Autism Spectrum Disorder Identification Card Programs: Public Attitude and Themes

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ABSTRACT

Legislators passed laws giving individuals the option to obtain a state-issued autism spectrum disorder (ASD) identification card or add a designation to state-issued identification cards or driver's licenses that inform first responders or others they have ASD. This qualitative study aims to measure public attitude and the value of ASD identification card laws and programs to inform public administrators and broader adoption efforts.

The target population of this study was active Facebook users posting comments on ASD-related public pages. A total of 570 comments were sampled from three pages. Overall, the data suggest strong public support for ASD identification cards, with 71.05% of commenters indicating a moderately positive or very positive attitude towards the programs. Additionally, the qualitative analysis resulted in the development of three themes: recommendations, reasons for positive sentiment, and reasons for negative sentiment.

The findings suggest the cards can address some of the main difficulties associated with ASD, such as bridging communication deficits; however, some commenters are skeptical that the cards will prove useful or sufficient for all circumstances. This skepticism possibly derives from the fact that none of the programs described directly address a fundamental characteristic of ASD: as the name indicates, it is a spectrum.

As well-intentioned as ASD card programs and first responder training initiatives are, case studies demonstrate they will likely not be enough. Public administrators must reinvent emergency response services, and perhaps create a new mental health social worker response teams, to alleviate the policing burden of being mental health care workers. Only then will police resources be able to focus on their primary duties while the right professionals can assist those with mental health care challenges adequately.

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Definition of Terms

Autism Spectrum Disorder: The National Institute of Mental Health defines autism spectrum disorder (ASD) as a "developmental disorder" (Autism Spectrum Disorder, 2020, para 1). The *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5* diagnostic criteria for ASD includes "persistent deficits in social communication and social interaction…stereotyped or repetitive motor movements, use of objects, or speech…insistence on sameness, inflexible adherence to routines, or ritualized patterns or verbal nonverbal behavior… hyper- or hyporeactivity to sensory input" amongst others (DSM-5, 2017, p.50). Some publications quoted in this study use less accepted but previously common terminology in referring to autism, such as "mental illness." Those terms are unchanged when referencing these studies for consistency while acknowledging their now improper use.

'First Responder' or 'Emergency Response Provider': As defined by 6 U.S.C. § 101: "Federal, State, and local governmental and nongovernmental emergency public safety, fire, law enforcement, emergency response, emergency medical (including hospital emergency facilities), and related personnel, agencies, and authorities" (Legal Information Institute, n.d., para. 6).

Mindblindness: The inability to attribute mental states to others, such as "thoughts, beliefs, knowledge, desires, and intentions" (Baron-Cohen, 1995, p.1).

Neurotypical: Individuals without a diagnosis of autism or any other known intellectual or developmental disorder.

Theory of Mind: A framework that "provides us with the ability to predict relationships between external states of affairs and internal states of mind" (Frith, 2003).

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A special thanks to my Mom for her kindness to my Dad for setting an example as a lifelong learner.

Lastly, to my wife- your confidence in me vastly exceeds my confidence in myself. Thank you for the years of encouragement and for never doubting the outcome!

DEDICATION

Dedicated to Katelyn, Mitchel, and Charlotte- the most extraordinary people I know.

Chapter I

INTRODUCTION

Statement of the Problem

Legislators passed laws giving individuals the option to obtain a state-issued autism spectrum disorder (ASD) identification card or add a designation to state-issued identification cards or driver's licenses that inform first responders or others they have ASD. Policymakers are implementing these laws and programs to facilitate the interaction between first responders and people with ASD. Additionally, numerous organizations, such as the Autism Society of America, offer similar commercially available cards to people with ASD (Autism Society of America Online Store, n.d., para.1).

The researcher's extensive search has to date not identified any research investigating the public attitude toward these programs and their value in facilitating these interactions. The interplay between public attitude for these programs and their value is an important one. Suppose the programs are valuable but lack public support. In that case, legislators and public administrators might not implement them more widely or fail to continue making the necessary investments in these programs to ensure their long-term viability. On the other hand, if these programs are not valuable but garner broad public support, legislators and policymakers might direct resources to a program that may ultimately fail while ignoring other, perhaps more effective priorities. The ideal program should effectively address the ASD community's needs and gain public support to ensure its long-term viability, funding, and implementation.

This qualitative study of available social media textual data aims to address this gap. First, it conducts a public attitude analysis of these initiatives based on publicly available comments on ASD-related public Facebook pages. Additionally, it uses these comments to investigate themes and how a card's presence may affect an interaction between a person with ASD and first responders. Results may assist in establishing baselines administrators can use to implement or modify similar programs in the future. Attitude may predict how widely the ASD community would adopt these programs, and it may provide researchers additional information on the public policy and social media nexus.

Characteristics of people with ASD make their interactions with first responders particularly challenging, potentially leading to preventable violent or even fatal incidents. First responders may receive specialized training for these circumstances, and some states have implemented laws to avoid such incidents, such as ones requiring the issuing of identification cards to people with ASD. However, training is often inadequate and not standardized, and there is little to no research investigating identification card policies. First responders often lack the expertise and training to respond to citizens with ASD and various other developmental or mental disorders. Public administrators should address this deficiency to mitigate the risks of first responder interactions with these individuals.

The Centers for Disease Control and Prevention (CDC) estimates that ASD now affects 1 in 54 people in the United States, a 10% increase from 2014 (Maenner, Shaw & Baio, 2020). The medical journal *Pediatrics* estimated even higher ASD rates in children, approximately 1 in 40, using 2018 data (Galvin, 2018). The National Survey of Children's Health indicated similar results with a national parent survey. In this study, the

ASD prevalence from 2007 to 2011–2012 increased from 1.16% to 2.00% or 1 in 50 children aged 6–17 (Blumberg, Bramlett & Kogan, 2013). ASD is a broad-spectrum neurodevelopmental disorder with varying degrees of severity. Some common ASD characteristics make interactions with first responders problematic, potentially leading to unnecessarily traumatic, confrontational, and violent situations for the person with ASD and the first responder. The *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5* (2017) sets guidelines and criteria for an ASD diagnosis. Some common characteristics include failure of regular back and forth conversation; reduced sharing of emotions/affect; lack of initiation of social interaction; poor social imitation; abnormal social approach; impairment in the social use of eye contact; impairment in the use and understanding of body postures (e.g., facing away from a listener); impairment in the use and understanding of gestures (e.g., pointing, waving, nodding/shaking head); and abnormal volume, pitch, intonation, rate, rhythm, stress, prosody, or volume in speech. These characteristics can make a person with ASD appear deliberately non-compliant or unnecessarily suspicious to first responders. Even routine stops can turn volatile and may cause severe anxiety and fear to the person with ASD. A lack of mutual understanding leading to escalating interactions may cause preventable arrests, injuries, and even death.

Police violence disproportionality affects people with mental health challenges. According to the *Washington Post* "Fatal Force" project, police killed 986 people in the United States in 2017. One-quarter of the victims had a mental illness (Washington Post Company, 2017, para.1). Researchers in Illinois show:

> The actual dispositions for the mentally ill frequently do not match the outcomes officers desire, police training on responding to the mentally ill is not sufficient,

> and the training component of an innovative reform holds promise for improving officers' ability to respond to situations that involve the mentally ill. (Wells & Schafer, 2006, p.578)

In 2012, the Department of Justice published the *Criminal Justice/Mental Health Consensus Project* to "prepare specific recommendations that local, state, and federal policymakers, and criminal justice and mental health professionals can use to improve the criminal justice system's response to people with mental illness" (Council of State Governments, 2002, p.iii). One of the policy recommendations is to "develop procedures that require officers to determine whether mental illness is a factor in the incident" (Council of State Governments 2002, p.xvii). Additionally, concerning training, the report recommends implementing "new skills, recruit, in-service, and advanced skills training requirements for law enforcement personnel about responding to individuals with mental illness, and develop[ing] curricula accordingly" (Council of State Governments, 2002, p.xviii). While some recruits receive basic initial mental illness training, there is little to no follow-up training while on the job. Hence, most agencies still lack an improved training program with prescribed periodicity.

Lack of adequate first responder training dealing specifically with the ASD population continues to be of concern. A 2013 study concluded, "Existing training at the basic recruit level in the Southeastern United States for interacting with people with mental disorders and people with Autism fails to meet currently established guidelines" (Laan, Ingram, & Glidden, 2013, p.66). This study used statistics from the National Crime Victimization Survey (NCVS) from 2010. It determined that people with

disabilities were twice as likely as neurotypical individuals to be victims of crime, which supported previously cited research. Further analysis revealed that:

> The majority of training coordinators indicated that they felt training on mental disorders was very important, an examination of interview responses and training materials reveals that, in fact, training on mental disorders comprises, on average only 1.2% of all training at the basic recruit level in the states included in this study. (Laan et al., 2013, p.59)

Administrators have not addressed or resolved the disparity between this training's perceived importance and the minimal amount of time devoted to it.

States are currently implementing measures to facilitate communication between the ASD community and first responders. One step is providing ASD identification cards people may present to first responders during an interaction. ASD identification cards and products are also available through various private companies, nonprofit organizations, and governmental agencies or departments. However, their content, use, and legal governance are not standardized, and little to no research exists measuring their efficacy.

States that adopted ASD identification card laws as early as 2014 include Alabama, Florida, Virginia, New York, and Illinois. The literature review describes these programs in more detail.

Increasing ASD prevalence in the United States and people with ASD's disproportionate rate of interaction with first responders results in administrators addressing the issue to mitigate risks, protect citizens, and improve community relations. Data for these programs is scarce, but when New York implemented an identification card program in 2019, the state received over 2,000 applications in the first three days,

indicating some enthusiasm and early adoption of the measure (Cutler, 2019). As states continue to implement ASD identification laws and programs, they provide an opportunity for researchers to investigate these problems in their nascent stages.

Purpose Statement

This qualitative study aims to measure public attitude and the value of ASD identification card laws and programs to inform public administrators and broader adoption efforts.

Analysis of qualitative Facebook text and case studies posted on Facebook attempted to answer the following research questions:

1. What is the public attitude toward ASD identification cards?
2. How do respondents perceive the identification card may affect the interaction between a person with ASD and a first responder?

Answers to these questions may help policymakers pursue similar laws and programs, adjust existing laws or programs, or seek another approach entirely to meet policy goals. It may also inform activists and those in the ASD community what actions to pursue to effect change and improve their first responders' interactions.

Theoretical Framework

The theoretical framework provides the core concepts and lens through which the researcher constructs the posed research questions and uses the data to answer them. This research uses three primary frameworks: the public opinion and public policy nexus, community policing, and the theory of mindblindness applied to ASD.

Public Opinion and Policy

A fundamental principle in a democracy is how public opinion affects public policy. One researcher found public opinion affects public policy in three ways: "(1) Public opinion influences public policy; (2) the more salient an issue to the public, the stronger the relationship is likely to be; and (3) the relationship is threatened by the power of interest organizations, political parties, and economic elite" (Burstein, 2003, p.29). However, he illustrates that some questions still lack consensus. Examples include "How much impact does public opinion have on public policy?" and "To what extent do interest groups, social movement organizations, political parties, and elites influence policy even when opposed by public opinion?" (Burstein, 2003, p.29). He concludes that public opinion affected policy three-quarters of the time. The impact remained even when considering activities by interest groups and other parties; however, he also cautioned that the narrow focus of existing studies compromises the ability to generalize these findings.

Applying public opinion to healthcare, the Patient Protection and Affordable Care Act (ACA), signed into law in 2010, is a useful case study. Previous administrations, including the Nixon and Clinton presidencies, tried but failed to achieve healthcare reform despite "significant public support for the general idea of reform at the outset, but less consensus on how to go about achieving it" (Brodie et al., 2019, p.424). Clinton's 1993 healthcare reform plan garnered strong public support initially, but it plummeted following months of partisan messaging campaigns, ultimately leading to its failure. A month after the ACA's signing into law, public opinion polls showed mixed support, averaging between 40% and 50 %, usually along party lines (Brodie et al., 2019).

One of the challenges policymakers face in healthcare reform is that knowledge of these complicated issues can be sparse. Polling "demonstrated persistent misconceptions about the provisions that are included in the legislation as well as those that are not included" (Brodie et al., 2019, p.436). Researchers speculate changes to the ACA will most likely come at the state level.

Pacheco and Maltby (2017) investigated the "policy feedback mechanism" about the ACA at the state level. They suggest "that policy decisions have spillover effects that influence opinions in other states; residents in the home state then influence the decisions of elected officials" (Pacheco and Maltby, 2017, p.309). Additionally, they also investigate and confirm the "opinion learning mechanism" in which "shifts in public opinion in other states provide a signal to elected officials about the viability of decisions in their own state" (Pacheco and Maltby, 2017, p.309). Legislators adopt policies in their states after those policies gain popular support in a different state. This effect will likely become a factor for ASD cards as programs continue to reach other states or even gain national attention.

Community Policing

Policing in the US has evolved over the decades. One of the leading models, still primarily used today, is community policing. As a philosophy, community policing became more formalized in the 1970s. The Bureau of Justice Assistance defines it as having two components: "community partnership and problem solving" (Community Policing Consortium, 1994, p.vii). It is a more collaborative process between the police and the respective communities to solve community issues. It calls for a closer, more positive relationship between the police and members of the community. Officers are

assigned a specific area to patrol, and within that area, the officers should become more familiar with members of that community and their concerns and vice versa. Of paramount importance is mutual trust and respect between these officers and community members. It also calls for more partnership and collaboration between the police and other institutions, such as nonprofit organizations and businesses.

More recently, Chriss (2016) further expanded on the community policing principles, which he argues were born out of the police clashes with citizens in the 1960s civil rights movement and are still widely used today. The growing roles officers were expected to assume led to "improving educational requirements of their officers, not only in the area of hard skills (the newest police technologies) but also concerning soft skills (training in human relations where police act like counselors, psychologists, social workers, and sociologists if need be)" (Chriss, 2016, p.36). The democratization of policing is common across jurisdictions. It involves more citizen participation in the day-to-day operations of the police. Another theme is service integration, in which officers spend more effort in solving problems with various stakeholders. This results in officers working in more intimate settings and spending more time in homes addressing family issues (Chriss, 2016). Officer training and education are recurring themes in implementing ASD programs since those programs require different accommodations. An identification card may be ineffective if the officer does not understand the challenges posed by ASD. Officers' knowledge of which members of their communities have developmental disorders may influence how they respond to those members in the future. Prior experience with a condition may be a better alternative than identification cards, which the person may or may not present under various circumstances.

