD, and caregivers of people with DD, in relation to their interactions with the police. Ninety-one participants (n=25 people with DD & n=66 caregivers of persons with DD) completed a survey that probed their experiences with police. Findings paint a detailed picture of police encounters amongst individuals with DD. Three-quarters of the sample reported at least one police interaction in their lifetime. Individuals with police involvement were more likely to be older, not living with their parents, have mental health issues, and were more likely to have a mild (compared to a severe) impairment. Participants with DD described different types of encounters compared to the caregivers, and perceived these interactions much differently. Findings suggest that those with a less apparent DD may be at greater risk of an adverse encounter with the police.

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Dedication

This thesis is dedicated to my family who has supported and encouraged me since I took my first steps through the Kindergarten doors all those years ago.

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1. Introduction

In 2009, Doug Minty was shot and killed by OPP outside of the home that he shared with his mother. The officers that responded to the call failed to recognize Doug's minimal communication skills, "zombie-like" gait and failure to follow directions as indicative of his developmental disability (Bruser & Henry, 2010). Unfortunately, Doug's case was not an isolated incident. More recently, Toronto Police were sued for five million dollars after allegedly assaulting a 21-year-old man with an intellectual disability, Santokh Bola. Bola's assault was captured on video by a bystander, in which Bola is kicked and punched by the officers while Bola is seen pleading with the officers to stop, confused as to why he was originally detained (Edwards, 2015).

Bola and Minty are but two examples of how devastating a lack of police knowledge of developmental disability can be. Due to their vulnerabilities, people with developmental disabilities (DD) are at an increased risk of coming into contact with the criminal justice system compared to non-developmentally disabled persons, either as suspects, perpetrators, or as victims (Bartley, 2006; Chown, 2010). Within the criminal justice system, those with developmental disabilities are vulnerable because the system is not equipped to support their needs (John Howard Society, 2013). The present study investigated the experiences of people with developmental disabilities within the criminal justice system (CJS), through surveying those affected—people with DD and their caregivers.

1.1 Defining Developmental Disability

Developmental disability is a broad, non-specific term encompassing a wide range of disabilities (Lunsky & Weiss, 2012), thus rendering research on the forensic implications of developmental disabilities fraught with difficulty. The World Health Organization defines DD as

an umbrella term for a group of conditions characterized by significant limitations in cognitive and adaptive functioning, which can range in severity, that is present at birth or develops before the age of 18 (World Health Organization, 2013). There is great definitional variation in the research concerning DD, which can be problematic when trying to establish prevalence rates.

In 2008, the Ontario government created the Services and Supports to Promote the Social Inclusion of Persons with Developmental Disability Act (Services and Supports to Promote the Social Inclusion of Persons with Developmental Disability Act of 2008), coined the “Social Inclusion Act.” The act made significant improvements to the definition of developmental disability (DD) to capture factors associated with DD beyond IQ, including how those with DD cope with the demands of life. The “Social Inclusion Act” defines developmental disability as a permanent condition, present at birth or developing before 18 years of age, that affects a person’s ability to learn, and can range in severity. This definition is generally accepted and widely utilized in Canada for funding allocation purposes and policy decisions (“Developmental Disabilities Act”, 2008).

As a term, DD also broadly includes intellectual disability. The DSM-IV defines intellectual disability (ID) as the impairment of general mental abilities that impact adaptive functioning in three areas: conceptual domain, social domain, and practical domain (American Psychiatric Association, 2013). According to the National Institute of Health (2010), DD and ID are not the same diagnosis, and DD is not always accompanied with ID. Thus, while all ID are also DD, not all DD are also ID. Many people with DD have at least average IQ scores.

Prevalence figures regarding DD vary considerably, but estimates of the prevalence of DD in the Canadian population range between 1% and 3% (Sullivan, 2011). The Center for Disease Control in the United States recently reported that 1 in 6 children have a DD, which is

roughly 15% of all children between the ages of 2-17 (Boyle, Boulet, Schieve, Cohen, Stephen, Yeargin-allsope & Kogan, 2011). In addition to ID, Autism Spectrum Disorders (ASD) and Attention Deficit Hyperactive Disorder (ADHD) are some of the most common DDs, and potentially most problematic from a forensic perspective, as the very characteristics and vulnerabilities associated with developmental disability place those with developmental disabilities at greater risk of coming into contact with the criminal justice system, as perpetrators, suspects and victims.

1.2 Spotlight on Autism Spectrum Disorder

Autism Spectrum Disorder has become increasingly prevalent over the past decade, with an estimated 1 in 68 children being born diagnosed with ASD by 8 years of age (Center for Disease Control, 2014). ASD is characterized by difficulties in two main areas: 1) social communication and interaction, and 2) restricted, repetitive patterns of behaviours, interests or activities (American Psychiatric Association, 2013). Raggi, Xenitidis, Moisan, Deeley and Robertson (2013) note that ASD occurs on a spectrum, meaning that it can range from a non-verbal, non-communicative individual to a highly verbal, intellectual individual. People with ASD often have highly focused interests, and often 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, Sigurdsson, Adalsteinsson, & Young, 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). ASD is also characterized by impairments in theory of mind, more

casually referred to as “mindblindness,” which makes it difficult for them to experience empathy and infer the emotional states of others (King & Murphy, 2014).

These very features-- specifically, the impairments associated with social naivety and theory of mind -- may act as risk factors for individuals with DD coming into contact with the criminal justice system. Increased social naivety leaves people with ASD more susceptible to the influence and manipulation of others. A lack of social understanding can also lead to inappropriate or aggressive behaviour, while disruption of habitual routines can lead to aggressive outbursts (Freckelton, 2013). People with ASD may also become excessively or obsessively preoccupied with an interest, while ignoring the legal or social consequences of their actions (Freckelton, 2013; King & Murphy, 2014). Impulsivity, propensity to panic and unpredictability in new environments is also characteristic of ASD (Freckelton, 2013), and can lead to troubling and unpredictable behaviour.

A recent meta-analysis conducted by King and Murphy (2014) revealed that prevalence rates of offending behaviours committed by persons with ASD ranged from 3% to 26%, in studies conducting case file reviews and interview studies with relatives, and reached as high as 48%, in studies using self-reported offending. Other research has noted differences in the types of offences committed by persons with ASD. Reviewing decisions across jurisdictions in the United States, Freckleton (2011) also found that people with ASD are more likely to commit crimes against people than property crimes. Moreover, Cheely, Carpenter, Charles, and King (2012) found that youth (ages 12-18) with ASD are more likely to be charged with school-based offences than those without ASD, but less likely to be charged with probation violations than those without ASD. Cheely et al. suggested that these differences were especially interesting, as they reflected typical characteristics associated with ASD. That is, an increased likelihood of

school-based offences is reflective of how difficult the social demands of school may be for people with ASD, while a decreased likelihood of probation violations is reflective of the strict adherence to rules and routines, which is highly characteristic of ASD.

1.3 Prevalence of Contact with the CJS

People with disabilities are more likely to have interactions with law enforcement than non-disabled individuals (Eadens, Cranston-Gingras, Dupoux, & Eadens, 2015), but establishing the prevalence of this contact for DD individuals is difficult, given that the term DD encompasses many disabilities.

Although limited, there has been some research, mainly from the UK, examining the prevalence of police contact with individuals with ID and DD. In a study conducted by Henshaw and Thomas (2012), police officers reported interacting with persons with ID regularly, more specifically an average of approximately 3 times per week, most commonly in situations where the person is vulnerable or at risk. A more recent study discovered that in a sample of 200 individuals in police custody, 6.7% screened positive for ID, and 23.5% screened positive for ADHD (Young, Goodwin, Sedgwick & Gudjonsson, 2013).

Given the high prevalence rates for ID and ADHD, the prevalence rate for persons with DD is likely much higher. A more precise prevalence rate of police contact with persons with DD, however, is difficult to obtain, partially due to the definitional variation regarding developmental disability mentioned earlier, and the fact that it encompasses so many disabilities.

In both research on prevalence rates of police contact and police training, DD has often been incorrectly categorized under either mental illness or “persons in crisis,” rather than being acknowledged as a unique, independent category. Thus, much of the research makes no distinction between mental illness and developmental disability, which is highly problematic for

attempting to determine the prevalence of police contact with persons with DD . For example, in a 2014 report written on behalf of the Mental Health Commission of Canada, Coleman and Cotton (2014) collected data on interactions between police and people living with mental health problems, which broadly included intellectual disabilities.

There has been some research lead by Lunsky and her colleagues looking at individuals with ID and co-morbid mental health issues who have come into contact with the criminal justice system. These researchers (Lunsky, Gracey, Koegl, Bradley, Durbin & Raina, 2011) discovered that individuals with ID and a history of forensic involvement were more likely to have had a history of psychosocial disadvantage (e.g., low socio-economic status), have used illicit drugs, and had recently experienced significant life events, such as a death in the family. They also established several challenging behaviours that make incidents with ID individuals with comorbid mental health issues more likely to require a police response. Aggressiveness, antisocial behaviours, restiveness, suicidal behaviours, or violent behaviours were all identified as behaviours that increase the chance of police involvement. The generalizability of this research is limited, however, as it only included those with ID and co-morbid mental health issues, a very specific subgroup that effectively excludes people with DDs who do not have an accompanying ID or mental health issue. Furthermore, the sample was drawn from individuals who had received mental health services as an inpatient. Thus, although this research does provide some important insight into a previously and largely neglected area of study, it is limited in its generalizability.