In 2020, the United States experienced the defund-the-police movement, born out of the May 25th killing of George Floyd by a police officer. Following the incident, four officers involved were fired, and one was charged with third-degree murder and second-degree manslaughter (Hill et al., 2020). The Black Lives Matter Foundation, Inc. (BLM) leads defund-the-police movements while offering some traditional policing alternatives. On their website, BLM explicitly addresses mental health challenges and how police officers often respond to a mental health crisis, frequently putting citizens' lives at risk. BLM's stated goal in this area is to defund the police and redirect those resources to "create a [*sic*] new community emergency services to support the mental health needs of our vulnerable community members. Teams trained in de-escalation and who root their work in community-informed practices could provide crisis support and care" (Alternatives to Police Services, 2020, para.4). This movement's long-term impact is still unknown; however, the movement had an immediate effect in some jurisdictions. For example, New York City officials agreed on a 2021 budget that cuts $484 million from the New York Police Department (NYPD)'s $6 billion annual budget and redirects those funds to other agencies and youth services (Yancey-Bragg, 2020). It is unclear if this movement will continue to grow nationally and its long-term impact on police departments. Still, it is worth noting it could affect funding for police training, particularly in dealing with community members with mental health disorders or developmental disabilities, or it could shift responding to mental health crisis incidents away from the police entirely. The former could be detrimental to the ASD community, given that it could lead to less capable officers on the streets, while the latter could render some ASD programs explicitly directed towards the police obsolete.

Mindblindness

The theory of mind provides a basis to understand why the relationship between the ASD community and first responders can be problematic. As described by Frith (2003), the theory of mind is a practical framework that "provides us with the ability to predict relationships between external states of affairs and internal states of mind" (Frith, 2003, p.10). People with ASD often cannot attribute mental states to others, which neurotypical individuals do unconsciously, making it more difficult for people with ASD to predict behavior and interact socially. Researchers hypothesize a deficit in theory-of-mind development, referred to as mindblindness, is a root cause of social impairment in people with ASD. This deficit is a crucial element of interactions between people with ASD and first responders and a primary reason why these interactions are problematic for both parties. Mindblindness and how it affects the population with ASD informs this study's perspective on the unique challenges presented in interactions between people with ASD and first responders, namely that prevalent social, communication, and behavioral difficulties amongst the population with ASD and the volatile environment in which first responders operate present a unique set of challenges. Three of the main premises of this study are:

- Due to inherent behavioral factors, communication deficits, and social deficits, people with ASD are more likely than neurotypical individuals to interact with first responders.
- People with ASD are more likely to have incidents involving unnecessary escalations with first responders caused explicitly by people with ASD's behavioral factors, communication deficits, and social deficits.
- Standard first responder procedures are inadequate to serve a person with ASD.

Theoretical Framework Summary

In summary, the public opinion and policy nexus, community policing, and mindblindness provide a lens through which the researcher constructs and investigates the research questions. The public opinion and policy nexus inform why and how these ASD identification cards are growing and their potential to spread to other states or nationally. Community policing helps explain how and why police officers and other first responders interact with the ASD community in a specific way, what their desired outcomes are, and how an identification card may or may not affect these practices. Mindblindness offers the ASD community's perspective on how and why those interactions can be problematic, how identification cards may or may not improve outcomes, and if the cards have the community's broad support. These concepts also inform the researcher how the ASD community, from self-advocates to parents and caregivers, can affect change by combining their efforts with police departments, legislators, and policymakers to pass ASD identification card laws and mandatory police training programs. Since these initiatives are predominantly at the state level, legislators in other states may be informed by these initiatives' public opinion and available case studies when considering similar measures.

Organization of the Study

The literature review (Chapter 2) concentrates on seven areas: ASD and first responders, first responder training, the theory of mind and mindblindness, the public opinion and policy nexus, community policing, ASD identification card laws and programs, and social media research. The ASD and first responders section highlight historical data and challenges in interactions between first responders and people with

ASD and those interactions' outcomes. It discusses unique challenges for first responders and people with ASD alike and a deficit in data about these interactions. The first responder training section addresses the challenges first responders face in meeting time-consuming basic and recurring training requirements across all duties. It discusses the challenges administrators face in reacting to emerging difficulties and deciding whether to impose additional training hours on an already overstretched force. It then further expands upon the three previously discussed concepts that form this study's theoretical framework. The ASD identification card laws and programs section review current initiatives across states, their origins, and program implementation to provide background. Specifically, it explores current initiatives in Alabama, Virginia, Florida, Illinois, and New York, all of which have adopted similar initiatives. The social media research section investigates current multidisciplinary practices of using social media data for academic research. This paper draws on some of the best practices and expands upon their ethical considerations.

The methodology section (Chapter 3) discusses the hypotheses, data collection method and source, population, and data analysis. The researcher searched Facebook for pages specifically created to share information on ASD-related topics. Within these pages, the researcher searched the "Posts" section for shared information on ASD identification cards and selected posts from each page with the largest number of followers. The researcher then uploaded all comments meeting the above criteria and kept the ones selected by a random number generator for analysis.

The results section (Chapter 4) examines how the data confirms or nullifies the hypotheses outlined in Chapter 3 to answer the first research question and describes

emergent themes and categories to answer the second research question. The chapter presents qualitative data gathered from Facebook ASD-related pages and analysis through NVivo software.

The discussion section (Chapter 5) interprets the results vis-à-vis the previously posed research questions. The conclusions from the results provide suggestions for public administrators considering ASD identification laws or programs. This chapter relates findings to the theories expanded upon in the theoretical framework, prior social media research, policing policies and practices, first responder interactions with the ASD community, detailed case studies, and ongoing legal and policy initiatives. Additionally, the discussion addresses how the results affect and inform issues outlined in the theoretical framework, including the public opinion of identification cards and public policy, the impact of the identification cards on policing, and the applicability of identification cards given challenges posed by mindblindness. The results may inform other state and national leaders on the cards' benefits and shortfalls, which may lead to the creation of future legislation and programs. The discussion also suggests topics and areas for future research.

Summary

Rising ASD rates, coupled with first responder lack of training and expertise to respond to this population segment, results in unnecessarily volatile and potentially deadly interactions. Some states are implementing ASD identification card programs to facilitate these interactions. The purpose of this study is to measure the public support for and value of these programs to fill a current gap. The use of social media qualitative data,

namely Facebook comments, poses some already addressed limitations to this study, and subsequent chapters expand upon these limitations.

The theoretical framework describes three perspectives that frame the study: the public opinion and policy nexus, community policing, and mindblindness. The literature review further elaborates upon these concepts. The literature review also provides further context to the study, focusing on the ASD community's interactions with first responders, first responder challenges in establishing and meeting training guidelines, and current ASD identification card initiatives. Lastly, the literature review investigates social media data use in research and establishes the best practices used in shaping this study's methodology and weaknesses to avoid since social media data use is still a nascent research method.

Chapter II

REVIEW OF LITERATURE

The first section of the literature review discusses autism and first responders. It provides the background of the various challenges the first responders and the ASD community face in their interactions and why these specific challenges exist. It demonstrates that criminal justice personnel, instead of healthcare workers, often respond to incidents dealing with ASD or other mental health challenges. First responders frequently become de-facto mental health professionals, although training in responding to these scenarios is lacking or inadequate and not standardized. The section also describes some promising models for improving the interactions, such as the crisis intervention team (CIT) model, which shows the potential to become an evidence-based practice.

The mindblindness hypothesis is expanded upon, providing a conceptual framework to why these challenges exist and why special procedures and accommodations might be required. This chapter then further expands upon the previously discussed nexus between public opinion and public policy, followed by a more detailed community policing description supporting the theoretical framework.

The next section describes and compares various ASD identification card programs currently implemented across the country. It demonstrates these identification laws and programs, although well-intentioned, lack academic rigor supporting their

implementation, and there is virtually no research measuring their public support or value.

Lastly, the chapter reviews existing studies using social media as a data source and the pros and cons of various approaches. These examples assist the researcher's development of a methodology similar to previous studies to address the posed research questions using Facebook comments.

Autism and First Responders

The relationship between first responders and the mental health system is a close and continuously evolving one. First responders react to incidents in which they become de-facto mental health professionals, regardless of training or suitability for the task. Deane, Steadman, Borum, Veysey, and Morrissey (1999) researched the emerging partnership between mental health professionals and law enforcement. By surveying 174 police departments in U.S. cities with over 100,000 people, they determined that 96 departments had no specialized response for mentally ill persons, and 78 had specialized programs. Two-thirds rated themselves "as moderately or very effective in dealing with mentally ill persons in crisis" regardless of the presence of such a program (Deane et al., 1999, p.100). On average, the departments surveyed reported 7% of all police interactions involved persons believed to be mentally ill. Among the departments with specialized programs to address this issue, there are three basic program categories. The first, found in 3% of the departments, is the specialized police response, where sworn officers receive special mental health training. The second program, used in 12% of the departments, is the police-based specialized mental health response. The police department hires mental health consultants who provide telephone consultations to officers in the field. Lastly, the

mental health–based specialized mental health response, utilized by 30% of the departments, relies on mobile crisis teams that are part of the local community mental health system and have developed a relationship with the department. This study further confirms the lack of standardization across departments, and an over-reliance on police officers to act as mental health professionals, a skillset likely beyond their capabilities and basic training. Additionally, the research does not capture the effectiveness of each of the three main methods described or the performance of departments that lack such a program.

Law enforcement interactions with the mentally ill are so prevalent that, at times, more mentally ill individuals have been in prison than in mental healthcare facilities. The movement to deinstitutionalize mental health patients from state hospitals in favor of local clinicians' treatment led to a 94% decrease in the mentally ill hospital population from 1995 to 2017 (Slate, 2017). However, it had an adverse effect of criminalizing mental illness. The same study estimated that 20%, or 356,000, of inmates in jails had a serious mental illness, compared to approximately 35,000 patients in state hospitals (Slate, 2017). A Department of Justice report estimated an even higher prevalence of mental illness in prisoner populations in 2006. It cited that 56% of state prisoners, 45% of federal prisoners, and 64% of jail inmates had a mental health problem, which totals 1.26 million inmates (James & Glaze 2006). Although higher than other estimates due to different methodologies, this number supports other findings of the prevalence of mental illness in prisons.

It is a troubling trend, and improved response to that segment of the population could steer them toward proper treatment facilities rather than the criminal justice system.

Husted, Charter, and Perrou (1995) assessed California law enforcement agencies' interactions with the mentally ill and their officers' training to conduct such responses. At the time of this study, California had 126,000 people in prison. An estimated 10%–15% of the prison inmates had a major mental illness, three times the general population's rate. In surveying 158 agencies in California, researchers concluded many departments did not maintain the requested statistical data, such as the number of detainees with mental illness, the frequency of incidents involving the mentally ill, and the officers' training to deal with such an event. California state law required at least 4 hr of academy training cover mental illness and developmental disabilities, but training time varied from 0 to 24 hr in this research, with 6.3 as the average. Alarmingly, more than two-thirds of the agencies had no information on the training time despite legal requirements to track such data. Aside from training deficits or lack of knowledge, 60% of agencies were dissatisfied with law enforcement and mental health agencies' interaction. The recommendations support other research. They include:

> Documented training on recognition of mental illness, crisis intervention, and prevention of suicide should be required for all officers…local mental health centers and city police should collaborate to improve their cooperation in handling mental illness emergencies…cross-training between mental health and law enforcement agencies should be accomplished through in-service training programs, ride-along, briefings, joint conferences, and problem-solving meetings. (Husted et al., 1995, p.329)

ASD and other disorders present unique challenges to first responders; however, challenges still exist in collecting data on incidents involving law enforcement and people

with ASD. There is no requirement for law enforcement to collect data on violent incidents between police and people with disabilities. Projects such as "The Ruderman White Paper on Media Coverage of Law Enforcement Use of Force and Disability" attempt to address this lack of data through their research by aggregating data from media reports (Perry & Carter-Long, 2016). That paper posits disability intersecting with other factors increases the risk of violence against the individual. Having collected media-reported data from January 2013 through 2015, it estimates between a third to one-half of all use-of-force incidents involve someone with a disability, which is disproportional to the estimated 19% prevalence among all Americans. Based on this data, one may conclude that disability is a significant factor in use-of-force incidents. Better procedures and training could reduce the overall number of use-of-force incidents dramatically.

A 2016 study examined the prevalence of youth with ASD in the criminal justice system (Rava, Shattuck, Rast, & Roux, 2017). It focused on youth at ages 14–15 and 21–22 and determined by age 21, "approximately 20% of youth with autism had been stopped and questioned by police and nearly 5% had been arrested" (Rava et al., 2017, p.340). Females had lower odds of being stopped by the police, while individuals with externalizing behaviors had significantly higher odds. The link between ASD-related actions and police interactions is clear. Better recognition of these behaviors and their meaning by law enforcement could reduce overall exchanges and arrests. Understanding ASD behaviors and the ability to identify individuals with this condition early in the process would likely reduce the number of preventable use-of-force incidents and the number of people with ASD in the criminal justice system. Proper ASD identification,

through an identification card, improved training, or both, may reduce unnecessary interactions and, by extension, incidents.

A survey of 431 inmates in a Midwest prison ranging in age from 19 to 74 determined approximately 4.4% met the criteria for an ASD diagnosis (Fazio, Pietz, & Denney, 2012, p.72). Although the survey result does not equate to a definitive diagnosis, the ASD rate in this prison population was four times the national ASD rate in the general population at the time.

The Bureau of Justice Statistics does not maintain ASD statistics among the prison population; however, a 2011–2012 report determined 32% of prisoners and 40% of jail inmates had at least one disability, a rate which is three and four times the general population rate (Bronson, Maruschak, & Berzofsky, 2015). Additionally, 30% of jail inmates had a cognitive disability, a category that includes ASD. Although reliable ASD-specific statistics do not exist, it is not unreasonable to hypothesize the ASD rate in the prison population is disproportionate to the general population given the disproportionate rate of other disabilities, by a factor of 3 or 4, in the inmate population.

Other studies suggest a disproportionate number of people with ASD in the criminal justice system. King and Murphy (2014) reviewed existing literature to examine the prevalence of people with ASD in the criminal justice system and the offender population. The results varied widely from 3% to 27%, but they exceeded the general ASD rate, currently at 2%, in all cases. Researchers determined that methodologies were inconsistent and biased. Studies were of low quality, so their conclusions are tentative, but the trend indicates that people with ASD are overrepresented in the criminal justice system. This review is further evidence that law enforcement personnel interact with

individuals with ASD disproportionally, advancing the case for improved law enforcement measures. There is no evidence that people with ASD commit more crimes than neurotypical individuals, so many interactions and arrests are unnecessary and likely due to misunderstandings and communication barriers.

People with ASD can often exhibit behavior that attracts police officers' undue attention, who often initiate these interactions. A 2017 study looked at police interactions with adolescents and adults with ASD over 12–18 months. In addition to looking at rates of interactions, it surveyed parents on their satisfaction levels with these interactions (Tint, Palucka, Bradley, Weiss, & Lunsky, 2017). This study in Canada conducted bimonthly surveys with parents of individuals with ASD who were over 11 years old and had a formal ASD diagnosis. Out of the 284 people tracked, 26 experienced police interactions during the study. Most of the parents, 63%, were satisfied or very satisfied with the police interactions. There were no significant differences in satisfaction outcomes based on "sex, ASD symptom severity, ID [intellectual disability] status, or the likelihood of co-occurring medical or psychiatric diagnoses" (Tint et al., 2017, p.2642). Histories of aggression increased police interaction (82.6%), and individuals' aggressive behavior was the primary reason for police interaction. Tint et al. (2017) concluded that there is a need for evidence-based guidelines for police officers on these interactions to inform future training. Although parents surveyed stated the police interactions had a calming effect on the ASD individuals during approximately half the incidents, some interactions are still at risk for potentially harmful outcomes absent further training and improved practices.

Some jurisdictions developed novel models for improving interactions between law enforcement and people with disorders. Researchers consider the CIT model a best practice for law enforcement addressing people with mental illness. Watson and Fulambarker (2012) provide an overview of the CIT model and describe it as "a collaborative approach to safely and effectively address the needs of persons with mental illnesses, link them to appropriate services, and divert them from the criminal justice system if appropriate" (Watson & Fulambarker, 2012, p.71). The CIT model was born out of a tragedy when police fatally shot a man with mental illness in Memphis in 1988. Following this incident, local law enforcement and mental health and addiction professionals established a task force and created this model. It is a collaborative process where selected officers undergo 40 hr of additional training and cooperate with mental health professionals to better respond to incidents. The program is now underway, with some variations, in an estimated 3,000 locations worldwide. Although there is not enough research to label CIT an evidence-based practice, initial research suggests it reduces arrests, increases safety, and diverts people away from the criminal justice system in favor of mental health services.

First Responder Training

First responder training standards for responses to mental illnesses have garnered attention from the U.S. executive branch. In 2015, a presidential task force issued a report with recommendations to restore trust between the population and law enforcement by delivering improved police services. President Obama charged the task force with "identifying best practices and offering recommendations on how policing practices can promote effective crime reduction while building public trust" (President's Task Force on

21st Century Policing, 2015, p.1). One of the six pillars the task force recommendations focused on is training and education. Within this pillar, the task force made various recommendations. Most notably, this study recommended that crisis intervention training be required in basic and in-service training with the goal "to improve police ability to recognize symptoms of a mental health crisis, enhance their confidence in addressing such an emergency, and reduce inaccurate beliefs about mental illness" (President's Task Force on 21st Century Policing, 2015, p.56).

The International Association of Chiefs of Police undertook a similar project called the One Mind Campaign to improve police response to the mentally ill and issued a response policy called "Responding to Persons Experiencing a Mental Health Crisis" in 2014 with a 2018 update (IACP, 2018). The policy paper acknowledges that one cannot expect officers to diagnose a mental health issue; however, the officers must recognize behavior that could indicate a potential mental health crisis. Once they recognize this potential, the paper recommends that officers reach out to experts such as mental health professionals and attempt to diffuse the situation to the best of their ability. Additionally, the paper recommends that officers avoid threats or demands to avoid increasing fear, stress, and potential aggression. Like the presidential task force, the paper also recommends contacting a CIT if available and appropriate. Although this policy paper makes good recommendations and outlines detailed steps for such a situation, these recommendations require a certain level of training and experience from law enforcement, which may or may not be in place. Also, since identifying an underlying condition can be extremely challenging, identification cards could be a potential solution to that crucial step.

The Police Executive Research Forum, a professional organization, made up of city, county, and state law enforcement agencies, publishes literature on law enforcement issues. As part of their "Critical Issues in Policing Series," they issued "An Integrated Approach to De-Escalating and Minimizing Use of Force" in 2012 (Police Executive Research Forum, 2012). Recognizing the unique challenges of responding to those with mental illnesses, addictions, or disorders such as ASD, the report outlines recommendations for departments to improve outcomes. Two of the recommendations address training. They include training officers in "tactical disengagement" and "the importance of training for officers in these encounters and practicing strategies to de-escalate volatile situations" (Police Executive Research Forum, 2012, p.iv). Additionally, the report favors partnerships with mental health officials through programs such as the CIT and alerts departments to the dangers of defunding mental health care programs, leading to persons cycling through jails and prisons instead of the healthcare system. When addressing ASD and related disabilities, the report concisely summarizes the main challenges:

> Encounters that end tragically often happen rapidly, with the use of force occurring less than five minutes after the first officer arrives on the scene. Often there is a misunderstanding of the nature of the encounter. For example, officers may believe that an individual is willfully disobeying their commands, when in fact the person is unable to comply because of illness or disability. (Police Executive Research Forum, 2012, p.1)

This distillation of encounters is consistent with other research presented here. It points to the main challenge between law enforcement and people with ASD: people with

developmental or other disorders seem noncompliant when, in fact, they are unable to comply. This disconnect is a significant cause of unnecessarily violent interactions with tragic outcomes. It also points to the urgency of the matter since most interactions last less than 5 min. There is a small window to determine whether a person has a disorder or disability.

Law enforcement training is a common theme and often identified as a significant deficit in improving interactions with the mentally ill. In partnership with the International Association of Directors of Law Enforcement Standards and Training, the Council of State Governments Justice Center conducted a nationwide survey and identified large discrepancies in training standards (Plotkin & Peckerman, 2017). Of the 42 states surveyed, 41 reported having training standards for addressing the mentally ill; however, they develop different standards based on local policies. While 31 of the states had required initial training hours, 10 did not. The reported average is 14 hr of training, but the number of hours ranged from between 1 and 8 to between 33 and 40 hr in total. Twenty-one of the states reported in-service training requirements, but the hours also varied widely, from 2 to 24 hr of training.

Grönberg (2010) published a book to guide police departments in framing the challenges and offering solutions to their interactions with the mentally ill. The first recommendation for an effective response program is to work with the mental health community, including receiving training from these professionals or enlisting their direct assistance. Second, the book recommends collaborating with emergency hospitals to establish protocols in assisting those in a crisis that could involve hospitalization. Next, the author suggests that police departments appoint liaison officers to interface with the

mental health community. The book additionally recommends that officers receive adequate training for these circumstances through “lecture, discussion, tours of mental health facilities, and role-playing” (Grönberg, 2010, p.26). While acknowledging no training program is a panacea for these circumstances, the book confirms other research that shows training is a crucial component of any program.

Law enforcement training and procedures for responding to people with mental illness (PWMI) are not standardized, making it difficult to determine what is useful, how much training is adequate, and what improvements are necessary. Hails and Borum (2003) surveyed 84 medium and large law enforcement agencies, investigating mental health-related training and specialized responses with a wide range of results. The researchers conducted surveys of the 25 largest police departments in Los Angeles County and all law enforcement agencies in the United States with more than 300 officers to determine recruit and in-service training on PWMI responses and the existence of specialized responses to PWMI. Of the 70 agencies that responded with the number of recruit training hours devoted to PWMI responses, estimates ranged from 0 to 41 hr. The median was 6.5 hr; however, some agencies reported that the block of instruction covered substance abuse, other disabilities, and disorderly/unruly conduct. Forty-two agencies reported the hours of in-service training, and the median was 1 hr, with more than a third providing 0 hr after the initial recruit training. Twenty-seven agencies said they had specialized responses for PWMI, accounting for 32% of respondents. Among the respondents, 18 stated they had a unit or bureau to assist patrol officers with responses to PWMI, and 11 had at least one mental health professional in-house. Researchers who conducted this study admitted that their data did not provide insight into the training's

effectiveness. They speculated “the time allotted (median = 6.5 hours; mode = 4 hours) does not appear substantial given the frequency with which these calls occur, the operational challenge that they pose, and the serious consequences of bad outcomes” (Hails & Borum, 2003, p.57). This conclusion supports other studies highlighting the limited training time devoted to the topic and lack of adequate training measures.

Researchers have tried to determine how processing people with mental illness affect police operations; why there is an influx of people with mental illness in the criminal justice system, the limited options officers have to interact with this segment of the population, police training, and how police can improve services for people with mental illness (Lurigio, Smith, & Harris, 2008). Large jails in New York, Chicago, and Los Angeles have the three largest inpatient populations in the United States (Lurigio et al., 2008). The apparent default procedure for police officers is to arrest people who are mentally ill for their and the community’s safety and put them in a position to receive government mental health treatment, in many cases, through a correctional facility. In 1955, there were 550,000 available public psychiatric beds, but by 2005, the number was reduced to 52,000, essentially criminalizing mental health issues since arrest became the only alternative. By their estimate, up to 10% of calls to the police involve mentally ill people. Additionally, responding to these calls often requires an excessive amount of time. These interactions can turn deadly; mentally ill individuals are four times more likely to be killed by the police, and police officers are five times more likely to be killed by the mentally ill (Lurigio et al., 2008). Training for police officers evolved over the decades; however, training fails to change an officer’s beliefs. Their duty is law enforcement and not social work and usually focuses on a violent incident involving the

mentally ill, paying little attention to nonviolent persons. The Police Executive Research Forum initially established 16 hr of training as the minimum for medium to large departments, but the average, as of 2003, was only 6.5 hr (Lurigio et al., 2008). There is also a question of effectiveness. Some speculate the police used training to improve their image instead of addressing the interactions' challenges. In conclusion, Lurigio et al. recommend that training be considered the most critical step toward improving the mentally ill's handling. Specifically, the practice should "change officers' knowledge, attitudes, and behaviors…[and] be conducted by mental health professionals, preferably those with a law enforcement background or credentials" (Lurigio et al., 2008, p.313).

A more recent study of 72 law enforcement officers in Tampa, Florida, found 72% had no formal training for interacting with individuals with ASD despite almost half reporting responding to a call involving a person with ASD in the past 12 months (Gardner, Campbell, & Westdal 2019). Additionally, although reporting higher confidence in responding to a call involving ASD, those with training were just as likely to use physical force or handcuffs or end the response with the individual's involuntary hospitalization. This study posed descriptive ASD questions to test the officers' knowledge. Surprisingly, total knowledge scores for individuals with and without prior training or personal relationships with people with ASD did not differ. The small percentage of individuals with previous training coupled with no difference in outcomes, even if the individual did have prior, is particularly troubling since it casts doubt on its effectiveness.

In 2008, the governor of New Jersey signed into law "that autism awareness education would become mandatory as a part of basic and in-service training for police

officers, firefighters, and emergency medical technicians" (Kelly & Hassett-Walker, 2016, p.533). Researchers conducted a study to determine the extent and adequacy of training among New Jersey first responders related to the 2008 law. First responders answered an online survey, and there were 226 responses from 21 New Jersey counties. Of the respondents, 70% entered service before the 2008 law, and the law requires they receive the training within 3 years instead of training received as part of basic training for recruits. The results demonstrate that 77% of training received was less than 2 hr, likely inadequate for the complexities involved in assisting people with ASD. Most respondents rated the training either "effective" or "somewhat effective" regardless of the profession (Kelly & Hassett-Walker, 2016, p.548). As in other studies across the country, researchers recommend that agencies adhere to legally mandated training requirements. Additionally, the study suggests a combination of in-person training with additional online training be required instead of the more prevalent online training, which likely reduces cost for the agencies. The curriculum must be more comprehensive and span more than the standard 2-hr blocks.

In Illinois, researchers surveyed 126 police officers to measure police officers' perceptions of their interactions with the mentally ill (Wells & Schafer, 2006). The results "show the actual dispositions for the mentally ill frequently do not match the outcomes officers desire, police training on responding to the mentally ill is not sufficient, and the training component of an innovative reform holds promise for improving officers' ability to respond to situations that involve the mentally ill" (Wells & Schafer, 2006, p.578). These results support the need for more research into the effectiveness of various training programs and the recalibration of an officer's training

track to account for current inadequacies. One aspect of training is to be able to identify the likelihood of a condition or disorder, and another element is to know how to respond. When presented with an identification card, the police officer would no longer have to assess the individual and make an educated guess on the condition, so the first step would no longer be a factor. However, this does not solve any other training deficiencies. The possession of an identification card is not a guarantee that the card will be presented or recognized by the officer. There are also certain circumstances where there is no opportunity to present the card, such as during a more urgent situation.

Another unique aspect of people with ASD's interactions with law enforcement is that people with ASD do not fall under standard protocol when serving as witnesses or under questioning. In reviewing numerous studies, researchers determined that under traditional interviewing techniques, people with ASD "were significantly less likely to mention the most salient or gist elements of the event, indicating that they may be less aware of information that is socially salient in the context of an event" (Maras & Bowler, 2012, p.330). However, when applying modified interviewing techniques to account for ASD-specific characteristics relating to memory and processing information, high-functioning "witnesses with ASD can recall as much and/or as accurately as their typical counterparts" (Maras & Bowler, 2012, p.330). However, law enforcement needs to be aware of ASD and use a modified protocol when interviewing these witnesses. Training personnel in these interviewing techniques will teach officers how people with ASD process and retain information, likely having a secondary effect of improving responses to incidents where the victim or perpetrator might have ASD or another developmental disorder.

Despite some training requirements on mental health issues, many law enforcement professionals lack basic awareness of ASD. Chown (2010) studied the level of autism awareness within the U.K. police service via a questionnaire. He concluded, via the officers' self-assessments, that U.K. police officers are likely unable to deal with a person with ASD, and these self-assessments probably exaggerate competency. The 11-question survey was sent to departments across various locations in the United Kingdom, and out of the 120 respondents, not even one had received ASD-specific training. Given the results and inadequacies, the study recommended some training be incorporated into existing curriculums but was sensitive to how overburdened with training requirements police officers already are.

Another aspect of the ASD community is interacting with people with ASD when they are victims of crime, not perpetrators, suspects, or in need of other assistance. A 2013 study in the United Kingdom looked at individuals with disabilities and autism under these circumstances. The study reviewed calls to helplines, conducted focus groups, reviewed 255 survey responses by people with disabilities and ASD, and interviewed 27 volunteers. It concluded that one-third of adults with disabilities and ASD were victims of crime (Beadle-Brown, Guest, Richardson, Malovic, Bradshaw, Himmerich, 2014). Two conclusions of the study support ideas explored in this paper. First, researchers concluded officers need more knowledge of autism and learning disabilities, and secondly, officers need to be able to identify and manage people with these challenges for better outcomes (Beadle-Brown et al., 2012).

Cooper, McLearen, and Zapf (2004) explored the decision-making process in arresting mentally ill individuals. The survey given to 92 officers in a Midwest police

department asked about their attitudes toward mentally ill individuals. Approximately 30% of officers did not realize the department had a mental health liaison available to assist with the decision-making process involving people with or suspected of having a mental illness. Additionally, officers did not believe the department provided adequate mental illness training. In terms of the mentally ill's disposition, officers felt pressure to use arrest instead of involuntary commitment to a treatment facility because that process "was a hassle" (Cooper, McLearen, & Zapf, 2004, p.301). This study further demonstrates the disconnect between law enforcement and mental health professionals. It is another indication that the criminal justice system often responds to mental health crises, which is a societal failure.