In a subsequent study, Lunsky, Raina, and Jones (2012) investigated the relationship between prior legal involvement and current crisis in adults with ID. They collected detailed information about participants from staff at health service agencies that serve individuals with ID

across Toronto, Peel, and Kingston, comparing adults with ID and a history of legal involvement against those with ID without legal involvement. Their findings revealed that adults with ID and legal involvement were more likely to be male, living in an unsupported environment, younger, and higher functioning. They also discovered that individuals with ID who had prior legal involvement were more likely to have police respond to their crises than were those without prior legal involvement.

There has been some research on the prevalence of police contact amongst persons with ASD, similarly finding high prevalence rates of contact with the CJS in this population. Most recently, in a study of parents of children with ASD, Tint and her colleagues (Tint, Palucka, Bradley, Weiss & Lunsky, 2017) examined police involvement amongst adolescents and adults with ASD. Drawing on data collected as part of a larger study on service use amongst people with ASD in Ontario, they found that 16% of the parents reported that their child had police involvement during the 18-month study period. Most of these interactions were precipitated by aggressive behaviours. Those with police involvement were more likely to be older. They were also more likely to have a history of aggression and live outside the family home. The parents of children with police involvement also reported significantly higher levels of caregiver strain. This seems to be consistent with recent research based out of the U.S., which discovered that 20% of youth with ASD had a police interaction by age 21 (Rava, Shattuck, Rast & Roux, 2017).

Although the research community does not agree on the prevalence of DD within the CJS, there is an agreement that this population is more vulnerable due to their special needs. The actual experiences of persons with DD within the CJS and how these vulnerabilities affect their experience, however, is still largely unknown, and it is this very area of neglect that the present study addresses.

1.4 Police Contact with Persons with DD

Although officers are likely interacting with persons with developmental disabilities on a regular basis, they receive little to no training on how to recognize or handle individuals with developmental disabilities. In Canada, officers do not receive specific training on how to handle developmentally disabled individuals or crimes allegedly committed by them (John Howard Society, 2013). Their training has been characterized by some (e.g., Coleman and Cotton, 2014) as entirely lacking, inconsistent, not empirically tested, and incorrectly categorized under training in mental illness or emotionally disturbed persons. For example, within Ontario, the Peel Regional Police Service offers a four-day, in-service seminar that includes presentations on de-escalation, suicide intervention, youth and mental health issues, and autism and vulnerable people. Ontario Provincial Police offers their own in-service training with a focus on psychosis, schizophrenia, and dementia. In Ontario, there is a strong focus on mental illness training, while training in DD is not prioritized. In short, no standardized or empirically evaluated training exists to assist police in dealing with persons with developmental disabilities. Further problematic, the training that does exist focuses on DD awareness, but lacks the instruction on how to handle the special needs of those with DD. This is particularly troubling. As aptly put by autism advocate Daniel Share-Strom (2016), awareness does not necessarily translate into understanding and acceptance.

It has been noted by a number of researchers (e.g., Chown, 2010; Henshaw & Thomas, 2012; Modell & Crop, 2007) that without proper training and education, police officers may not be able to recognize disability; moreover, their knowledge, perceptions, and subsequent decision-making are likely to be based on misconceptions and misattributions about the behaviour of suspects with disabilities. For example, they may misattribute behaviours characteristic of

disability as escalation, aggression, or guilt. Furthermore, typical techniques used by police officers to handle suspects may be ineffective or counterproductive when dealing with DD suspects. For example, using physical touch in an attempt to calm an individual may produce the opposite effect in someone with DD, given their sensory issues.

In a theoretical piece, Modell and Cropp (2007) point out that without proper training, police officers may approach interactions with developmentally disabled persons with fear, apprehension, and anxiety. To assess these theories, Modell and Mak (2008) conducted a preliminary assessment of police officers' knowledge about, and perceptions of, persons with disability, surveying employed police officers from rural and urban areas, using broad, open-ended questions. They found that although most officers were able to identify key features of disability, the officers were unable to distinguish between different developmental disabilities, and also confused developmental disability with mental illness. Their findings also revealed that despite a clear lack of knowledge, most officers perceived themselves as competent and knowledgeable regarding persons with DD, suggesting that officers were overconfident about their abilities to interact with persons with DD. In a similar study conducted in the UK, Chown (2010) found that 80% of officers in his sample were unable to correctly identify the features of Autism. Beyond that, 40% of the officers surveyed failed to demonstrate an understanding of the term "developmental disability".

Without specific training in developmental disability, police officers may also misidentify developmental disability as mental illness or substance abuse use. Henshaw and Thomas (2012) surveyed officers in Melbourne, Australia discovering that although officers were fairly knowledgeable as to the symptoms and signs of disability, they often confused disability with mental illness, evidencing the need for specific training in disability (Henshaw &

Thomas, 2012). Coupled with this lack of clarity, officers may also hold stereotypes, myths, and negative attitudes toward people with disability that can negatively impact their decision-making. Bailey, Barr, and Bunting (2001) found high endorsement of eugenic attitudes toward people with intellectual disability, evidencing that eugenic attitudes still exist toward those with disabilities.

In a recent survey of police officers conducted in Southern Florida (Eadens et al., 2015), over 80% of the officers surveyed reported receiving none or minimal training regarding intellectual disability. Perhaps most disconcerting was the finding that 78% of the officers reported neutral or negative attitudes toward people with intellectual disability. Despite these attitudes, on a more positive note, the vast majority of officers indicated willingness to socially interact with people with disabilities. Another recent survey of police officers in the UK had similar findings, with only a third of the officers indicating that they had received training on ASD (Crane, Maras, Hawken, Mulcahy & Memon, 2016). Further, less than half of the officers that had encountered an individual with ASD reported that they were satisfied with the interaction and indicated that training would be useful. These findings, combined with the growing recognition of developmental disability, highlight the need for, and likely receptivity of officers, to training. Encouragingly, there is some evidence that training in any form can improve police interaction with developmentally disabled persons. Compton, Neubert, Broussard, McGriff, Morgan, and Oliva (2011) studied levels of force used by police officers when officers suspected that the perpetrator had a mental illness, substance use problem, or DD. In total, they reviewed over 1000 actual police interactions in a sample of 180 police officers, half of whom had received Crisis Intervention Training (CIT), half of which had not received the training. Comparing these two groups, their findings indicated that officers with CIT were more likely to

offer transportation to the hospital and were less likely to arrest than their non-CIT counterparts. While CIT training did not affect officers' use-of-force, it did seem to be beneficial in decreasing negative outcomes by increasing appropriate recommendations to the hospital, as opposed to arrest. These results demonstrate the success, albeit minimal, of officer training, but also highlight the need for specific training that is integrated with use of force.

Recently, the Mental Health Commission of Canada released a report (Coleman & Cotton, 2014) targeted to improve interactions between police and people living with mental health issues, which broadly included developmental disabilities. The report concluded that police academies, where police officers are trained, lack training in developmental disability, noting that less than half of police services in Canada provide training on developmental disabilities. A report published by the Ontario Human Rights Commission (2012) mirrored this sentiment, finding anecdotal evidence suggesting that police officers often do mistake disability as mental illness or substance use. The report concluded by recommending that training on DD must be integrated into officers' use of force modules.

Although the research in this area is largely lacking, there is a consensus among scholars, practitioners, and governing bodies on a few main points regarding the need for training. The research reviewed above seems to agree that, although police officers are interacting with developmentally disabled persons on a regular basis, police knowledge on disability is poor. Furthermore, officers are unaware of their lack of knowledge regarding DD and may be overconfident in their knowledge base and abilities, and the implications that this may have on their interactions with persons with DD. These findings strongly evidence a need for specific, focused, and integrated training for police officers on developmental disability.

1.5. Overview of Research Design

In order to create and provide such training, a necessary first step is to gain a better understanding of the nature of contact between police officers and individuals with DD. Much of the research in this area has focused on police responses to determine attitudes, beliefs, and interactions with intellectually or developmentally disabled persons, but there have been no studies surveying the actual affected population, namely people with DD, ID and their close others. Relatively few studies have used self-report/interviews in the DD population, and even fewer have involved people with DD as a valuable source of information as key stakeholders. To the author's knowledge, the present study is one of the first to explore the forensic implications of developmental disability at the point of interaction with the police. It sought to gain a better understanding of the nature of interactions between people with DD and the police, through surveying not only the caregivers of individuals with DD, but also those with DD, on their experiences with the police.

The present study employed a mixed-method approach, combining both a qualitative and quantitative approach to better understand how police response is affected when the individuals responded to have a developmental disability. The current study sought to (1) explore the clinical and demographic profile of persons with DD who come into contact with the police, (2) describe the nature of interactions between police officers and people with DD, and finally, (3) explore how people with DD and caregivers of individuals with DD perceive their experiences with the police.

2. Method

2.1. Approach

The present study focused on “hidden” DD, those that are not immediately apparent through physical features, as these are the most problematic from a forensic perspective. Because this research focused on potentially sensitive issues, a collaborative and community-engaged research strategy was employed. The research materials for the study was developed in consultation with people actively involved in the DD community, which included people with DD, caregivers of people with DD, advocates and subject-matter experts.