Law enforcement training historically focused on law enforcement's ability to recognize offenders with disabilities. Curry, Posluszny, and Kraska (1993) noted that offenders with mild retardation or learning disabilities went unrecognized because they lacked physical anomalies. Additionally, officers viewed those offenders' lack of response as noncompliance or defiance. This population is particularly vulnerable because they are often talked into committing a crime, confess whether guilty or not, have limited ability to assist in their defense, and are unable to follow the rules while incarcerated, leading to rule infractions, among other challenges. In the late 1980s, the U.S. Department of Education funded the "Effectively Communicating with Handicapped Offenders" training materials for criminal justice personnel in 15 states over 3 years. It was a "train-the-trainer" program, where the material would eventually filter down to rank-and-file personnel within various units. From an educational perspective, training was successful and created networking among multiple

stakeholders. However, researchers had not yet gathered specific data about whether the recipients effectively applied the training material or if administrators should institutionalize the program nationwide.

First responder challenges go beyond law enforcement and include medical service personnel. Understanding of ASD by medical responders is crucial in ensuring the best possible care in emergency incidents. Via survey, Wachob and Pesci (2017) researched emergency medical service personnel's knowledge of ASD and confidence in treating people with ASD. Of the 73 participants, the average mean knowledge score was 62.3 out of a possible 90, and the comfort scale score was 37.5 out of 55. Alarmingly, one of the conclusions was "having autism-specific training and having autism-specific resources were the two lowest scored items" (Wachob & Pesci, 2017, p.890). Also, those with ASD-specific training did not have a higher level of comfort when responding to ASD patients. Another major conclusion was that exposure to people with ASD significantly increased knowledge and comfort scores, so aside from training, having medical responders meet and interact with people with ASD is a possible way to supplement ASD-specific training.

There is a consensus in the existing literature that current law enforcement knowledge and the ability to deal with ASD and other mental disorders is inadequate. Training frequency and content are inconsistent, if they exist at all. There are no mechanisms in place tracking incidents or a robust set of data to measure the training's actual effectiveness wherever it might exist. ASD identification laws may complement improved training since identifying an individual with ASD is crucial in improving the interaction.

Theory of Mind and Mindblindness

First responders often operate in challenging environments where their lives are potentially at risk. Routine stops can quickly and unexpectedly become volatile or violent, and snap judgments, including using lethal force, must be made with the best information available in the specific circumstance. During these interactions, officers expect a certain level of compliance and responsiveness from citizens to avoid unnecessary escalations and ensure everyone's safety. However, first responders often must assume someone's comprehension level and ability to comply with demands or answer questions. ASD makes this even more challenging because people might not show any signs of an underlying condition. Mindblindness is such a characteristic that makes these interactions particularly challenging for both sides.

Baron-Cohen, Leslie, and Frith (1985) coined the term "mindblindness" as it pertains to autism and postulates people with ASD suffer from it to varying degrees. They suggest people with ASD lack a "theory of mind," or "being able to conceive of mental states: that is, knowing that other people know, want, feel, or believe things" (Baron-Cohen, Leslie, & Frith, 1985, p.37). If correct, this means people with ASD have difficulty attributing states of mind to others and predicting others' behavior due to a deficit in theory-of-mind development. In extreme cases, people with severe ASD may treat objects and people the same. This study had a sample of 20 children with ASD, 14 with Down syndrome, and 27 clinically normal children. In the test, all children passed control questions. The children with Down syndrome and clinically normal children were very similar in the belief portion of the test (12 correct answers out of 14 and 23 out of 27, respectively). However, 16 out of 20 children with ASD failed the belief portion,

which entailed predicting a subject's behavior based on that subject's belief or correctly attributing a mental state to them. Baron-Cohen et al. (1985) concluded that this is a particular failure or deficit characteristic of people with ASD and is independent of general intelligence. Without a theory of mind, individuals cannot ascribe states to others or predict their behavior, adding another challenging dimension to a possible interaction between a person with ASD and first responders. For example, a person with ASD might not predict that an officer is getting impatient or angry or feeling threatened, preventing the person with ASD from taking steps to defuse the situation or adjust behavior.

More recent studies suggest even high-functioning people with ASD can exhibit a level of mindblindness. Pedreño, Pousa, Navarro, Pàmias, and Obiols (2017) further explored this link with an experiment of 35 youth and adults with ASD compared to a control group of typically developing individuals across three advanced theory-of-mind tests. All participants had average IQs and verbal skills. The group with ASD performed worse in all three tasks than the neurotypical control group. This research confirmed that people with ASD "present difficulties in mentalization in all the components of social knowledge, showing a dissociation between the abilities related to emotion recognition and understanding mental states" (Pedreño, Pousa, Navarro, Pàmias, & Obiols, 2017, p.2407). This study's subjects had average IQs and verbal skills, which adds another challenge to potential interactions with first responders. Verbal individuals with ASD would likely appear neurotypical to a first responder, absent an identification card, potentially preventing the first responder from using learned techniques to address the interaction challenges and causing them to view noncompliance atypical reaction responses as adversarial or suspicious.

Tager-Flusberg researched the theory-of-mind hypothesis in ASD 22 years after its introduction (2007). Theory of mind helps people navigate their social lives by attributing mental states to others, and most children can pass these tasks by age 4. Although numerous studies confirmed that people with ASD have difficulties recognizing others' mental states, there is no consensus on how significant the theory-of-mind hypothesis is to ASD. It does not explain many other ASD characteristics, such as repetitive behaviors. Additionally, some children with ASD can pass some of these tasks, "relying primarily on language and other nonsocial cognitive processes in lieu of social insight" (Tager-Flusberg 2007, p.312), while children with other developmental disorders cannot. However, when controlling for age, IQ, and language, the theory-of-mind scores were significantly related to the "socialization domain of the Vineland Adaptive Behavior Scales and social- and communication-symptom severity as measured on the Autism Diagnostic Observation Schedule" (Tager-Flusberg 2007, p.313). These results indicate a direct correlation between ASD severity and the theory-of-mind impairment not found in other developmental disorders. This deficit cannot be discounted as a significant factor in ASD interactions with first responders. An essential part of those interactions is a mutual understanding of the circumstances, cues about how one or the other might react, and the ability to diffuse a volatile exchange to avoid injury or worse.

Despite the theory-of-mind deficits, some people with ASD can compensate and outwardly demonstrate few symptoms, making it even harder for a first responder to identify the condition and be prepared to implement methods to improve their interaction quality. In these cases, an identification card could be particularly useful. In a 2019 study, Livingstone put 136 adolescents with ASD through a range of cognitive tasks. The

researcher placed participants in “high-compensator” and “low-compensator” categories based on their performance, despite the poor theory-of-mind outcomes. The high compensators in the study scored higher in verbal IQ and executive function tasks; however, they also had higher self-reported anxiety rates. Additionally, the research suggests that compensatory behavior to mask ASD symptoms might come at a cost to the individual. It results in higher levels of self-reported anxiety, which high-stress situations may exacerbate. Efforts to mask the symptoms to better integrate into society could be counterproductive in interactions with first responders and put the individual at even greater risk.

Research suggests that mindblindness is a deficit unique to the ASD community that requires unique accommodations. This specific deficit, coupled with the challenges it creates in high-stress situations, such as interactions with first responders, indicates ASD poses unique challenges to the individuals and first responders alike, requiring novel approaches. Broad techniques to respond to and assist people with other developmental disorders or mental deficits might not be effective when interacting with people with ASD. First responders must increase their awareness and knowledge of ASD and improve their handling of these potentially unique interactions.

Additionally, mindblindness offers insight into why an ASD identification card may or may not be one of the solutions to facilitate interactions with first responders. Using the identification may require making a judgment call when it is, or it is not, appropriate to present a card given the interaction. Making the decision may be predicated upon interpreting and predicting the other person’s actions or receptivity to

reading a card. A person with deficits associated with mindblindness may not make that judgment, making the card ineffective for those persons.

Public Opinion and Public Policy

Manza and Cook (2002) conducted an extensive review of existing studies and theories to determine if public opinion has a strong or weak impact on policy in the United States. The underlying assumption for a democracy is that policy reflects the citizens' preferences. Manza and Cook conclude that public opinion affects policy sometimes and under certain circumstances. For example, "Where measured public opinion expresses a coherent mood or view on a particular policy…in a way that is recognizable by political elites, it is more likely than not that the movement of policy will tend to be in the direction of public opinion" (Manza & Cook 2002, p.657). However, researchers determined there is a wide variety of responsiveness across issues as well as timing. This research supports previous discussions that the opinion and policy nexus exist at least under some circumstances, and one can shape and influence the other.

Page and Shapiro (1983) conducted an extensive review of opinion and policy data from 1935 to 1979 to examine government responsiveness to citizens' opinions. This study analyzed changes in preferences versus changes in policy over the years to "ascertain whether policy moves in the same direction as opinion" (Page & Shapiro 1983, p.176). Their analysis concludes there is a definitive congruence between policy and opinion. However, the researchers acknowledge they cannot definitively state opinion always affects policy in one direction. On occasion, policy changes may also affect opinion. The researchers established both factors move in the same direction, supporting one of this study's theoretical frameworks. Public opinion on ASD identification cards

may influence current and potential future programs' viability regardless of this nexus's direction.

Page (1994) asserts that while there is abundant evidence public opinion affects policy, some questions remain—how much impact does public opinion truly have? Under what circumstance is that impact larger or smaller? By what process does that impact happen? How strong is the opinion's impact compared to other factors? What are the sources and influence of public opinion? Although Page's research was not extensive enough to answer all five questions, it did conclude that "findings are consistent with a rather high level of democratic responsiveness" (Page 1994, p.28). However, it failed to refute other researchers' conclusions that opinion affects policy one-third of the time while ignoring it another third and manipulating opinion to match desired policies the remaining third of the time.

Research cited and discussed in the introduction and above does not conclusively answer some public opinion and policy nexus questions, such as the extent or degree to which opinion affects policy. The previously cited research also fails to definitively untangle whether opinion always affects policy or if policy changes affect opinion. However, previous studies support a definitive nexus in the U.S. democratic model between opinion and policy for this research. Therefore, determining public opinion on ASD identification cards is useful in predicting their long-term viability and prospects for broader state or national adoption. Answers to the research questions, particularly popular sentiment towards the cards, may guide policy makers in pursuing or modifying programs they observe in other jurisdictions.

Community Policing

Although community policing definitions may vary, some basic principles are prevalent, such as more engagement with citizens in the circumstances not related to a criminal act, decentralized employment of officers in the community, and an attempt to build trust and cooperation between the police and the community. From the first responders' perspective, community policing offers more insight of why these interactions are so prevalent. Additionally, it provides a framework to examine the use and possible effectiveness of an ASD identification card.

Cordner (1997) separates community policing into four areas: philosophical, strategic, tactical, and organizational. Philosophically, community policing embraces citizen input and broad and personalized function. The personalized function, highly relevant to this study, entails enforcing laws based on a local community's values and individual needs (Cordner, 1997). At the tactical level, this involves building partnerships. Both require mutual trust between citizens and the police. ASD identification cards fit within this model because police mishandling of this at-risk segment of the population leads to a lack of trust and a citizenry less willing to engage with their local police or even seek the police's assistance when appropriate.

Other researchers acknowledge community policing changes over time, based on the environment, leading to complex programs that are difficult to research. Greene (2000) states that one of the promises of community policing is "creating a more harmonious relationship between the police and the public" (Greene, 2000). Whereas traditional policing is reactive in nature, in response to criminal law, community policing is more proactive in criminal and civil and administrative law. Although rooted in good

intentions, a more proactive and decentralized police force may engage with citizens more often than previous, more reactive forces. These engagements may lead to more community cooperation and support. However, they also may lead to more stressful interactions for those with developmental disorders or disabilities in instances where a crime was not in progress or assistance was not needed or wanted.

Other researchers attempted to measure community policing effectiveness. Crowl reviewed existing studies on the topic. One measure of effectiveness investigated by Crowl (2017) was the fear of crime. In reviewing 16 previous community policing studies, researchers concluded that nine of those studies saw a modest reduction in fear of crime due to community policing practices, a modest improvement. In assessing improved policed perceptions among citizens, community policing was more successful, resulting in enhanced perception in 66.7% of the studies cited. Police legitimacy saw an even higher improvement rate of 77.8% of the studies (Crowl 2017). However, community policing had no significant effect on crime reduction in 81.4% of 70 comparisons spanning 12 studies (Crowl 2017). Given the lack of conclusive evidence and the fact this research categorizes prior work as having "moderate scientific rigor," it is difficult to ascertain if community policing is effective in its most important measures, especially crime reduction (Crowl, 2017, p.457).

Crime statistics, community safety and confidence, and police satisfaction may have numerous socioeconomic factors. Isolating these metrics and correlating them directly to practices implemented by community policing is difficult.

It is difficult to predict the future of policing in the United States. Recent calls for reform may result in the police assuming a secondary role in responses involving citizens

with disabilities in favor of counselors or medical professionals, shifting more resources and programs away from police departments. However, it is reasonable to assume policing, in general, will continue to be under significant scrutiny, and changes will be needed to restore confidence and trust in various departments.

Community policing helps frame this research by providing context to the current relationship between the police and the community. Although closer ties between the police and community may be beneficial in many circumstances, it also increases the number of interactions with the citizens. These increased interactions may have the detrimental effect of increasing the likelihood of an incident between a first responder and a person with ASD.

Autism Identification Card Laws and Programs

Some states now offer optional developmental disability and ASD identification cards, or identification codes in existing state-issued identification cards, to facilitate interactions between people with ASD and first responders or other government officials.

In 2014, the Alabama legislature passed Act 2014-344, which authorized the Autism ID Card's creation. The law states:

> (a) Upon the request of a person medically diagnosed with autism spectrum disorder, or the guardian or caregiver of the person, the Alabama Department of Public Health shall issue a certification card denoting that the person has been medically diagnosed with autism spectrum disorder. The certification card and the person's driver's license may be presented to law enforcement as necessary.

(b) The Alabama Department of Public Health shall establish by rule the proof required to be produced by a person medically diagnosed with autism spectrum disorder who requests a certification card under subsection (a).

(c) The department may collect a reasonable fee for the issuance of the certification card as determined by the department. (Alabama Code Title 22, 2014)

As a result of the new law, the Alabama Department of Public Health partnered with the nonprofit Autism Society of Alabama and created the Autism ID Card. The Society issues the voluntary identification card to people medically diagnosed with ASD for a $10 fee (Disability and Health, 2017).

Virginia passed legislation, signed into law in 2014, that gives drivers the option to designate an intellectual disability or ASD diagnosis, among other conditions, on their driver's license or identification cards in addition to an emergency contact law enforcement can reach if necessary (SB367, 2014). The mother of a child with ASD advocated for the law, commonly referred to as "JP's Law," after her child's initials, because of her fear of her child's future interactions with law enforcement and the need to help facilitate those interactions. As of April 2018, 1,169 citizens had added the code to their licenses or identification cards, and the Virginia law supporters are now advocating for the law to become a national requirement (Mines, 2019). However, there is no research measuring the card's effectiveness, and research on the support of or opposition to such measures is extremely limited. Members of the ASD community have had a mixed response to the law. Dr. Oberschneider, founder and director of Ashburn

Psychological and Psychiatric Services, has stated his patients with ASD in his Northern Virginia practice have concerns about the law.

In contrast, parents of younger patients support it (Hambrick, 2014). Adults are worried the law could lead to profiling or discrimination, such as after an accident. Dr. Oberschneider is supportive of the law to increase awareness and sensitivity to ASD. Still, he emphasizes it is a personal decision that might be beneficial to some but not others.

Implemented in 2016, a new law in Florida also offers a developmental disability designation, a letter "D" on driver's licenses or state identification cards (Florida Identification Card, n.d.) Law enforcement officers presented with the card should make a reasonable effort to ensure professionals, such as psychiatrists or counselors, are present during all interviews with the person with ASD or another disability. Similarly, the University of Miami-Nova Southeastern University Center for Autism and Related Disabilities, the Coral Gables Police Department, and the Disability Independence Group developed the "wallet card." This card is geared towards teenagers and adults with ASD to assist their interactions with first responders and is available for free online (Wallet Cards, 2016). This initiative is not tied to legislation but is a partnership between academia, law enforcement, and a nonprofit organization.

In 2017, Illinois enacted a program similar to those of Virginia and Florida. Illinois offers a free state identification card to explain why someone's actions might appear out of the ordinary. Additionally, this card is used as proof of a disability when accessing state services and programs. As with other programs, this initiative's primary goal is to assist citizens in communicating with first responders to de-escalate potentially

volatile interactions. It is still early in its adoption, and no research is available measuring its impact in the state.

More recently, in 2018, the state of New York signed a new law creating a voluntary identification card for people with developmental disabilities to assist communication, particularly with first responders, and the state Office for People with Developmental Disabilities is responsible for the card's creation (Barnhart, 2018). New York's law also provides funding to train law enforcement and first responders on better response procedures to mental health issues.

Aside from cards catering to first responders, some parents use autism disclosure cards to reduce negative perceptions of their children and themselves when out in public. Parents of children with ASD hand these business-sized cards to people in their vicinity in a public space to inform them a child has ASD and that that might impact how they react to their environment or interact with those around them. Since people with ASD lack physical signs that indicate a developmental disorder, they, along with their families, can be judged even more harshly during a public outburst, tantrum, or meltdown. Austin, Zinke, and Davies (2016) investigated whether an autism disclosure card effectively changes the perception of a mother-child public interaction when the child is misbehaving. Participants who did not receive a card rated the mother's parenting skills lower and had a more negative reaction to the exchange; however, there was no difference in sympathy towards the mother. Although not directly related to law enforcement or first responders, that study addresses ASD identification cards and public perceptions of children with ASD and their parents, which could correlate to first responders' opinions of someone carrying a similar card.

Autism identification cards and products are also available through various private companies, nonprofit organizations, and governmental agencies or departments. Autism Speaks, an autism advocacy nonprofit in the United States, lists over 30 options currently available to assist in communication and prevent wandering and other safety products (Autism Speaks (n.d.). Those products include the Autism ID Card, specifically designed to help people with ASD communicate with the police, EMTs, and firefighters in case of an emergency. SEO Pittsburgh, a web development company, and the Allegheny County Office of the Public Defender designed the card, and it is available online for purchase at http://autismidcard.com/. The card is depicted below:

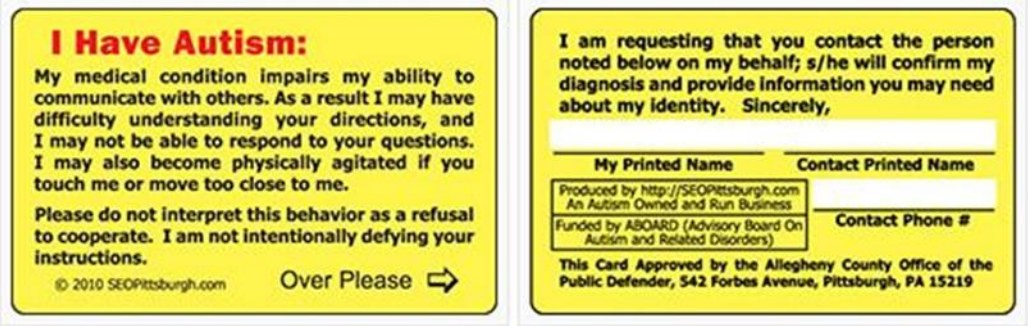

Figure 1. *Autism ID Card*

No published data is readily available on the number of cards purchased and how widely they are used. However, this card is similar in content to the cards previously mentioned under various programs.

Social Media Research

There is a growing body of research across disciplines using Facebook and other social media as its data source. This increasing body of literature is useful in developing sound research methods that can be replicated and adhere to ethical guidelines. Researchers and readers might also not be familiar with data differences across various

social media platforms and within the same forum. For example, data in publicly available Facebook posts must be handled differently from closed Facebook groups with specific community guidelines. The following examples address some of these considerations and help provide a sound framework for collecting and using such data.

A study in Italy investigated links between social media data and public policy. Specifically, it looked at how social media can "be used to support the actions of policy-makers across all the steps of the policy cycle" (Ceron & Negri, 2015, p.309). The researchers used the policy cycle to determine what information policymakers can draw from social media: agenda setting, policy formulation and adoption, policy implementation, and policy evaluation (Ceron & Negri, 2015). The researchers argue that, given this cycle, social media can accomplish the following tasks:

1. Developing synthetic indicators that serve as fire alarms on relevant topics (setting agenda)
2. Rating the available policy alternatives according to citizens' preferences (formulating policy)
3. Monitoring citizens' behaviors, opinions, and perceptions during the implementation of public policy (citizen behavior during execution)
4. Measuring citizens' satisfaction towards a public policy (citizen satisfaction)

Their methodology combined manual coding with automated analysis. First, researchers coded comments manually and later used an algorithm to perform statistical analysis. The analysis produced an estimate of the distribution of opinions with 2%– 3% accuracy.

In another example, researchers in Malaysia used data from Facebook pages about social support. They "examined the types of social support messages exchanged between parents and/or caregivers of children with Autism Spectrum Disorders (ASDs) who communicate via Facebook" (Roffeei, Abdullah, & Basar, 2015, p.375). The study used deductive content analysis on 3,637 messages, including postings (381) and comments (3,256). People often use online communities on Facebook as support groups for various illnesses or conditions. The researchers obtained data from two Facebook ASD support group pages, namely Autism Malaysia and Autism Children Club. Researchers determined it unnecessary to seek approval from the Facebook pages or users since the users post and publicly display the messages. The Facebook messages were coded into five main themes: information support, esteem support, network support, emotional support, and tangible assistance.

Additionally, researchers coded the messages further into 26 subthemes, such as sharing, depicting an event in a child's life, and feedback/opinion when an opinion was shared. Findings demonstrated most messages offered either informational support (30.7%) or emotional support (27.8%) (Roffeei et al., 2015). This study is an excellent example of using readily available Facebook posts and comments to answer the research questions; however, it lacks detail on how the researchers chose the comments and posts used. Without a more detailed description, it is not easy to ascertain the study's validity. Facebook search results are specific to each user and may vary widely, so absent a more detailed description of the methodology, others cannot replicate them. Also, coding for 26 subthemes is cumbersome given the subjectivity involved in interpreting comments across many categories.

Another study used Facebook data to evaluate communication on Facebook about diabetes. Researchers searched Facebook for the word "diabetes" and identified the 15 largest groups focused on diabetes patients and the 15 most recent posts. Additionally, they identified the 15 most recent discussion topics from the 10 largest groups (Greene, Choudhry, Kilabuk, & Shrank, 2011). Researchers then read the comments and developed descriptive codes for the data. The study sampled 690 individual posts by 480 unique users. The codes covered five categories: "1: information-providing posts, in which a poster shared his or her own solicited or unsolicited experience and advice 2: requests for information, in which posters posted general or specific queries to the Facebook community 3: demonstrations of support, in which posters provided emotional support in response to specific narratives 4: obvious promotional messages for products and services, and 5: irrelevant posts that had no relation in form or content to the subject or discussion threads" (Greene et al., 2011, p.288). Posts could contain more than one category. The most common post category, accounting for 65.7% of all posts, was informational.

Additionally, patients on occasion revealed information that would not typically be disclosed in a standard patient-doctor interaction, pointing to the prevalence of sensitive information posted by users. One of the first of its kind, particularly about health, this study supports the concept that social networking can have some public health benefits by allowing users to share support and specialized knowledge and mobilizing the community. However, social networking poses the risks of promoting non-approved therapies, identifying posters' identities, and a lack of editorial monitoring.

This study's detailed description of how the researchers obtained comments is a better example of using Facebook's search function and filters to gather data that may be replicated by other researchers. The study also uses a manageable number of codes, five, so there is likely a more considerable degree of agreeability among researchers, and less interpretation of comments is required.

Summary

Existing research suggests that first responder training is not suitable for adequately providing first responders with the necessary tools to serve the ASD community. Some evidence-specific models, such as CIT, could become evidence-based practices exportable to many jurisdictions, but further research is required. The use of ASD identification cards, such as the ones that are the subject of this research, is another possible solution that can mitigate some of these interactions' risks when coupled with adequate training. However, the card is likely not suitable for all situations, particularly volatile ones, when the cardholder is incapacitated or unable to present it.

As some of the studies above suggest, law enforcement training is likely not specific enough for the unique challenges posed by interactions with people with ASD. The previously discussed Hails and Borum (2003) study is a clear example that some departments trying to meet legal requirements for training often includes a wide range of difficulties in the same training block. These include substance abuse, other disabilities, and disorderly/unruly conduct, which obfuscates the fact that ASD is unique. Frith's (2003) and other researchers' studies of mindblindness suggest it is only associated with ASD and not found in any other disability or developmental disorder. Given its attributes, it requires unique approaches and training.

Despite the number of states adopting ASD identification card laws, there is virtually no research into those laws' effectiveness or frequency. This research attempts to provide some data, such as public opinion on the value of these cards so that legislatures and policymakers might consider implementing or modifying these programs in the future. Answering the previously posed research questions may shape programs while helping administrators provide first responders with the tools required to instill public trust in their ability to serve this unique community adequately.

The three theoretical frameworks will help clarify and provide explanatory context to the social media comments and results. Theory-of-mind implications frame why the interactions with first responders may be problematic, helping clarify the population's attitude toward these cards and how the cards may or may not meet their intended goal. It will also explain any case studies or examples where a card may have been useful or utilized. The public opinion and public policy nexus offer a starting point for researchers to make recommendations to policymakers and administrators on what policies to pursue and implement based on this study's results. It may also illustrate an example of a policy pursued without adequate support from the intended beneficiaries and vice versa. Community policing is the starting point of all these interactions. Public attitudes toward these cards and interactions will provide information on whether community policing, focusing on proactive community engagement, is the appropriate method to support the ASD community or if better alternatives exist. Lastly, all three frameworks may assist in developing recommendations for future studies in all areas discussed above.

Chapter III

METHODOLOGY

This study aims to determine public attitudes toward ASD identification card laws and programs and themes surrounding such attitudes to assist first responder interactions with this population segment. The study explores emerging themes in the data that may illuminate how an identification card may affect such an interaction.

As previously discussed, the researcher analyzed Facebook comments on ASD-related public posts to answer the following questions:

1. What is the public attitude toward ASD identification cards?
2. How do respondents perceive the identification card may affect the interaction between a person with ASD and a first responder?

The study builds on previously discussed social media research techniques to answer the posed research questions.

Data Collection and Sampling

As of 2018, Facebook had 2 billion active users with five new profiles created per second and 510,000 comments posted per minute (Marr, 2019). Given this continued growth and the available volume of information, the site is increasingly becoming a data source for researchers across multiple disciplines.

Noting this growing trend, researchers conducted an overview of 23 published studies to analyze current approaches using Facebook user data, identify strategies, and propose considerations “for the collection, organization, and analysis of text data from

Facebook" (Franz et al., 2019, para.1). This study focused on qualitative user-generated textual data, although Facebook is also rich in videos, images, and reactions. The study outlined five critical considerations for qualitative Facebook studies:

1. What kind of Facebook user will be included in the study?
2. How will the participant's Facebook data be protected?
3. How will Facebook data be obtained?
4. What Facebook data will be analyzed?
5. How will Facebook data be analyzed?

Building on this framework, this study uses social media posts and comments to evaluate public attitudes toward ASD identification cards or identification card designations for individuals with ASD. The Facebook posts themselves serve to generate discussion in the comments section and inform the public of new initiatives, laws, or newsworthy items about the specific community targeted by the page—in this case, the ASD community.

Additionally, the study uses Facebook posts and comments, meeting the search criteria to categorize and develop themes about the public's perception of how an ASD identification card may affect an interaction. The study helps determine if the ASD identification cards may affect the interaction and identify circumstances in which an identification card could have been useful or detrimental in improving the outcome of the exchange from a person with ASD, caretaker, or first responder's perspective. Data was mined from public Facebook pages, aggregating comments on related posts.

One of the challenges in using social media for research is that Facebook curates results for individual users. Facebook's help center states that search results are based on

an individual's activity. The algorithm considers numerous factors, such as "what you're able to see on Facebook, including what your friends share with you…posts from your friends…places where you've been tagged or places similar to those places…things you like (example: pages you follow or interests indicated on your profile) …groups you've joined," among others (Help Center, n.d.). For this reason, each researcher would end up with vastly different search results, and by extension, vastly different data based on the factors listed above. To mitigate some of these challenges and gather and sample data that may be replicated, the researcher took the following steps:

1. The researcher searched Facebook using the keywords "autism spectrum disorder," "ASD," and "autism."
2. In the Facebook search filters section, the researcher selected publicly visible "Pages."
3. The researcher inspected the search results and selected the three pages meeting the criteria with the highest number of followers. This ensured the results were the same, or very similar, regardless of Facebook profile data.
4. The researcher individually accessed each page and searched the pages' posts for the key terms "identification card" and "ID card."
5. The researcher scrolled through the results and selected the relevant posts on every page with the most comments.
6. The researcher uploaded all comments meeting the above criteria into an Excel spreadsheet. Using Excel's random number generator feature, with the "=RAND( )" command, a decimal number between 0 and 1 was randomly assigned to each comment. The researcher then listed the

comments in order from smallest to largest number. The first 570 comments in the Excel spreadsheet were uploaded into the NVivo software for analysis to answer the research questions. The process resulted in 1,222 useable comments to sample. Selecting 570 comments yielded a 95% confidence level with a 3% margin of error.