2.2. Participants

From February 2017 to May 2017, a total of 91 participants were recruited to participate in this study. To capture the perspective of those who provide support to people with DD, parents and caregivers were also invited to share their experiences with, and recommendations regarding the criminal justice system. The survey was open to both people who had encountered the CJS, and those who had not. Study inclusion criteria were: (a) have been diagnosed with a DD or were the caregiver (e.g., parent, sibling, support worker) to a person with a DD, and (b) were 18 years of age or older. Developmental disability was defined as anyone with a lifelong condition that originated before 18 years of age, and affects major areas of life like the ability to live independently. For the purpose of this study, this included anyone with Autism Spectrum Disorder (ASD) including Asperger Syndrome, autism, pervasive developmental disorder, as well as anyone with an ID.

2.3 Materials & Procedures

Survey

For the purposes of this study, two surveys (one for people with DD, and one for caregivers of persons with a DD) were developed through consulting prior research concerning the forensic involvement of persons with DD, subject-matter experts, advocates and, of course, people with DD and their caregivers. The surveys combined both open and close-ended questions regarding participants' experiences with the police. The survey was hosted online by Qualtrics, although some participants completed the survey in person with the researcher.

The two surveys were highly comparable, as the questions only differed slightly, mainly in how they were worded. For example, while participants with DD were asked to self-report their experiences, caregivers were asked to report on behalf of their dependent. Both surveys sought demographic information. Participants with DD were asked their gender, age, ethnicity, current work and employment status, and their current living situation. They were also asked to self-report their primary diagnoses, any co-morbid psychiatric diagnoses (e.g., Anxiety or depression), and whether they had been diagnosed with an ID. Caregivers were asked to provide the same information on behalf of their dependant, as well as their own demographic information (e.g., their current work status, ethnicity, etc.).

Next, all participants were asked whether they, or their dependent (in the caregiver survey) had ever had an interaction with the police. If they indicated that they had, a series of follow-up questions probing both qualitative and quantitative characteristics of the interaction were presented. The questionnaire was twofold, and asked participants to elaborate on one specific incident with the police, as well as to reflect more broadly on their lifetime experiences with the police. For the first part of the survey, participants were asked to describe, in an open-

response format, one police interaction of their choosing. Participants could provide as much, or as little, detail as they wished. Following the open-ended question was a series of closed-ended questions addressing more specific aspects of the interaction. These details included their (or their dependent's) role in the experience, the initial circumstances surrounding the interaction, whether police were aware, or made aware, of the individual's disability, the highest level of force used, and the outcome of the interaction.

Participants were then asked about their or their dependent's lifetime experiences with the police, for example, whether they or their dependent (in the caregiver survey) had ever committed a crime, been suspected of a crime, or been the victim of a crime. They were also asked about their awareness of police resources for people with disabilities, including the Vulnerable Persons Registry and the Autism Registry.

Police Contact Experience Scale (PCES)

The questionnaire included items drawn from the Police Contact Experience Scale (PCES), a standardized scale used to assess various dimensions of police interaction (Watson, Angell, Vidalon & Davis, 2010), including situational, procedural, and interpersonal aspects of the interaction. The PCES has been successfully used in research investigating interactions between people with mental illness and the police (e.g., Livingston, 2014). This measure was slightly modified in two ways for the purposes of the current study. Firstly, only three of the original four subscales were utilized: the perceived procedural justice (PPJ) subscale, the satisfaction (S) subscale and the outcome favourability (OF) subscale.¹ The PPJ subscale assesses the extent to which the individual believes that police followed procedures in a just manner. The S subscale assesses participants' satisfaction with the interaction, and the OF

¹ The coercion subscale was not used for this study, in an attempt not to bring participants' attention to negative aspects of the interaction

subscale evaluates participants' perceptions of the favourability of the outcome. Secondly, wording of the items was slightly modified when the caregiver completed the survey to allow them to respond on behalf of their dependents. For example, the item "the officer was concerning about what I needed", became "the officer was concerning about what [dependent's name] needed". All items were rated on a 7-point scale from (1) strongly disagree to (7) strongly agree. Higher scores generally indicate a more positive response regarding the interaction (i.e., procedurally just, satisfaction with interaction, satisfaction with outcome). In total, the version of the survey for people with DD had 15 items, and the version for caregivers had 14 items. Composite measures were constructed for each of the three subscales. The alpha levels for the subscales were excellent for both the DD (α = .95, .97, and .80, for the PPJ, S, and OF subscales, respectively) and caregiver group (α = .93, .96, and .95, for the PPJ, S, and OF subscales, respectively).

Waisman Activities of Daily Living Scale

Independence in activities of daily living was measured using the Waisman Activities of Daily Living Scale (W-ADL; Maenner, Smith, Hong, Makuch, Greenberg, & Seltzer, unpublished material, 2011). Caregiver respondents rated their dependent's level of independence across 17 items covering domains such as personal care, housekeeping and meal preparation. According to the established cut-offs, the mean score for a profound disability is 5.8, 16.1 for a severe disability, 21.8 for a moderate disability, and 24.9 for a mild disability. These cut-offs were used in the interpretation of caregiver-reported W-ADL scores. Given that this measure is typically completed by caregivers, some of the items are of a sensitive nature, such as items related to personal hygiene (e.g., toileting and grooming), these items were removed in the self-report version for participants with DD. Participants with DD rated their own independence

across 13 items. As only 13 items were asked, modified cut-offs were calculated for the DD participants²: 4.42 for a profound disability, 12.22 for a severe disability, 16.64 for a moderate disability and 18.98 for a mild disability. The alpha levels were good for both groups ($\alpha = .94$ and $.84$, for caregivers and DD, respectively).

2.4. Recruitment Strategies

There was a range of recruitment strategies used, mainly through online sources. DD community members were recruited through advertisement and recruitment notices distributed through various organizations, charities, support groups and private businesses (e.g., Autism Ontario, Autism Canada, FASD and Autism Speaks) and by snowball sampling within the DD community. The recruitment notice was entitled “Seeking input from people with developmental disabilities (DD) and caregivers of people with DD”, and invited both people with DD, and caregivers, to participate in the survey (whether they had had an interaction with the police or not), through either contacting the researcher, or accessing the survey through a custom url link (www.prddproject.com). Various recruitment materials were created for the study, including three text postings (one for both caregivers and people with DD, one for caregivers specifically, and one for people with DD specifically).

² The standard cut-offs for the W-ADL were pre-established by the authors. Given that the modified version had fewer items, the modified cut-offs were calculated by dividing the pre-established cut-off means by the total possible score (34), creating a percentage of the total. For example, the cut-off for a profound disability ($M=5.7$) was 17% of the total possible achievable score. These percentages were then multiplied by the new possible achievable score (26) to establish new cut-offs. To confirm the validity of the new cut-offs, a set of scores was also calculated where 8 points (2 points for each of the 4 items omitted) were added to each participant’s score. This was done because these items were dropped based on the assumption that the participants were likely independent in these activities, which means they would have scored a 2 (does independently) if they had been presented with the item. Based on these calculations, the mean W-ADL score for participants with DD was 29.58, which can be interpreted by the standard cut-off as a mild impairment.

3. Results

Given the fact that the study utilized a complex community sample, a number of participants did not answer every question. Missing responses were not reconstructed. Thus, not all of the responses tally to the total number of participants. The results will be presented for participants with DD and caregivers separately for several reasons. The sample sizes were drastically different, and as evidenced in the results below, the two samples were qualitatively different in many respects, including their demographics, their experiences, and perceptions of their experiences. These differences will be highlighted and discussed throughout the thesis. Importantly, the caregivers and participants with DD were not from the same family and were completely independent from each other, and may be reporting different types of experiences.

3.1. Participants

Out of the 91 participants who completed the survey, 25 participants identified as someone with DD, while 66 identified as caregivers of someone with DD. Participant characteristics for participants with DD and caregivers are summarized in Table 1 and Table 2, respectively. Again, as noted earlier, because not all of the participants completed the entire survey, not all of the results have equal Ns.

Participants with DD

Of the 25 adults with DD who completed the survey (16 women, 8 men, 1 missing), all reported having a main diagnosis of Autism Spectrum Disorder. Eighty-four percent of the sample reported a co-occurring condition, with the most commonly reported co-occurring conditions being anxiety disorder (64%, n=16) and depression (68%, n=17). Only four participants indicated that they had also been diagnosed with an intellectual disability.

The age of these participants ranged from 22 to 60 years, with a mean age of 36 ($SD=10.9$). Most participants were of White European descent (68%).

Regarding the highest level of education the participant had attained, 72% of participants had attended college or University. Though the sample was well-educated, most participants reported that they were currently unemployed (64%), and not enrolled in school (76%). The majority of participants reported either living independently ($n=9$, 36%) or with their parents ($n=8$, 32%). Their average score on the W-ADL was 21.5 ($SD=4.51$). Using the modified cut-offs, this can be interpreted as a mild impairment.

Table 1
Participants with developmental disabilities: Participant characteristics

Characteristics		N (%)
Gender	Male	8 (32%)
	Female	16 (66.7%)
Age, in years	Mean (SD)	36 (10.9)
Primary diagnosis	Autism	25 (100%)
Other DD	ADHD	4 (16%)
Co-morbid psychiatric diagnoses	Anxiety	16 (64%)
	Depression	17 (68%)
Intellectual disability	Yes	4 (16.7%)
	No	20 (83.3%)
Ethnicity	White/Caucasian	17 (68%)
	Jewish	3 (12%)
	Other	5 (20%)
School status	Full-time	3 (12%)
	Part-time	3 (12%)
	Not in school	19 (76%)
Highest level of education	Some post-secondary	5 (20%)
	Have/am completing college diploma	5 (20%)
	Have/am completing University degree	4 (16%)
	Post-graduate degree	4 (16%)
Employment status	Unemployed	16 (64%)
	Part-time employment	5 (20%)
	Full-time employment	4 (16%)
Living situation	Lives independently	9 (36%)
	Lives with parents	8 (32%)
	Other	9 (20%) ³
W-ADL Score	Mean (SD)	21.5 (4.51)

³ These categories were not mutually exclusive. Participants could choose multiple options to best describe their living situation.

Caregivers

Regarding the 66 caregivers (60 women, 6 men) who completed the survey, the majority were parents (80.3%, n=53), and more specifically, mothers (75.8%, n=50). Most of the caregivers were of White European descent (70%, n=46), and were born in Canada (50.5%, n=46). Thirteen caregivers in the sample reported having multiple children with DD. Just under 50% of the caregivers reported working full time (n=32). The majority of caregivers were fairly well-educated, as evidenced by the fact that 78.5% of caregivers had a post-secondary education.

The majority of their dependents were males (71.2%, n=47) and of White European descent (59.1%, n=39). The age for their dependents ranged from 3 to 54 years old, with a mean age of 18.4 ($SD=9.75$). Their dependents were most commonly diagnosed with Autism (80.3%, n=53) and less frequently with ADHD (30%, n=20), Fetal Alcohol Spectrum Disorder (10.6%, n=7), Communication Disorder (16.6%, n=11) and non-verbal disability (6%, n=4). Regarding other diagnoses, 44% of the dependents had multiple diagnoses, the most common being ADHD (28.8%). Approximately 44% (n=29) had at least one co-occurring mental health issue, the most commonly reported being anxiety disorder (34.8%, n=24) and less frequently, depression (10.6%, n=7), personality disorder (4.5%, n=3), and substance abuse (4.5%, n=3). Six percent (N=4) of the sample reported an unspecified psychiatric disorder. Of the 66 caregivers of persons with DD, approximately half (50%) reported that their dependent had also been diagnosed with an ID.

Regarding education, only slightly more than half (53%, n=35) of the dependents were enrolled in school full-time, while approximately 40% (n=26) were not enrolled in school either full-time or part-time. Most of the dependents lived at home with their parents (81.8%, n=54). Dependents less often lived in a group home (9%, n=6), with other family (3%, n=2), or with

roommates (3%, n=2). The average score on the W-ADL was 18.96 ($SD=8.32$), which can be interpreted as severe to moderate impairment.

Table 2
Caregivers of dependents with developmental disabilities.
Dependent's characteristics

Characteristics		N (%)
Gender	Male	47 (71.2%)
	Female	19 (28.8%)
Age, in years	Mean (SD)	18.4 (9.75)
Primary diagnosis	Autism	53 (80.3%)
	Fetal Alcohol Spectrum Disorder	7 (10.6%)
Other DD	ADHD	20 (30%)
	Communication disorder	11 (16.7%)
	Non-verbal disability	4 (6%)
Co-morbid psychiatric diagnoses	Anxiety	24 (36.4%)
	Depression	7 (10.6%)
	Psychiatric disorder	4 (6%)
	Personality disorder	3 (4.5%)
	Substance abuse	3 (4.5%)
Intellectual disability	Yes	33 (50%)
	No	32 (48.5%)
Ethnicity	White/Caucasian	39 (59.1%)
	Bi/multiracial	7 (10.6%)
	Other	20 (30.3%)
School status	Full-time	32 (53%)
	Part-time	5 (5.5%)
	Not in school	26 (40%)
Highest level of education	Elementary school	25 (43.1%)
	Some high-school	20 (34.5%)
	High-school	9 (9.9%)
Living situation	Lives independently	1 (1.1%)
	Lives with parents	54 (59.3%)
	Lives in a group home	6 (6.6%)
W-ADL Score	Mean (SD)	18.96 (8.32)

3.2. Frequency of interaction with police

Regarding participants with DD, 88% (n=22) of them reported that they had had at least one interaction with the police. Of those that indicated they had an interaction with the police, 52% reported between 1 and 3 interactions, 29% reported between 4 and 6 interactions, and 19% reported 7 or more interactions.

Regarding caregivers, 68% (n=44) of them reported that their dependent had had at least one interaction with the police. Of those who indicated their dependent had an interaction with the police, 47% of caregivers reported between 1 and 3 interactions, 22% reported between 4 and 7, and 27% reported 8 or more interactions.

To compare caregivers who reported frequent interactions to those who reported infrequent interactions, a dichotomous variable was created for whether caregivers reported infrequent (between 1 and 3 interactions; n=22, 50%) or frequent (4 or more; n= 22, 50%) interactions with the police.⁴ Analyses were conducted to determine whether these two groups (frequent versus infrequent) differed by their dependants' demographic or clinical characteristics.⁵

Overall, caregivers who reported frequent, as opposed to infrequent interactions did not differ with respect to dependent's age $t(42)=.22, p=.83$, enrolment status in school (dichotomized into enrolled in school or not), $\chi^2(1, N=44)=.093, p=.76$, living situation (dichotomized into lives with parents or does not live with parents), $\chi^2(1, N=44)=1.09, p=.30$, presence of an ID, $\chi^2(1, N=43)=.024, p=.88$, or psychiatric disorder, $\chi^2(1, N=44)=.00, p=1$. However, dependents with frequent interactions with the police had a lower score on the W-ADL ($M=19.2, SD=7.82$) than dependents with infrequent interactions ($M=24, SD=6.21$), $t(37)=2.11$,

⁴ Given the small number of participants with DD, these analyses were performed only on the caregiver data.

⁵ Participants that reported having no interactions with the police were excluded for these analyses

$p=.04$, meaning that dependents with frequent interactions had a more severe degree of impairment (a severe to moderate impairment) compared to those with infrequent interactions, who had a milder degree of impairment.

3.3. Nature of interactions with police

Participants were asked to describe, in an open-question format, one particular interaction with the police of their choosing. Most participants provided extensive details regarding the incident of their choosing, but many also used this opportunity to talk about their general experiences with the police, as well, often mentioning several interactions, rather than just one. Many of these were multiple occurrences of the same type of interaction, for example, calling the police several times when their child had gone missing, or had a violent meltdown. Twelve of the 66 caregivers mentioned more than one interaction in the open-ended question. One parent reported that her son had had 24 interactions with the police. Many participants also mentioned their satisfaction or dissatisfaction with the experiences they described, sometimes providing feedback and advice on how the officers could have done better, or conversely, what they did right. Participants were also asked, in a closed-question format, to select amongst a pre-set list, the option that best describes the reason for the interaction, their (or their dependent's) role in the interaction, and the outcome. All close-ended questions regarding the interaction also included an "other" option where participants could create their own category.

These open-ended responses were analyzed using a thematic analysis approach (Braun & Clarke, 2006) to identify the main reasons for the interaction, and its outcome. The close-ended responses were also consulted to determine whether the category was appropriate, based on which option the participant selected themselves. Analyses revealed a total of 9 unique reasons that were expressed for police interaction (see Table 3). Four of these main reasons were

comprised by a number of sub-categories. Table 3 provides the main categories, along with their subcategories if applicable, as well as illustrative responses from respondents retelling the experience.

These results however, should be interpreted with caution. Due to the complexity of some of the interactions, there were often multiple underlying reasons and sometimes multiple outcomes, though only the main reason and main outcome was recorded for purposes of this analysis. For example, one DD participant mentioned that she had multiple police interactions throughout her life as a result of an abusive mother, and an unstable home environment. After leaving her home as a teenager, she was denied entry into high-school due to the fact that no one was paying taxes on her behalf. As a result, she had a truancy warrant out for her arrest for ten years. The main interaction she described was due to this truancy warrant. In the close-ended question, the participant also described that the reason for her interaction was due to being arrested as a result of truancy. Thus, “committing a crime” was identified as the reason for the interaction, and “arrest” as the outcome of the interaction. Though accurate, these simple categorizations do not capture the depth or complexity of this event. Thus, these results should be interpreted with caution, and should be kept in mind in the context of later analyses concerning perceptions of, and satisfaction with, the interactions.

Table 3: Categories identified from open-ended question.