7. The data was downloaded anonymously, and posters were not identified by name or other biographical information.

Population

The target population of this study is active Facebook users posting comments on ASD-related public pages. It is reasonable to assume that commenters actively engaging in such pages are interested in the ASD community as persons with ASD, their families or caretakers, and professionals, such as first responders, that might routinely interact with people with ASD. As stated in the study's limitations, Facebook users are generally younger, more educated, and more affluent than the general population. No biographical information was used to identify the commenters.

Ethics

Social media research is a growing but still nascent phenomenon. Researchers are beginning to address ethical and informed consent considerations when using social media data in research, given the lack of definitive guidelines. Different platforms have different terms of services, and platform features, such as private and public groups, are also bound by different user agreements. Willis (2019) identified the challenges of social media platforms' informed consent due to the impracticability of obtaining consent from potentially hundreds or thousands of participants. Willis (2019) posits that, for publicly

available Facebook information, the data may be treated as "comparable to observational research in a public space, which does not necessarily require informed consent for its use in research" (Willis, 2019, p.17).

The central question in determining whether to seek consent from Facebook users is whether the data in question is made in public or private. In this study, since the researcher obtained the comments from public pages, it assumes that users knew they were in a public domain without an expectation of privacy. Consent is not required and was not obtained.

The researcher submitted an Institutional Review Board (IRB) exempt application to Valdosta State University's IRB. The IRB exemption form is included in Appendix A.

Data Analysis Software

NVivo, a qualitative data analysis software tool, was the program of choice for this research. Multiple NVivo features made it suitable for this task. First, Facebook comments are easily downloaded from the website and transferred to Excel spreadsheets and Word documents. NVivo supports the direct upload of Word documents into the software, so reformatting or manipulating the data is not required. Secondly, coding the text is easily accomplished by highlighting the text, right-clicking it, and assigning a code developed by the researcher. Thirdly, NVivo is equipped with automated coding features, such as automatic sentiment analysis, to determine the commenters' public attitude. Other NVivo features may be useful in displaying the data in tables or classification sheets, word clouds that display the most frequently occurring words, or connections between the codes while categorizing them.

Data Processing

Coding was used to process and analyze the data. Saldana defines a code as "a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language based or visual data" (Saldana, 2016, p.4). A code may be applied to a word, text segment, or entire comment. The study uses a combination of NVivo software's automatic sentiment coding to answer the first research question and inductive coding to answer the second question. Fereday and Muir-Cochrane (2006) exemplified this hybrid approach that allows the researcher to incorporate an a priori template of codes, or deductive codes, "while allowing for themes to emerge direct [*sic*] from the data using inductive coding" (Fereday & Muir-Cochrane, 2006, p.83).

Automatic Sentiment Coding

The researcher initially used NVivo's sentiment analysis feature to answer the first research question: What is the public attitude toward ASD identification cards?

NVivo's sentiment analysis feature scores a word or words on a predetermined scale. Based on this scale, comments were rated as very negative, moderately negative, neutral, moderately positive, or very positive. The analysis was performed by uploading the data into the software— in this case, the Word document with the sampled comments. Next, the researcher selected "Auto Code" in the "Analyze" tab. Under "Auto Code," the researcher selected "identify sentiment." The researcher then manually coded paragraphs left uncoded by the software due to linguistic limitations and manually verified sentiment codes for accuracy.

The resulting sentiment scores were used to determine the public attitude toward the identification cards. Worcester (1997), founder of Market & Opinion Research International, has stated researchers measure five things when investigating public opinion: behavior, knowledge, opinions, attitudes, and values (Worcester, 1997). He further defines attitude as "the currents below the surface…from a deeper level of consciousness, are held with some conviction, and are likely to have been held for some time," as opposed to opinions, which he labels "low salience…easily manipulated by question wording or the news of the day, not very important to the respondent, not vital to their well-being or that of their family, unlikely to have been the topic of discussion or debate between them and their relations, friends" (Worcester, 1997, p.3). Respondents who follow ASD-specific Facebook pages and choose to comment are more likely to have conviction about this topic instead of classifying it as "not very important" as per Worcester's treatment of public opinion. This sentiment analysis helps analyze the identification card programs regarding the previously discussed public attitude and public policy nexus.

Inductive Coding

Inductive coding was then used to answer the second research question: how do respondents perceive the identification card may affect the interaction between a person with ASD and a first responder?

Inductive coding is data-driven and was developed by the researcher after reviewing the data. Boyatzis (1998) describes inductive coding as "searching for patterns based on the 'facts' or information being studied" (Boyatzis, 1998, p.30). The purpose of inductive coding is to "allow research findings to emerge from the frequent, dominant or

significant themes inherent in raw data, without the restraints imposed by structured methodologies" (Thomas, 2006, p.2). This process is beneficial given the lack of existing research in identification cards and the lack of themes and concepts associated with these nascent laws and programs. The researcher followed the five-step inductive coding process described by Thomas (2006):

1. Preparation of raw data files ("data cleaning")
2. Close reading of the text
3. Creation of categories
4. Overlapping coding and uncoded text
5. Continuing revision and refinement of the category system

Step 1 was accomplished by putting the individual comments in an Excel spreadsheet for uniformity and uploading them into NVivo software. Step 2 prescribes "the raw text should be read in detail, so the researcher is familiar with the content and gains an understanding of the 'themes' and details in the text" (Thomas, 2006, p.5). In this case, the text is the 570 Facebook comments sampled for research. In Step 3, the researcher identified themes that entailed general categories based on research goals and specific categories derived from raw data (in vivo coding) "created from meaning units or actual phrases used in specific text segments" (Thomas, 2006, p.5). This step resulted in the researcher developing codes and subcodes, which helped answer the second research question. In Step 4, while the coding process was underway, some text was assigned multiple codes while others, not relevant to the research, remained uncoded. Finally, in Step 5, the researcher looked for subtopics, if applicable, and "select[ed] appropriate quotes that convey the core theme or essence of a category" (Thomas, 2006, p.5).

Although the steps themselves may be replicated, different researchers will likely develop different categories and themes tailored to their research questions, given the inductive coding process's exploratory nature.

Limitations of the Study

One limitation of this study is that the sentiment analysis software cannot interpret linguistic nuances, such as sarcasm, yielding inaccurate results or failing to assign a sentiment code to a comment entirely. The researcher manually adjusted some of the sentiment codes to account for this error, but the results are open to a degree of interpretation. In some cases, the commenter's attitude might be evident, such as "great policy"; however, it might be more ambiguous or even contradictory in others, particularly in longer posts. Differences in judgment may affect the results' validity and ability to replicate the results.

A hybrid coding approach, which combines analysis software and human coding, addresses criticisms of both computer and human-based coding. Furini and Montangero (2018) state that sentiment analysis is difficult for computers but simple for humans. Although software sentiment analysis is usually less accurate, large datasets are too time-consuming to be entirely manually coded by humans, so combining it with the NVivo software makes the process more manageable. Su et al. (2016) make a similar assessment, stating, "Compared to human-based coding techniques, which can uncover the nuanced meaning of words, computerized content analyses oftentimes struggle to reveal the true underlying meaning of a text" (Su et al., 2016, p.4).

Furthermore, social media provides a unique challenge with emoticons or graphic characters commonly used to display an emotion or expression. Hogenboom, Bal, and

Frasincar (2013) equate emoticons to nonverbal cues in computer-based communications. One of the challenges for computer-based analysis is that the same emoticon can be used for opposite purposes. Hogenboom et al. (2013) use the following examples to illustrate this point. In the comment "I love my work :-D," the emoticon is used as an intensification of the emotion, and the comment is therefore characterized as positive. However, in "The movie was bad :-D," the same emoticon is used as negation, and the comment may also be classified as positive despite the negative adjective, or slang, used in the sentence. About analyzing emoticons, the authors state, "Rather than only looking into what is affected by emoticons, we have also assessed how emoticons affect text" (Hogenboom, Bal & Frasincar, 2013, p.4). Therefore, computer-based programs must account for the emoticon's sentiment, not the text preceding it. Since NVivo does not incorporate emoticons into sentiment analysis, the researcher applied the standards outlined above to improve the results' automatic sentiment analysis. Given the variety of available emoticons in Facebook, the researcher referenced Kralj et al.'s (2015) research, which assigns sentiment scores to commonly used emoticons to ensure uniformity throughout the process. The researcher used judgment to interpret sarcasm and slang to account for NVivo's deficits in these areas.

Another limitation stems from the fact the data used for the study are publicly available. People posting public comments on Facebook might do so with some bias. For example, commenters may post to seek acceptance to a group or censor themselves to avoid criticism or offending others with opposing views, so their comments might not reflect their real attitudes. The first people commenting on a specific post might be giving their initial reaction to the post's content. However, those commenting later might be

heavily influenced by previous comments, especially those made by people they might admire or whose opinions they, or the community at large, value. Given these limitations, the results might lack some reliability, as the comments may not be entirely authentic. The results may amplify early responders to the post while muting dissenting opinions.

When articles or other information, such as videos, are shared on a public Facebook page, there is no way to verify the commenter's level of knowledge or understating of the shared information. Some commenters might read the entire article, have previous experience of the issue, and even conduct more in-depth research before commenting. In contrast, others might comment on a headline, which may or may not accurately reflect the issue. However, in this study, both types of comments carry the same weight, and there is no distinction between a well- or ill-informed commenter. The study assumes a basic level of unverifiable understanding by the commenter about what they discuss, possibly negatively affecting the study's validity.

Since the study's target population is active Facebook users, the study may not accurately reflect public attitude toward identification cards due to Facebook users' demographics compared to the general population. Instead, the study reflects the attitude of Facebook users posting on public ASD-related pages. An estimated 69% of adults use Facebook, and the largest demographic is "male users (19.3%) and female users (13.2%) between the ages of 25 and 34 years" (Aslam, 2020, para. 1). Additionally, 82% of college graduates and 75% of those earning over $75,000 per year are on Facebook, so this study's target population may be younger, more educated, and more affluent than the general population (Aslam, 2020).

Hypotheses

The following hypotheses were proposed to answer the first research question:

1. $H1_0$: There is no difference in public attitudes toward ASD identification cards.
2. H1a: There is a difference in public attitudes toward ASD identification cards.

To test $H1_0$ and H1a, the data measured public attitude toward the identification cards as the percentages of comments analyzed by the automatic sentiment analysis as very negative, moderately negative, neutral, moderately positive, and very positive. A preponderance of moderately negative and very negative or moderately positive and very positive comments would have led to the rejection of the null hypothesis and provided support for the alternative hypothesis.

The inductive coding portion of the research developed categories to convey themes that may help answer the second research question and generate questions or topics for further research and analysis. This portion is exploratory. One of its underlying methods is "the development of categories from the raw data into a model or framework that captures key themes and processes judged to be important by the researcher" (Thomas, 2003, p.4). As such, it is not possible to develop and test hypotheses to answer the second research question. Thomas (2003) describes five key features possible in these categories, which were used by the researcher:

1. Label for category: a word or short phrase used to refer to the category
2. Description of the category: description of the meaning of the category, including key characteristics, scope, and limitations

3. Text or data associated with the category: examples of text coded into the category that illustrate meanings, associations, and perspectives associated with the category

4. Links: each category may have links or relationships with other categories

5. Type of model in which category is embedded: the category system may be incorporated in a model, theory, or framework

Summary

This chapter explains the methodology used in this qualitative study. The researcher used a multistep process to gather and sample Facebook comments related to ASD identification cards. The researcher described the step-by-step process, which yielded a random sample of 570 publicly available Facebook comments for analysis.

The hybrid sentiment analysis process, a combination of NVivo's automatic sentiment feature and human-aided coding, provided sentiment data to answer the first research question and test the accompanying hypotheses.

The inductive coding process developed emergent themes and categories. The researcher then coded the data for analysis based on these categories. This data is described and analyzed in detail in subsequent chapters to answer the second research question.

The following section (Chapter 4) presents the qualitative data described above.

Chapter IV

RESULTS

Introduction

This chapter briefly reviews the study's purpose and the research questions that the study attempts to answer. Next, the researcher reviews the steps taken during data collection and analysis, including the automatic and in vivo coding processes. Thereafter, the researcher presents and summarizes the findings.

As described in detail in Chapter 1, the purpose of this study is to evaluate public attitudes toward ASD identification cards or identification card designations identifying individuals with ASD. Additionally, the study aims to develop themes about the public's perception of how an ASD identification card may affect an interaction. The study helps to determine if the ASD identification cards may affect the interaction and presents circumstances in which an identification card could have been useful or detrimental in improving the outcome of the exchange from the perspective of a person with ASD, caretaker, or first responder.

The researcher conducted an analysis of qualitative Facebook text and case studies posted on Facebook in an attempt to answer the following research questions:

1. What is the public attitude toward ASD identification cards?
2. How do respondents perceive the identification card may affect the interaction between a person with ASD and a first responder?

Data Collection

The researcher followed the seven-step process outlined in Chapter 3 to sample Facebook comments for analysis. The keywords search using "autism spectrum disorder," "ASD," and "autism" produced 105 public pages meeting the outlined criteria. The researcher then selected the three pages with the highest number of followers, which were Autism Awareness by GreaterGood, Autism Speaks, and World Autism Awareness Day with 2.4, 2.1, and 1 million followers, respectively. Then, accessing each page individually, the researcher searched the pages' posts for the key terms "identification card" and "ID card" and selected the relevant post from each page with the largest number of responses. The post on the Autism Awareness by GreaterGood page was a link to a 2020 article announcing legislation in Michigan giving the option for people with ASD to add a communication impediment designation to their vehicle registration, driver's licenses, and state identification cards. The post on Autism Speaks was a link to a 2015 article announcing the Alabama legislation issuing ASD identification cards to qualifying citizens. The post on World Autism Awareness Day was the same article on Alabama's legislation posted by the Autism Speaks site. The researcher then downloaded all the responses to the respective articles into Excel. After deleting responses without relevance to the original posts, including spam and posts where commenters simply tagged other people's names in the responses, the resulting comments totaled 1,222 posts.

Using Excel's random number generator feature, a number between 0 and 1 was randomly assigned to each comment, and the comments were sorted from smallest to largest. The first 570 comments were transferred to a Word document and uploaded into

NVivo for analysis. Using 570 comments yielded a 95% confidence level with a 3% margin of error.