Category	Sub-category	Example quote
Informal, casual encounter	<i>Community, social interaction</i>	“The local police station runs a tour for community members with special needs.” (caregiver)
	<i>School interaction</i>	“Local officers came to school to introduce themselves to staff and students” (caregiver)
	<i>Dialed 911 without cause</i>	“B likes to call 911 and will do so whenever she gets a hold of the phone.” (caregiver)
Missing persons	<i>Ran away</i>	“I went missing last Spring, and police were called by my family.” (DD)
	<i>Lost in public</i>	“D has gotten separated from his group while travelling on the TTC three separate times.” (caregiver)
	<i>Wandering</i>	“C wandered away at a Ribfest.” (caregiver)
Aggression and/or violence	<i>Aggressive toward caregiver</i>	“C was arrested by [police] while at school. This was in relation to an event that had taken place three days earlier, where he was restrained for 30 minutes and a worker was injured.” (caregiver)
	<i>Aggressive toward stranger</i>	“My daughter was on TTC bus going to [redacted] program... one woman was standing too close to my daughter... M started pushing her in response.” (caregiver)

	<i>Meltdown (non-specific, violent)</i>	“Our neighbors would call the police because I had terrible meltdowns (crying, wordless screaming or screaming “NO” or some similar thing over and over... would beat myself and put holes in walls, throw and break things).” (DD)
Stopped by police		“Nearby police stopped him and, citing ‘suspicious’ (read: autistic) behaviour, grabbed him and got physical.” (DD)
School-related incident		“I was provoked at school. I got into a huge fight with my classmate because my classmate was screaming and I was forbidden from leaving the classroom to get away from the noise.” (DD)
In-distress (non-violent)		“Another occasion was when we have crisis at home and they came I was in distress and could not speak.” (DD)
Accused of committing crime		“He was carrying a pen and the owner thought he had a knife and called the police. 8 police cruisers and the canine unit came.” (caregiver)
Victim of crime		“Rape I believe sept 2007 treated like a liar was told I’d be charged with public mischief if I didn’t say I was lying.” (DD)
Committed a crime		“I was arrested for assault for one single punch and held overnight.” (DD)

The type of interactions described by caregivers and people with DD were very diverse and seemed to differ by type of respondent. As summarized in Table 4, the overall most common reason for police interaction was an informal, casual encounter, though these types of interactions were mentioned almost exclusively by caregivers (n=13). Participants with DD seemed to encounter the police in more negative circumstances compared to those of dependants described by caregivers. As summarized in Table 4, people with DD most often talked about situations where they were stopped by the police (14.2%) or were doing something illegal (14.2%). Caregivers most often described casual encounters (30%), situations involving violence or aggression (20%), or incidents where their dependents were lost or missing (16%). Dependents' experiences seemed to originate from their caregivers seeking assistance, while police encounters for participants with DD originated from more negative circumstances, such as when they were doing something illegal.

Table 4
Frequency of interaction by interaction type.

Nature of Interaction	N (%)	Participant type	
		DD	Caregiver
Informal, casual encounter	14 (21.5%)	1	13
Community or social encounter	8	1	7
In school	2	0	2
Dialed 911 without cause	5	0	4
Missing persons	8 (12%)	1	7
<i>Ran away</i>	4	1	3
<i>Lost in public</i>	2	0	2
<i>Wandering</i>	2	0	2
Aggression and/or violence	11 (17%)	2	9
<i>Toward caregiver</i>	5	0	5
<i>Toward stranger</i>	1	0	1
<i>Meltdown (non-specific, violent)</i>	5	2	3
Stopped by police	3 (5%)	3	0
School-related incident	2 (3%)	1	1
In distress (non-violent)	4 (6%)	3	1
Accused of committing crime	5 (8%)	1	4
Victim of crime	3 (5%)	2	1
Committed a crime	6 (9.2%)	3	3

3.4. *Use of force by police officers*

Regarding police use of force, 10 (52.6%) of the participants with DD reported that the police had used force during the interaction. When asked about the highest level of physical contact police officers had utilized during the interaction, the most frequent responses involved restraining (30%, n=3) and handcuffing (30%, n=3). Three participants indicated that the police had used force other than the options presented in the question. Alarming, these three participants reported use of force equivalent to physical assault by the police officer during the interaction. This included one incident of being forcefully shaken, one incident of being strangled, and one incident of being dragged across a desk and being hit with a phonebook in the interrogation room.

In contrast, most caregivers (77.5%, n=31) reported that no force had been used. Of those who indicated that force had been used, 17.9% (n=7) reported that the police used soft touch (non-aggressive), 12.8% (n=5) reported the police handcuffed their dependent, 7.7% (n=3) reported that their dependent was restrained, and 2.6% (n=1) reported that the police used aggressive physical contact.

3.5. *Outcomes of interactions*

As indicated earlier, open-ended responses were analyzed using a thematic analysis approach (Braun & Clarke, 2006) to identify the main reasons for the interaction, and its outcome. The analyses of outcomes revealed 11 unique outcomes, which are summarized in Table 5. For informal interactions, such as in cases where police officers were encountered in the community or in school programs, the outcome was recorded as not applicable. Excluding situations where the outcome was not applicable, such as in cases of informal interactions, the most commonly reported outcome was arrest (21%), followed by the person with DD being

released to their caregiver (18.6%). Being detained (7.1%), transported to hospital (8.9%) and officer did nothing (7.1%) were commonly reported outcomes for both participant groups.

Table 6 summarizes the most frequent outcome by interaction type. Outcomes varied greatly depending on the reason for the interaction. For example, 40% of the incidents involving the individual committing a crime resulted in arrest. Both school-related incidents and situations involving accusations of crime also most often resulted in arrest. For three types of interactions, multiple outcomes were equally likely.

Table 5
Frequency of outcomes by participant type

	N (%)	N by Participant type	
		DD	Caregiver
Officer(s) did nothing	4 (7.1%)	2	2
Resolved on-scene	1 (1.8%)	0	1
Released to caregiver(s)	8 (14.3%)	1	7
Transported to hospital	5 (8.9%)	2	3
Officer(s) filed police report	3 (5.4%)	1	2
Officer(s) gave warning	5 (8.9%)	1	4
Detained	4 (7.1%)	2	2
Restrained	2 (3.6%)	1	1
Arrested	9 (16.1%)	3	6
Other	2 (3.6%)	2	0
Outcome not applicable	13 (23.2%)	2	11

Table 6
Frequency of outcome by type of interaction.

Interaction Type	Most common outcome	N (%)
Missing persons	Released to caregiver	7 (87.5%)
Aggression and/or violence	Transported to hospital	4 (36.4%)
Stopped by police	Officers gave warning OR detained	2 (60%)
School-related incident	Restrained OR arrested	2 (100%)
In-distress (non-violent)	Transported to hospital OR detained	2 (66%)
Accused of committing crime	Arrested	2 (40%)
Victim of crime	Officer(s) filed police report	2 (66.7%)
Doing something illegal	Arrested	5 (83.3%)

3.6. Perceptions of interaction

Participants with DD

Participants' ratings on the PCES items pertaining to perceived procedural justice, satisfaction with interaction, and outcome favourability, along with their composite mean scores, are summarized in Tables 7 and 8. Table 7 summarizes the ratings given by participants with DD who self-reported their interactions, and Table 8 summarizes the ratings provided by caregivers for their dependents' perceived interactions. For both Tables 7 and 8, the "agree" category includes the response options "strongly agree", "somewhat agree" and "agree", and the "disagree" category includes the response options: "strongly disagree", "somewhat disagree", and "disagree".

Amongst participants with DD, perceived procedural justice ($M=3.27$, $SD=1.94$), satisfaction ($M=2.61$, $SD=1.81$) and outcome favourability ($M=2.92$, $SD=1.74$) were low (i.e., all below the midpoint on the 7 point scale) suggesting that, overall, participants with DD perceived that they had not been treated in a procedurally fair manner, were not satisfied with their interaction, and found the outcome unfavorable. For instance, approximately two thirds of participants ($n=13$), indicated the officer did not do a good job dealing with their situation, and 73% were not satisfied with how officers handled the situation. Only one in 5 (21%, $n=4$) indicated that the situation was resolved the way they wanted it to be.

Table 7

Participants with DD: Perceptions of self-reported interaction with the police.

ITEMS	MEAN	SD	DISAGREE ⁶ AGREE ⁷ Neither agree nor disagree		
			N	N	N
COMPOSITE PERCEIVED PROCEDURAL JUSTICE	3.38	1.94			
The officer(s) treated me like a human being	3.74	2.1	8	8	3
The officer(s) were just doing their job	4	1.91	8	7	4
The officer(s) gave me enough time to do what they asked	3.44	2.1	8	6	4
The officer(s) treated me respectfully	3.53	2.17	11	7	1
The officer(s) tried to do what was best for me	3.68	2.28	9	8	2
I am satisfied with the way the officer(s) dealt with the situation	2.95	2.24	12	6	1
The officer(s) took time to listen and understand my situation	3.05	2.04	12	4	3
The officer(s) went out of his/her way to be helpful	2.79	2.04	12	3	4
The officer(s) was concerning about what I needed	2.74	2.05	12	3	4
COMPOSITE SATISFACTION	2.61	1.81			
The officer(s) generally did a good job dealing with my situation	3	2.13	13	4	2
I was satisfied with the way the officer(s) handled the situation	2.95	2.24	14	3	2
I was helped by what the officer(s) did	2.53	1.92	13	3	3

⁶ Includes 'strongly disagree', 'somewhat disagree' and 'disagree' response options⁷ Includes 'strongly agree', 'somewhat agree' and 'agree' response options

I was helped by what the officer(s) said	2.37	1.98	15	3	1
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OUTCOME**FAVOURABILITY**

The interaction with the officer was resolved the way I wanted it to be	3.26	2.16	11	4	4
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The outcome of the situation with the police was better than I expected	2.58	1.64	13	1	5
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The three PCES subscales were significantly correlated. Participants' perceived level of satisfaction was strongly correlated with perceived procedural justice ($r=.94, p<.01$) and outcome favourability ($r=.71, p<.01$). Perceived procedural justice was also correlated, albeit not as strongly, with outcome favourability ($r=.69, p<.01$).