First Research Question: Sentiment Analysis

As per Chapter 3, the researcher used NVivo's automatic sentiment analysis feature to answer the first research question and test the hypotheses. The researcher treated each comment, regardless of length, as one paragraph to ensure only one sentiment was captured per commenter. NVivo categorized each paragraph as very positive, moderately positive, very negative, moderately negative, or neutral. Given software limitations such as the inability to recognize sarcasm, the researcher then reviewed each comment and either confirmed or modified NVivo's categorization. Comments left uncoded by the automatic sentiment feature were coded by the researcher.

An example of a very positive comment found was "Great idea! This would be very useful. I hope it will happen in other states as well," while a very negative comment was "This is so wrong, don't believe in labeling pple [*sic*]." An example of a moderately positive comment found was "Looks like a good idea," while a moderately negative one was "I don't think that people with autism need these detailed cards." A neutral commenter posted, "Good and bad."

A preponderance of commenters displayed a positive sentiment toward the identification cards or ASD designations. A total of 405 (71%) comments were coded as positive, while 65 (11%) were negative, with 100 (18%) being neutral. Of the positive comments, a preponderance was very positive instead of moderately positive with 258 and 147 comments, respectively. Negative comments favored very negative compared to moderately negative—38 and 27 comments, respectively.

The initial automatic sentiment analysis done entirely by the software only coded 300 out of 570 comments. It resulted in 180 (60%) positive comments, which is within 11% of the final results. Some comments that clearly displayed a positive sentiment were coded as negative by NVivo, such as "All city[*sic*] and states should implement this," so the researcher manually adjusted them. Other comments that clearly indicated a sentiment were left uncoded by the software. Multiple commenters wrote, "Great idea"; however, NVivo did not code many of these as positive or negative, so the researcher adjusted them manually as well. The results of the hybrid sentiment analysis are displayed in Table 1 below.

Table 1

Sentiment Analysis Results

Sentiment	Number of Comments / (%)
Positive	405 / (71.05)
Moderately Positive	147 / (25.79)
Very Positive	258 / (45.26)
Negative	65 / (11.40)
Moderately Negative	27 / (4.74)
Very Negative	38 / (6.67)
Neutral	100 / (17.54)

Additionally, 105 out of the 570 commenters self-identified as family members of people with ASD, people with ASD themselves, or professionals, such as first responders or educators, who work with people with ASD. The researcher added these additional

codes to each comment to compare sentiment across the various groups. As per Table 2, family members had a slightly less positive sentiment toward the cards than people with ASD. Family members indicated a 65.85% positive sentiment, while people with ASD displayed slightly higher positive support at 77.78%. Only five commenters identified themselves as professionals; therefore, this group was not statistically significant.

Table 2

Sentiment Analysis Results of Individual Groups

Group Sentiment	Number of Comments / (%)
Family Member	82 / (100.00)
Positive	54 / (65.85)
Negative	12 / (14.63)
Neutral	16 / (19.51)
Person with ASD	18 / (100.00)
Positive	14 / (77.78)
Negative	2 / (11.11)
Neutral	2 / (11.11)
Professional	5 / (100.00)
Positive	2 / (40.00)
Negative	0 / (0)
Neutral	3 / (60.00)

To answer the first research question, the researcher proposed the following hypotheses:

1. $H1_0$: There is no difference in public attitudes toward ASD identification cards.
2. H1a: There is a difference in public attitudes toward ASD identification cards.

The sentiment analysis indicates a preponderance of very positive and moderately positive sentiment, thus supporting the alternative hypothesis and rejecting the null hypothesis.

Second Research Question: Emergent Findings

To identify emergent findings to answer the second research question, the researcher applied Thomas's (2006) multistep process, as outlined in Chapter 3. The researcher accomplished Step 1, preparing raw data files, sampling the Facebook comments, and uploading them into NVivo. Thereafter, the researcher read and reread the comments closely to accomplish Step 2.

Once familiar with the textual data, the researcher moved to Step 3, the creation of categories. The researcher identified three main themes to categorize via the coding process.

First Theme: Recommendations

The first emergent theme addressed commenters' recommendations for policy makers concerning alternative measures to support the ASD community or ways to improve upon the programs, sometimes with accompanying reasons for those recommendations.

The researcher created two codes to categorize the most prevalent recommendations. The first, named "Recommendation-Training," totaling 35 comments, was defined as comments recommending or requesting additional training for professionals interacting with the ASD community. An example of a comment under this category is "How about instead, properly training law enforcement? There seems to be a serious call for law enforcement training and reform." The second category, named "Recommendation-Other," totaling 38 comments, was defined as comments recommending improvements or alternatives to ASD identification cards. An example of a comment under this category is "Having a sticker on the wind shield or license plate won't require the person to reach for the ID. Sudden movement can be interpreted as a threat." Recommendations for alternatives to the cards were predominantly devices that are immediately visible and do not require any effort from the person with ASD, such as bracelets, stickers, or license plates. Other recommendations to improve the cards focused on reducing the likelihood the cards would be misused or easily copied, such as adding a picture to the card.

A cross-analysis of recommendations and sentiment indicates a more negative sentiment on the part of commenters making recommendations. Compared to the overall positive sentiment of 71.05%, commenters choosing to make recommendations had a 47.95% positive sentiment towards the identification card programs.

Second Theme: Prevailing Reasons for Positive Sentiment

Another emergent theme addressed commenters' reasons for their positive sentiment toward ASD identification cards or designations. The researcher created two codes to categorize this theme. The first, named "Positive-Communication," totaling 36

comments, was defined as comments in favor of the identification cards or designations because the cards would facilitate communication and interaction between a person with ASD and a first responder or others. An example of a comment under this category is "All states should have information cards like it for persons with autism or even ADHD that are not able to communicate it otherwise." The second category, named "Positive-Acceptance/Society," totaling 18 comments, was defined as comments in favor of the identification cards or designations because the cards would improve ASD acceptance and awareness in society. An example of a comment under this category is "Rude people who comment or stare or make comments or complain about my son or argue that I'm just making excuses for him because he looks normal! I'd hand them out!!!"

Third Theme: Prevailing Reasons for Negative Sentiment

The third emergent theme addressed commenters' reasons for their negative sentiment toward ASD identification cards or designations. The researcher created two codes to categorize this theme. The first, named "Negative-Fear," totaling 18 comments, was defined as comments against the identification cards or designations because people with ASD feared negative outcomes when attempting to use the cards—most commonly, getting shot by police while reaching for a card. An example of a comment under this category is the following:

> I think it would take a lot of training before my non-verbal son would know to automatically hand the card to an officer. In all honesty, I'd be worried they'd shoot him when he reached for a card, thinking he was reaching for a weapon.

The second category, named "Negative-Other," totaling 40 comments, was defined as comments against the identification cards or designations because commenters

doubted people would have the ability or opportunity to present them and thought the cards might result in discrimination or abuse. An example of a comment under this category is “I am not sure we should give out ID cards. It could label [people with ASD] and it could be very abused. I just don’t know.”

Step 4, overlapping coding and uncoded text, occurred by default. While coding for the categories, the researcher assigned multiple codes to comments when applicable. For example, a negative comment with a reason for the opposing view and an alternative is coded for sentiment, “Very Negative,” a recommendation, such as “Recommendation-Training,” and “Negative-Other.” An example of a comment with all three of these codes is the following:

> No, I am against this. Proper training should be done to teach the police what to do and how to handle the disabled, seniors, the mentally ill, etc. But NO WAY on identification cards. Because I can see the abuses far beyond the means of doing good!

Step 5 was an iterative process. The researcher developed various themes and categories throughout the research before narrowing the results down to the themes and six categories described previously. Reading and rereading each comment and coding and recoding them as refinements were made was crucial before finalizing the results. The final coding list, not including the already described sentiment analysis, is listed below in Table 3 with the corresponding number of comments and percentages associated with each code.

Table 3

Emergent Themes and Categories

Theme Category/Code Name	Number of Commenters / (%)
Recommendations	73 / (12.81)
Training	35 / (6.14)
Other	38 / (6.67)
Positive Reasons	54 / (9.47)
Communication	36 / (6.31)
Acceptance/Society	18 / (3.16)
Negative Reasons	58 / (10.18)
Fear	18 / (3.16)
Other	40 / (7.01)

Case Studies

Lastly, the researcher read the comments to identify case studies in which individuals may have used an ASD card or were in situations where the card may have facilitated an interaction. Although the number of case studies is small, only four in total, some of the detail and circumstances presented by the commenters allow for more in-depth analysis and real-world examples.

Such a case study is presented below. It illustrates a self-identified person with ASD using a card to facilitate an interaction with first responders during a medical emergency:

They can be helpful. I have a first responder's card; have for years not needing it. Well a few years ago it became needed. I had the paramedics called on me and was not very functioning (pain and dizziness tends to do that). The police arrived first being closer and needing to clear the area for the ambulance, and then the paramedics came in. They were getting a bit frustrated by my inability to look at them and answer them and my not trying to sit up (I kept curling back up into a fetal position on the ground). They asked for id and I just handed over my lanyard and pulling it out they found the card behind my id. It changed the entire situation when they realized why I was responding this way. They no longer tried to force eye contact or get me to sit up. Their tone was calmer since they could understand then I wasn't being defiant. It smoothed the interaction over. After being checked out and refusing treatment the ambulance pulled out and the officers stayed with me to make sure my service dog and I got safely onto our bus. The young lady who called 911 rode with us and made sure we made it back to our apartment. Sometimes, even those of us who usually function fine have moments where we don't and our disability can't really be seen that well by those not familiar with it. So, having something that can let a cop, emt, firefighter etc. know that this is why we are acting this way, we are not trying to be defiant or shifty, can ease tensions a lot for everybody. They are in [a] high stress position and don't know what to expect unless informed. I'm including a link to mine for those interested. It is more geared for adolescents, but I was in grad school when I used it so it really isn't age specific.

This example, coupled with the other results, is further analyzed in the following chapter to support the conclusions and recommendations.

Second Research Question: Answers Based on Emergent Findings

These themes and categories, with corresponding codes, aided the researcher in answering the second research question: How do respondents perceive the identification card may affect the interaction between a person with ASD and a first responder?

The three themes, recommendations, reasons for negative sentiment, and reasons for positive sentiment, categorized with the six codes, illuminate respondents' perceptions about the cards and their effect on interactions between people with ASD and first responders.

The first theme, recommendations, suggests respondents feel training is still needed for first responders, regardless of the presence of a card, or instead of issuing a card entirely; therefore, they do not perceive the card would be helpful absent this training. Additionally, respondents offer alternatives to the identification card. Those recommendations largely stem from doubts a person with ASD will be able to present a card at the appropriate time, so more visible devices, such as bracelets, are preferred, again suggesting cards are not helpful during an interaction with first responders.

The second theme, reasons for positive sentiment towards the cards, suggests respondents feel the cards will help mitigate the primary ASD deficit the card attempts to address, which is a deficit in communication. Improving communication between the cardholder and first responders, and others were the most common reason offered in favor of the programs. Respondents also felt the card would increase awareness and acceptance in the general population towards ASD. Some respondents saw the cards as an

opportunity to teach those around them why someone with ASD would act in a certain way.

The third and final theme suggests negative sentiment towards the cards stems from fear and a combination of other factors, such as people with ASD being the target for discrimination. The most prevalent fear was that of a person being shot by police while reaching for a card. This sentiment suggests both a fear the person with ASD might not be able to use the card correctly and first responders lack the training or are over reactive when dealing with a person with ASD. These respondents suggest having a card at all is detrimental and risky to the person carrying it. Additionally, some of the negative sentiment overlapped with the recommendations for other devices that do not require any action from the person with ASD.

Further interpretation and analysis of these results are expanded upon in Chapter 5.

Summary

In this chapter, the researcher presents the results of 570 Facebook comments about ASD identification cards and license designations. The chapter answers the first research question, indicating public support for ASD identification cards among the described population.

Additionally, three main themes with six corresponding categories emerged to answer the second research question. The next and final chapter interprets these findings vis-à-vis the research questions to provide suggestions for public administrators considering ASD identification laws or programs. It also relates specific findings to literature review, and the theories expanded upon in the theoretical framework, including

the public opinion of identification cards and how that influences public policy, the impact of identification cards on policing, and the applicability of identification cards given challenges posed by mindblindness. The results may inform leaders and policy makers on the cards' benefits and shortfalls. Finally, the chapter recommends topics and areas for future research.

Chapter V

DISCUSSION

Overview

With the findings having been presented in Chapter 4, this chapter interprets and discusses the relevance of the findings and relates them to the review of the literature and theoretical framework. In addition, it provides recommendations to policymakers based on the findings and identifies directions for further research.

Interpretation of Outcomes

The purpose of this study was to measure the public attitude toward ASD identification card laws and programs and how respondents perceive the identification card may affect the interactions between a person with ASD and a first responder.

Research Question 1

The sentiment analysis of qualitative Facebook data serves to answer the first research question, namely "What is the public attitude toward ASD identification cards?" Overall, the data suggest strong public support for ASD identification cards, with 71.05% of commenters indicating a moderately positive or very positive attitude towards the programs. Only 11.40% of commenters indicated a negative attitude towards the cards, with the remaining 17.54% indicating a neutral attitude. Additionally, the data suggest that this overall positive sentiment is constant regardless of the respondent's relationship with the ASD community, whether a family member or person with ASD, with 65.85% and 77.78% of commenters indicating positive attitudes, respectively. These results

support H1a ("There is a difference in public attitudes toward ASD identification cards") while leading to the rejection of the null hypothesis.

One of the theoretical frameworks of this study is the public opinion and policy nexus. Restated from Chapter 2, in researching how opinion affects policy, Page (1994) concluded that his "findings are consistent with a rather high level of democratic responsiveness" (Page 1994, p.28). Numerous other studies cited in the review of the literature supported this finding. Given the strong positive sentiment towards the identification cards, it is reasonable to infer that the card programs will continue in states currently implementing them and will likely spread to other states and perhaps even nationally. Furthermore, legislators and policymakers attempting to strengthen public trust in government may seize on this positive sentiment to demonstrate their responsiveness to voters and their needs. Such action may accelerate these programs' implementation further.

Another theoretical framework is community policing, which, demonstrated in the literature review, is predicated upon constructive and positive relationships between the police and the community. The sentiment analysis suggests these programs might be helpful in jurisdictions to improve upon these relationships. Less than ten percent of commenters offered any explanation as to why they support these initiatives. Their support alone suggests that by merely doing something to try and assist the ASD community, police departments will benefit from the positive sentiment associated with these cards while outweighing some of the negative sentiments.

However, this does not mean the programs will succeed long-term. This initial positive sentiment in early-adopting states, absent data on how they affect the interactions

between people with ASD and first responders, will be short-lived without actual positive results. More substantive positive results, possibly measured by a reduction in violent incidents and a reduction of people with ASD in the criminal justice system, will ultimately determine these initiatives' longer-term viability.