Caregivers' perception of their dependent's experience

Caregivers' ratings on the PCES are summarized in Table 8. In contrast to the participants with DD, the majority of caregivers perceived that their dependent had been treated in a procedurally fair manner ($M=5.02, SD=1.63$). However, caregiver's satisfaction ($M=4.43, SD=2.01$) and outcome favourability ($M=4.30, SD=2.29$) were far less polarized in either direction, with the means falling toward the midpoint of the scale, making it more difficult to draw definite conclusions. Caregivers were not necessarily favourable, although not as unfavourable, compared to the participants with DD, regarding their dependents' interactions. For example, 62.7% ($n=27$) of caregivers indicated that they believed the officer(s) did a generally good job dealing with their dependent's situation, and slightly more than half (53.4%, $n=23$) indicated that they believed their dependent was satisfied with how the officers handled the situation. Again, only slightly more than half (57%, $n=24$) indicated that the situation as resolved the way they (caregiver and dependent) wanted it to be. These results are not surprising, given that caregivers would likely not have as much information and insight into the interaction, compared to people with DD who experienced the interaction.

Table 8
Caregivers' perceptions of described interactions with the police.

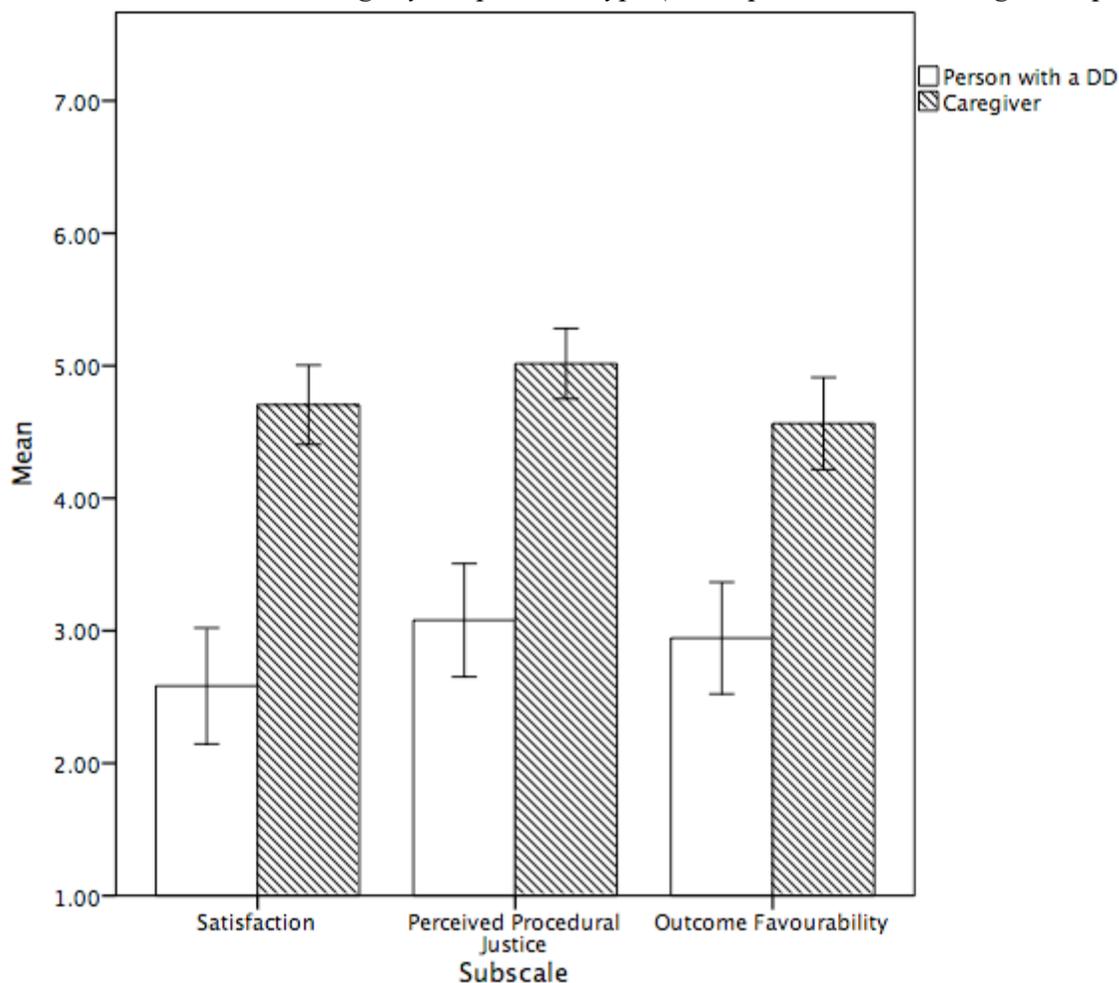
			DISAGREE ⁸	AGREE ⁹	Neither agree nor disagree
ITEMS	MEAN	SD	N	N	N
COMPOSITE PERCEIVED PROCEDURAL JUSTICE	5.02	1.63			
The officer(s) treated [DEPENDENT] like a human being	5.33	1.98	8	32	3
The officer(s) were just doing their job	4.86	1.96	9	29	4
The officer(s) gave [DEPENDENT] enough time to do what they asked	4.77	1.70	7	22	14
The officer(s) treated [DEPENDENT] respectfully	5.07	2	9	30	4
The officer(s) tried to do what was best for [DEPENDENT]	5	2.02	8	29	6
In my opinion, [DEPENDENT] was satisfied with the way the officer(s) dealt with the situation	4.51	2.14	13	23	7
The officer(s) went out of his/her way to be helpful	4.85	2.10	10	25	6
The officer(s) was concerning about what [DEPENDENT] needed	4.28	2.14	14	21	8
COMPOSITE SATISFACTION	4.43	2.01			
The officer(s) generally did a good job dealing with [DEPENDENT]'s situation	4.7	2.13	11	27	5
[DEPENDENT] was satisfied with the way the officer(s) handled the situation	4.51	2.27	14	23	6
[DEPENDENT] was helped by what the officer(s) did	4.4	2.26	14	22	7
[DEPENDENT] was helped by what the officer(s) said	4.12	2.13	13	18	12
COMPOSITE OUTCOME FAVOURABILITY	4.30	1.74			
The interaction with the officer was	4.43	2.37	15	24	3

⁸ Includes 'strongly disagree', 'somewhat disagree' and 'disagree' response options

⁹ Includes 'strongly agree', 'somewhat agree' and 'agree' response options

resolved the way we wanted it to be					
The outcome of the situation with the police was better than we expected	4.19	2.29	14	19	10

Figure 1
PCES Subscale Means: Ratings by Respondent Type (DD reported versus Caregiver reported)



As demonstrated in Figure 1, overall, caregivers' perceptions of their dependent's experiences were rated far more favorably across all three of the PCEE subscales than the experiences reported by participants with DD; A series of independent t-tests confirmed that participants with DD had significantly lower ratings concerning their perceived procedural justice¹⁰, $t(56)=-4.05$, $p < .001$, satisfaction with the interaction, $t(60)=-3.36$, $p=.001$, and outcome favourability, $t(45)=-2.35$, $p=.02$, compared to the ratings provided by caregivers.

¹⁰ The Perceived Procedural Justice Subscale had 9 items in the survey for persons with DD, but only 8 items in the caregiver version of the survey. This was because one of the items could not be appropriately translated in order for a caregiver to answer on their dependents' behalf. However, the only items used for the purposes of this analysis were the 8 items that both participant types had in common.

These statistically significant differences should be interpreted with caution for several reasons. Firstly, the questions, though comparable, were qualitatively different. For example, while people with DD were asked whether they were satisfied with the interaction, caregivers were asked to infer this on behalf of their dependent (indicated by the words “In my opinion”). Thus, caregivers necessarily had less insight into their dependant’s interaction than participants with DD had regarding their own interaction. Most importantly, the dependents that caregivers reported on and participants with DD who self-reported were not from the same family.

A series of correlational analyses and t-tests were conducted to examine whether there were any associations of overall favourability¹¹ with dependent characteristics and demographics.¹² Overall, favourability was not related to age, $r(39)=-.116$, $p=.48$, dependent’s score on the W-ADL, $r(34)=-.12$, $p=.50$, presence of an intellectual disability, $t(36)=-.75$, $p=.45$, or ethnicity (white compared to non-white), $t(37)=-1.09$, $p=.28$, or frequency of police interactions (frequent vs. infrequent), $t(37)=1.06$, $p=.29$. Caregivers with male dependents were slightly more favourable toward their police interaction ($M=5.2$, $SD=1.47$) than caregivers with female dependents ($M=4.11$, $SD=2.02$), although this difference was not statistically significant, $t(37)=1.92$, $p=.056$.¹³

3.7. Disability & Policing

Regarding participants’ beliefs about officer knowledge and disclosure of disability, only a third of participants with DD (36.8%, $n=7$) indicated that they felt the officer(s) were aware of their disability during the interaction. In situations where they reported that the officer was aware, it was most often because someone else made them aware of it (85.7%, $n=6$), and less

¹¹ In this case, overall favourability refers to the total mean score on the PCES. Overall favourability was derived by averaging the scores of all three subscales.

¹² Given the small number of participants with DD, these analyses were performed only on the caregiver data

¹³ These analyses were also performed on each of three subscales individually. There were no significant differences (all $ps > .05$).

often because they told the officer themselves (n=1, 14.3%). However, almost half (42.1%, n=8) of the participants indicated that, at some point during the interaction, they tried to tell the police officer(s) that they had a disability. Furthermore, none of the participants indicated that the officer(s) were able to recognize the participant's disability on their own.

In contrast, the clear majority of caregivers (78.8%, n=26) indicated that the officer(s) was/were aware that their dependent had a DD. Most often, caregivers reported that officers were aware because the caregiver had told them (53.8%, n=14), and less often because someone else had informed them (19.2%, n=5), or their dependent told the officer themselves (11.5%, n=3). Only two caregivers (7.7%, n=2) reported that they felt the officer recognized their dependent's DD on their own.

3.8. Lifetime Contact with the Police

Table 9

Participants with DD: Lifetime contacts with the police

	N (%)
Stopped by the police	11 (52.4%)
Suspected of a crime	6 (28.6%)
Convicted of a crime	1 (4.7%)
Victim of a crime	11 (52.4%)
Police called because of crisis	10 (47.6%)
Handcuffed	11 (52.4%)
Hurt during interaction	11 (52.4%)

Reflecting on their lifetime experiences with the police (see Table 9), more than half of the participants with DD reported that they had been stopped by the police (52.8%, n=11), handcuffed (52.38%, n=11), or had been the victim of a crime (52.8%, n=11) at some point during their life. Slightly less than half (47.6%, n=10) indicated that the police had been called due to a crisis situation. Furthermore, slightly more than half (52.38%, n=11) of these participants indicated that they had been hurt, either emotionally or physically, during an

interaction with the police. Approximately 60% (n=6) of these participants also indicated that their experiences with the police influenced their day-to-day life. Further, 70.6% (n=12) indicated that their experiences with the police had influenced their mental health.

Table 10

Caregivers of Dependents with DD: Lifetime contacts with the police

	N (%)
Stopped by the police	9 (15%)
Suspected of a crime	10 (16.7%)
Convicted of a crime	5 (8.3%)
Victim of a crime	14 (23.7%)
Police called because of crisis	18 (30.5%)
Handcuffed	11 (18.3%)
Hurt during interaction	8 (13.8%)

Table 10 summarizes caregivers' views on their dependent's lifetime interactions with the police. Approximately a third of caregivers indicated that the police had been called due to their dependent being in crisis (30.5%, n=11), while a quarter reported their dependent had been victimized (23.7%, n=14). Fewer caregivers indicated that their dependent had been handcuffed by the police (18.3%, n=11), been suspected of a crime (16.7%, n=10), stopped by the police (15%, n=9), or convicted of a crime (8.3%, n=5). Fourteen percent (n=8) of caregivers indicated that their dependent had been hurt, either emotionally or physically, during an interaction with the police. A third of caregivers (32.7%, n=18) indicated that they believed that their dependent's experiences with the police had influenced their day-to-day life, while 25% (n=14) reported that they believed their dependent's interactions with the police influenced their mental health.

3.9. Awareness & Use of Registries

Many police services across Canada have voluntary registries for vulnerable persons, that allows caregivers, or people with DD, to register with their local police service where they can provide information can then be quickly accessed by emergency responders in the case of an interaction. The Vulnerable Persons Registry and the Autism Registry are two of these programs. The Vulnerable Persons Registry is non-specific, meaning that anyone with a disability may register, while the Autism Registry is specific to people with Autism.

Out of the 25 participants with DD, a quarter of them (n=6) were aware of Autism Registries in their community, of which only 2 reported being registered. None of the participants with DD indicated that they had completed a Vulnerable Persons Registry with their local police force.

Regarding the caregivers, only a third (32.7%, n=17) of caregivers to people with ASD were aware of Autism Registries in their community, and most of them (82.3%, n=14) indicated that their dependents were registered. Additionally, a third of caregivers (32.7%, n=17) reported that they had completed a Vulnerable Persons Registry with their local police force for their dependent. It is important to note that these registries are not mutually exclusive, and a person can potentially be registered with both.

3.10 Risk Factors for Forensic Interaction

To explore potential risk factors for police interaction, a dichotomous variable was created for whether individuals had, or did not have, an interaction with the police. Participants who had a friendly or casual interaction were excluded for these analyses. Given the small number of participants with DD, and the fact that they differed in significant ways from the

dependents described by their care givers, these analyses were performed only on the caregiver data.

As seen in Table 11, those with police interactions, as opposed to those who had no interactions with the police, were older in age, were more likely to have a comorbid mental health issue, and were less likely to be living at home with their parents. Dependents who had an interaction with the police also had a higher score on the Waisman, compared to dependents who had not had a police encounter, meaning that those with mild to moderate disability were more likely to have an encounter than those with a severe disability. Those who had a police encounter, as opposed to those who had not, did not differ with respect to gender, ethnicity or school enrolment status (all p 's $> .05$).

Table 11
Dependent characteristics associated with police involvement

	Total Sample <i>M</i> (<i>SD</i>) or <i>N</i>	Police Involvement <i>M</i> (<i>SD</i>) or <i>N</i> (%)	No police involvement <i>M</i> (<i>SD</i>) or <i>N</i> (%)	<i>t/X</i> ²
Age	18.40 (9.75)	22 (9.3)	15.74 (9.37)	<i>t</i> (63)=2.79, <i>p</i> =.007, <i>d</i> =0.67
Gender (male)	46	17 (37%)	29 (63%)	$\chi^2(1, N=65)=.607$, <i>p</i> =.44, <i>V</i> =.10
Residence (with parents)	53	18 (34%)	35 (66%)	$\chi^2(1, N=65)=4.36$, <i>p</i> =.04, <i>V</i> =.26
Ethnicity (white)	47	17 (65.38%)	30 (76.9%)	$\chi^2(1, N=65)=1.04$, <i>p</i> =.31, <i>V</i> =.13
Currently enrolled in school (yes)	40	14 (35%)	26 (65%)	$\chi^2(1, N=65)=1.08$, <i>p</i> =.30, <i>V</i> =.13
Co-morbid psychiatric diagnosis (yes)	29	16 (55.2%)	13 (44.8%)	$\chi^2(1, N=65)=5.02$, <i>p</i> =.03, <i>V</i> =.28
Intellectual disability (yes)	32	15 (46.9%)	17 (53.1%)	$\chi^2(1, N=64)=1.04$, <i>p</i> =.31, <i>V</i> =.13
Waisman Score	18.96 (8.33)	23.68 (6.43)	16.08 (8.09)	<i>t</i> (56)=3.73, <i>p</i> <.001, <i>d</i> =1.04

4. Discussion

Few studies have explored the forensic implications of DD. Fewer studies have explored the viewpoints of persons with DD. The goal of the present study was to gain a better understanding of how people with DD interact with the police, and how they perceive these interactions. This study is one of the few to explore the forensic implications of disability at the point of interaction with the police. Importantly, it is also one of the first studies to include people with DD as participants, as well as throughout the creation and implementation of the research project.

Consistent with past research (e.g., Rava et al., 2017; Tint et al., 2017) in the present convenience sample, people with DD seem to have a significant number of interactions with the police throughout their lifetime, both self and caregiver reported. In the present convenience sample, approximately three quarters of the participants reported at least one interaction with the police in their own, or their dependent's, lifetime. Those who had interactions were older in age, and less likely to be living with their parents, which is consistent with past research (e.g. Lunskey et al., 2011; Tint et al., 2017). They were also more likely to have comorbid mental health issues than those who had not had an interaction, and also had a less severe degree of impairment, evidenced by higher scores on the W-ADL. This last finding was particularly interesting, as it suggests that those with a milder impairment are at greater risk of encountering the police than those with a more moderate or severe impairment. This finding seems to be congruent with the idea that those with a "hidden disability" might be at greater risk for a police interaction because their disability is not immediately apparent. Furthermore, because they are afforded greater independence, they may be less likely to have a caregiver present, who would otherwise be able to assist them, or manage a situation appropriately before an officer would need to get involved.

A large proportion of participants had more than seven interactions. Many of these interactions were due to the same issue, for example, multiple violent meltdowns or multiple occurrences of wandering. Thus, these multiple interactions are likely due to the fact that the root causes are not being addressed (e.g., meltdowns) or that there are no other appropriate resources, such as in the case of wandering or becoming lost.

Interestingly, the only factor that differentiated those with infrequent interactions from those with frequent interactions was their score on the W-ADL, meaning that those with a more severe degree of impairment were more likely to have frequent interactions compared to those with milder impairment. This could potentially be attributed to the fact that people at different levels of the ability spectrum may encounter the police under different circumstances, evidenced in the results. Participants with DD, who were less impaired than caregivers' dependents, were more likely to discuss interactions where they were doing something against the law, were stopped by the police, or in distress. Conversely, caregivers most often described casual encounters, situations involving aggression or violence, consistent with past research (e.g., Lunskey et al., 2015; Tint et al., 2017), or incidents where their dependent had gone missing. It is possible that the types of interactions experienced by those with a more severe impairment are more likely to re-occur frequently than the type of interactions experienced by those with a milder impairment, like committing a crime. However, given that participants could discuss any police encounter of their choosing, it is difficult to draw definite conclusions without having greater insight into their lifetime interactions, and frequency of each incident.

Regarding the nature of these interactions, people with DD encountered the police under a wide variety of circumstances, both in the incident they described and their lifetime interactions. Many of these interactions were unrelated to the perpetration of crime. In fact,

casual or informal interactions accounted for a large proportion of these interactions. A large proportion of the sample, however, especially participants with DD, reported that they had been stopped by the police, had been handcuffed, and of great concern, had been the victim of a crime. Outcomes of interactions were equally diverse as the purported reasons for the interaction. One area of concern is the fact that a large proportion of interactions resulted in arrest or transportation to hospital. Arrest was identified as a prevalent outcome where there was perpetration of a crime, an accusation of a crime, or a school-related incident. Transportation to hospital was also identified as a prevalent outcome in police interactions involving aggression or violence, or when the participant was in distress. This is consistent with previous literature (e.g., Raina, Arenovich, Jones & Lunskey, 2013), identifying emergency department use as a prominent outcome of police response for forensically involved people with intellectual disability. Transportation to hospital may not always be an appropriate outcome for people with DD. Canadian emergency departments already suffer from overcrowding (Affleck, Parks, Drummond, Rowe & Ovens, 2013), thus, potentially unnecessary transportation to hospital for people with DD may put undue strain on an already over tapped resource. However, this may evidence the fact that police officers do not know how to handle these situations due to a lack of training, and also a lack of resources, and thus use emergency departments as a catch-all system. However, it is unclear whether other appropriate resources exist for individuals with DD in acute incidents where they become aggressive or violent toward themselves or others. Interestingly, only one participant mentioned that the mobile crisis-team responded, a resource that was developed for that very reason.

Participants' reported use-of-force experiences also varied greatly between self-reported and caregiver reported interactions, with participants with DD reporting force being used more

often than did caregivers' reports. One area of concern was the finding that more than half of the participants with DD indicated that they had been hurt, either physically or emotionally, during an interaction with the police. Indeed, three of the participants reported use-of-force tantamount to assault, which is particularly concerning given the small sample size. However, this finding should be interpreted with caution, as these police interactions are not necessarily representative of police officer interactions with DD persons more broadly as the sample self-selected the experiences they wanted to talk about.

Another study objective was to investigate how people with DD and their caregivers perceived their interactions with the police, mainly, whether they perceived them in a favourable or unfavourable manner. Given that participants with DD encountered the police under vastly different circumstances, their perceptions of their interactions differed greatly compared to caregivers' perceptions of their dependent's interactions. Participants with DD were generally unsatisfied with their interactions, consistent with Crane et al.'s (2016) findings, perceived their interactions to be procedurally unfair, and were unsatisfied with their outcome. Caregivers, in contrast, were far less negative in their reports of their dependent's interactions, consistent with Tint et al.'s (2017) recent findings. The finding that participants with DD perceived their interactions far less favourably compared with how caregivers perceived their dependent's interactions is an important finding. This discrepancy may be due to the fact that participants with DD had a less severe degree of impairment, and greater autonomy, than dependents did, evidenced by higher scores on the W-ADL. Thus, it is possible that their impairments are not as readily recognizable or obvious compared to the dependents in this sample. They may also not have a caregiver there to inform the police of their disability. From a forensic perspective, however, those with a more "hidden disability" are more problematic, because their impairments

are not immediately obvious to police officers, meaning they are less likely to recognize that the person has a disability, and may be more likely to attribute behaviour characteristic of their disability as indicative of guilt, suspicion, escalation or aggression. Thus, it is possible that individuals with a less apparent disability are at a greater risk of an adverse encounter than those with a more severe impairment. The fact that participants with DD experienced greater use of force by police officers and were more likely to indicate they had been hurt during an interaction compared to caregiver reports further evidences this notion. As noted in the results, this discrepancy could also be due to, or exacerbated by, the fact that caregivers necessarily had less insight into their dependent's interactions with the police than participants with DD had into their own interactions. Ideally, a study that obtains data from both people with DD, and their caregivers, would provide better insight into whether these differences are a result of two different perspectives, or a result of participants being at different levels of the disability spectrum.

In the present study, information produced by people with DD was qualitatively different than information produced by caregivers. Although this may be at least partially attributable to the fact that these two groups were not from the same family, it evidences the fact that input from both sources is valuable, and perhaps that caregiver data may not always be completely representative of their dependent's experiences. This notion was reflected anecdotally by one of the participants with DD who described encountering the police because she had gone missing. In this situation, the participant's parents filed a missing person's report after realizing she was missing. In the media release, which was widely shared at the time, they described her in a child-like manner, indicating she was "autistic", and functioning at the level of a 13-14-year-old, even though she was 30 years old at the time. The participant expressed that although her parents were

satisfied with how the police handled the situation, she was upset by how she was portrayed in the media release. She indicated that she felt the descriptions were problematic and offensive, as well as disclosed her disability to the public. In this case, the participant was dissatisfied with the police procedures and protocol, not how the police handled the situation. In the description of her encounter, she also offered several suggestions on how to improve the handling of missing person's releases when the individual has a DD. This is one example of a divergence in opinion between a person with DD and their caregiver regarding the same encounter, and also an example of the value of including people with DD in establishing policies that directly affect their community. However, as noted earlier, this is only one participant's experience. In order to explore this further, both people with DD and their respective caregivers should be consulted to determine whether caregivers have opinions or perceptions that conflict with their dependent's.

Including both caregivers and people with DD is also a way to include people with DD at different levels of the ability spectrum in research. Not everyone with a DD is able to speak for themselves, which is why caregiver data is so essential. However, there are also many people with DD who are able to speak for themselves, and represent their own experiences, which is why it is of utmost important to include them as participants in research concerning their community. Including both caregivers and people with DD ultimately increases the representativeness of the data and subsequent findings.

Disclosure of an individual's disability and police recognition of an individual's disability is another important issue that arose in this study. Many of the participants indicated that the police officer was not made aware of their disability during the interaction, and only in a few cases were the officers able to recognize the individual's disability on their own. These findings suggest that perhaps individuals are unable, and maybe unwilling, to disclose their

disability during a police interaction. Perhaps most troubling was the fact that a large proportion of the participants with DD indicated that they tried to inform the officer during the interaction that they had a disability, but not all were successful. However, the circumstances around these situations is unclear. These findings also corroborate prior work (Henshaw & Thomas, 2012; Modell & Mak, 2008) discovering that officers may be unable to recognize when an individual has a DD. These findings suggest a lack of officer training and knowledge on DD, which corroborate Coleman and Cotton's (2014) report, where they discovered that less than half of police services in Canada receive formal training on DD. Together, these findings strongly evidence the need for standardized, empirically-validated training for law enforcement professionals on DD.

Another important finding that should be highlighted is the under-use and lack of awareness of vulnerable persons and Autism registries. In the present sample, not all of the communities surveyed have an Autism Registry or Vulnerable Persons Registry program, which may be problematic in itself. For example, 16 of the caregiver participants were from the city of Toronto, which has a fairly new Vulnerable Person Registry that was implemented in 2015. Only two of these participants indicated that their dependents were registered. It is unclear whether this is due to a lack of awareness that the program exists, or whether the community has issues with the program itself. Several issues with Vulnerable Persons Registries have previously been raised, including concerns around privacy, confidentiality, and who has access to the information (Brown, 2015). Furthermore, it is possible that many people who would otherwise like to participate are uncomfortable with the registration process, as it is online and therefore requires some access to, and knowledge of, the internet, and ability to navigate to a website and submit an online form. Future research should address these concerns in an attempt to increase registry

participation, and address any concerns or misconceptions community members may have regarding this valuable resource.

Notwithstanding the strengths of this study, the findings of the present study should be interpreted with several limitations in mind. While participants for this study were mainly recruited directly through DD agencies, support groups and not-for-profit organizations, there was no verification of diagnoses for inclusion in the study. Furthermore, as was noted in the results, participants self-identified for inclusion in the study, thus, self-selection bias could be a possibility. Also, all of the participants with DD reported ASD as their primary diagnoses, which means that these particular results may not be generalizable to those with DD other than ASD, or those without ID. This study also relied on participant recall regarding their interactions with the police. Furthermore, many participants only partially completed the survey, meaning that a lot of potentially vital data may be missing. This is not surprising, given that most of the participants were parents of children with special needs and are already overtasked and receive minimal support from the government. Also, the fact that the study was mainly delivered online may have unintentionally excluded those who are not computer literate, those who do not have internet access, and those who have a more severe degree of impairment.

The findings from the present study paint a detailed picture of police encounters amongst people with DD. Findings support the idea that people with DD at different levels of the ability spectrum may encounter the police under diverse circumstances, and as a result, their experiences and perceptions may be very different. More research is needed to further explore what puts individuals with DD at risk of encountering the CJS, and more specifically, what increases their risk for an adverse encounter. It is important that future research focus on including both people with DD, and their respective caregivers, as well as strive to include those

along the entire ability spectrum, from mild to profound degrees of impairment, to produce findings more representative of the DD community.

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