Answers to the second research question may help improve existing programs to ensure this long-term success and viability. Ensuring the success of such programs is essential, as the implementation thereof should be based not on sentiment alone but on the actual benefits offered.

Research Question 2

The inductive coding process resulted in the researcher developing three themes with two categories each to answer the second research question, namely, “How do respondents perceive the identification card may affect the interaction between a person with ASD and a first responder?” In addition to indicating an overall positive sentiment towards ASD identification card programs, some commenters provided context and reasons for their sentiments.

First Theme: Recommendations

The first theme, which was identified in the responses of 12.81% of commenters, concerned recommendations for policymakers. About half of the recommendations pertain to more and better training for first responders. A common sentiment expressed in this category is that in the absence of increased and improved training, it would be irrelevant were an identification card to be presented to a first responder if the latter did not understand ASD or know how to respond to the unique needs of an individual with ASD. Another common sentiment was that a card should not be necessary—appropriate

training would allow first responders to recognize ASD without the need for a card. This theme is consistent with two sections of the literature review: autism and first responders and first responder training. The literature review established that the unique characteristics of individuals with ASD create challenges for interactions between such individuals and first responders.

Additionally, the literature review demonstrated that although some first responders receive some training concerning how to respond to people with ASD, such training is often inadequate or not standardized, resulting in first responders that are not comfortable or confident in responding to the ASD population. The recommendation by commenters that police should receive more training is consistent with the literature on this topic. However, some commenters who disapproved of the identification cards based on the view that adequate training should be sufficient may be placing too heavy a burden on first responders to quickly diagnose a developmental disorder with limited information under frequently stressful circumstances. Suppose one accepts that diagnosing a developmental disorder places too high a burden on a first responder; in that case, it follows that a combination of an identification card and proper training would be a possible best practice to facilitate interactions between a first responder and an individual with ASD.

However, the drawback of the training approach linked to this theme is that citizens with ASD and their families or caretakers would also need training on using the identification cards to understand when and how to employ them effectively. Policymakers implementing these programs in the future would be wise to incorporate

the entire community in training programs. This would ensure a more harmonious relationship between the police and the public while promoting these programs.

The second theoretical framework, community policing, is also useful in framing this theme. Building trust between the police and the community is a cornerstone of community policing. A more proactive approach to policing can help departments achieve this goal by perhaps helping police officers to understand which community members have developmental disorders. The second theme under recommendations, 'other,' suggests alternative measures to the ID cards, such as a sticker or more visible devices. These devices help police officers identify a person with ASD during their daily duties, while not involved in incident response or stressful encounters. Over time, it is reasonable to expect officers to know which community members may need specialized assistance before encountering them in an emergency. This increased familiarity with the public could have a long-term effect on building trust. Additionally, the mere act of being responsive to these program recommendations may improve community relations more immediately.

However, some incidents serve as cautionary tales indicating that knowing that someone has ASD and having some training on interacting with such individuals is not always sufficient and more drastic approaches may be necessary. In 2012, a 15-year-old with ASD was shot and killed by police responding to a call for assistance in his home while he was holding a knife (Schlikerman & Ford, 2012). The police had previously responded to the same address ten times over two years, with the same officers who were involved in the shooting having been among the previous responders. The police chief stated the address was "flagged in our system as having an autistic young man there who

is very strong and likes to fight with the police" (Schlikerman, & Ford, 2012, para. 13). Court documents later showed that both officers involved in the shooting had recently received ASD-specific training. This incident is a stark example of how a situation can still end tragically despite first responders being aware that someone had ASD and having received training on how to respond to such individuals. In this case, the officers' concern for their immediate safety caused them to take lethal action.

Second Theme: Reasons for Positive Sentiment

The second theme, which was identified in 9.47% of comments, concerned reasons for the respondents' positive sentiment toward and support for identification cards. A preponderance of respondents in this group had positive attitudes towards the card because they felt it would help bridge the communications gap between people with ASD and first respondents, which represents a significant deficit and difficulty associated with the disorder. The remaining respondents felt that the card would increase acceptance of people with ASD by possibly spreading awareness of the condition.

The literature review expanded upon mindblindness, a term coined by Baron-Cohen, Leslie, and Frith (1985), which refers to a theory of mind deficit among people with ASD. In short, researchers determined that people with ASD have difficulty attributing states of mind to others as well as predicting others' behaviors which contributes to the communication deficits described above. Commenters supporting the use of identification cards to bridge communication gaps recognized the difficulty people with ASD have in interacting with others, and mindblindness largely explains this difficulty. Additionally, since mindblindness is unique to the ASD community, it strengthens the case for unique accommodations for members of this population.

However, this does not offer any evidence on whether the ID cards will be used appropriately by the people carrying them. Suppose mindblindness is correct, and people with ASD cannot attribute mental states to others. In that case, it is reasonable to assume people with ASD may struggle to accurately determine when it is appropriate to reach for a card and present it to a first responder.

The case study described in the previous chapter offers a real-world example of an ideal use of the card. A person with ASD experienced a medical emergency. While attempting to assist, first responders were frustrated by the individual's inability to make eye contact and follow commands. Once the first responders read a card that explained his condition, their demeanor changed instantly. According to the commenter, their "tone was calmer since they could understand then I wasn't being defiant. It smoothed the interaction over." Medical emergencies tend to be less volatile than criminal complaints. However, this example demonstrates that understanding why a person might be acting in a certain way contributes to deescalating situations and changing a first respondent's stance from confrontational to accommodating.

Third Theme: Reasons for Negative Sentiment

The third and final theme, which was identified in 10.18% of comments, concerned reasons for the respondents' negative sentiment and opposition to the cards. The negative sentiments, which are divided into two categories, were predominantly fear of being shot while trying to use the card or fear of discrimination as a result of having identified oneself as having ASD, or concerns that the person carrying the card would not be able to use it at the appropriate time.

This theme highlights some of the failures of the previously described community policing initiatives. Many communities still distrust the police, and, as indicated in the literature review, people with developmental and mental health issues are disproportionally involved in the criminal justice system. As noted in Chapter 2, Bureau of Justice statistics indicate that, in 2015, 32% of prisoners and 40% of jail inmates had at least one disability, rates which are respectively three and four times those among the general population (Bronson, Maruschak, & Berzofsky, 2015). Recent high-profile police violence incidents have prompted the latest surge in anti-police sentiment and the ongoing movement to "defund the police," which is primarily led by BLM. Aside from racial injustice, as described in Chapter 1, BLM also addresses how police too often respond to mental health crises. The defund the police movement advocates for addressing this challenge by funding other professionals, such as social workers, to assume responsibility for responding to certain types of issues. If successful, the movement speculates that, rather than the police, members of a new "community service" would respond to many of these incidents. Although likely useful in some cases, it is difficult to envision a community service that would completely replace the police's interactions with citizens with developmental disorders or mental health issues, especially in volatile situations requiring an immediate response. Although such a service could offer some support, it is unlikely that it would negate the police's need to be armed with tools to safely serve the ASD community, hence making training and ASD cards still necessary.

The literature review describes the crisis intervention team (CIT) as a possible best practice to address these challenges. Like the BLM proposals, it attempts to shift the

criminal justice system's burden in favor of more appropriate mental health services. Restated from chapter 2, the CIT model is “a collaborative approach to safely and effectively address the needs of persons with mental illnesses, link them to appropriate services, and divert them from the criminal justice system if appropriate” (Watson & Fulambarker, 2012, p.71). The CIT, and similar programs, could address this theme’s negative sentiment towards the police and fears the police will harm an individual with ASD by mishandling the situation. However, despite broad adoption, some critics of the model are losing faith in it as a viable solution. Some experts believe there is a large emphasis on the associated 40-hour training block for law enforcement while ignoring the more important aspect of the program: the development and integration of the mental health system into emergency response. One expert cites, "If you keep throwing money at training officers, and that's all you do, and not address the system around mental health care, you'll continue to have nothing but problems" (Westervelt, 2020, para.19). A recent example of a CIT failure happened in Salt Lake City in 2020. A mother called 911 and specifically requested a crisis intervention team transport her 13-year-old son with ASD to a hospital because he was experiencing a mental health crisis. The police responded, and the child fled on foot. After a brief pursuit, the police shot him multiple times, resulting in severe injuries (Treisman, 2020).

A single incident such as this is highly damaging to community relations and damages community policing tenants. It justifies and amplifies the negative sentiments towards ASD programs, such as the CIT model. The commenters’ fear of people with ASD being shot while reaching for a card is not unfounded. Conversely, a single incident should not be enough evidence to cancel these programs and initiatives. It does not mean

ASD card programs have no use, and when coupled with other practices such as the CIT model and associated training, it can lead to positive outcomes. However, it starkly shows none of these solutions are panaceas to these problems.

Reasons for Disparities

There is a degree of disparity among commenters concerning their confidence in people's abilities to use the card. Regarding the first theme, which concerned recommendations, commenters suggested using more readily visible devices since they doubted people with ASD would be capable of producing the card. An example of such sentiment is "This is an awesome idea, however, my child might not understand to show that card." Another commenter also raised doubts about people's ability to use the card: "But with kids...would they know to pull out the card when needed?" However, as exemplified by the case study, people with ASD have successfully used identification cards while under some duress (in the case of the example, a medical emergency). The overwhelmingly positive sentiment towards the cards also indicates most commenters do feel people can use them.

One possible explanation for this disparity is that ASD is a broad-spectrum disorder. The *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5* not only outlines the criteria for an ASD diagnosis but also specifies three severity levels for social communication and restricted, repetitive behaviors (DSM-5, 2017). Level 1, "Requiring support," is the least severe and is described in part as referring to "a person who is able to speak in full sentences and engages in communication but whose to-and-fro conversation with others fails" (DSM-5, 2017, p.52). Level 2, "requiring substantial support," is described in part as referring to "a person who speaks simple sentences,

whose interaction is limited to narrow special interests, and how has markedly odd nonverbal communication" (DSM-5, 2017, p.52). Lastly, Level 3, "Requiring very substantial support," is described in part as referring to "a person with few words of intelligible speech who rarely initiates interaction" (DSM-5, 2017, p.52). Additionally, under the new criteria, the DSM-5 combined previous unique disorders from DSM-IV, including "autistic disorder (autism), Asperger's disorder, childhood disintegrative disorder, Rett's disorder, and pervasive developmental disorder not otherwise specified," under the ASD diagnosis (DSM-5, 2017, p.809). Therefore, the DSM-5 broadened the criteria for ASD compared to previous editions of the manual, which had a much narrower criterion for what was then diagnosed as "autistic disorder."

The new, broader criteria for ASD, accompanied by the varying levels of severity, are likely a significant contributor to disparities in sentiment towards the identification cards and differences in opinion as to whether a person with ASD could successfully use them. The ASD card laws and programs described in Chapter 2 do not directly address or account for this disparity or the fact ASD is now a broad-spectrum disorder.

Recommendations

This study indicates strong support for ASD card laws and programs while also highlighting some areas of concern. Policymakers should continue to implement these programs to support the ASD community and remain responsive to citizens' needs. However, the programs should be modified to account for the fact that ASD refers to a broad spectrum of conditions with varying degrees of severity. The study suggests the cards are likely suitable for people with ASD with a level 1 severity classification. These individuals display higher functioning levels of communication and would likely benefit

from an identification card in many interactions with first responders or the community at large and have the ability to use the cards. However, individuals categorized as falling into severity levels 2 or 3 would likely not be capable of effectively using a card. Current and potential future programs to facilitate first responder interactions with people with ASD should broaden their scope to account for the broader diagnostic criteria introduced in the DSM-5. For example, a law introducing the use of ASD identification cards should also be amended to provide devices more tailored to an individual's needs, such as bracelets or stickers, as recommended by numerous commenters. Although individuals may procure most of these products through the private sector, if the government wants to remain a solution to these challenges, it should lead with evidence-based practices to continue to instill trust in the public and not be less responsive than the markets.

First responder training continues to be of concern. The literature review identified various studies indicating that training varies significantly across jurisdictions and is often ineffective. Training should be an integral part of addressing national calls for police reform. Some of the negative sentiments outlined and case studies support this conclusion. If community policing is to succeed or remain a significant philosophical influence across the country, it must adhere to one of its core tenets and build more trust with various communities. National training standards with procedures that have proven to be effective would likely support these efforts.

However, ASD-card programs and improved training are likely not enough. More drastic measures and a reinvention of emergency response services may be required. High profile cases demonstrate that even when officers have met outlined training standards and are aware of a person's ASD diagnosis, they cannot avoid tragic outcomes

which cause irreparable damage in community relations. Dispatching mental health care workers to respond to a mental health crisis instead of, or alongside, police officers would vastly reduce the number of police incidents involving this population segment or with other mental health challenges. It would also preserve police resources strictly for police matters, such as violent crimes while alleviating the criminal justice system's burden. Current political movements, such as BLM, suggest there is no better time for legislators and policymakers to implement some of these bold measures to restore trust and improve outcomes for the entire community.

Future research should focus on the training materials, delivery methods, and periodicity best suited for first responders to accomplish these goals. Also, it should investigate the actual effectiveness of ASD identification cards or devices to make recommendations concerning which devices and which forms of training should be made available and implemented more broadly, perhaps even nationally, to account for the unique needs of people with ASD. Lastly, research should investigate mental health care professionals' responses to mental health crises without a police presence or, as an alternative, in support of the police, to ensure communities can safely implement them and what resources would be required to implement these programs widely. As noted in the CIT example, training first responders while failing to integrate the entire mental healthcare system will not achieve the desired outcomes.

Conclusion

This study offers an initial investigation into ASD identification card programs. Alabama was the first state to legislate such a program in 2014, and numerous states followed. Given the predominantly positive sentiment identified during this study, it is

reasonable to expect these programs will continue to grow and spread to other states while having some success in meeting their intended goals.

Some of the findings suggest the cards can address some of the main difficulties associated with ASD, such as bridging communication deficits; however, some commenters are skeptical that the cards will prove useful or sufficient for all circumstances. This skepticism possibly derives from the fact that none of the programs described directly address a fundamental characteristic of ASD: as the name indicates, it is a spectrum and a broad one. A common saying in the ASD community is, "If you have met one person with autism, you have met one person with autism." This saying goes to the heart of the main obstacle to creating a comprehensive program that satisfies the community and is effective for most circumstances. Individuals with ASD are unique, and although placing them under the same umbrella may have some advantages, it obfuscates the fact that they may have unique and individualized needs. Current identification card programs place an enormous burden on the individual to decide when it is appropriate to reach for a card and how to do so safely. To ensure these programs are viable in the long-term and serve their stated goal, they will have to address the vast differences among members of the ASD community. If not, the programs will at best be ignored and at worst waste valuable resources, time, and possibly lives.

Finally, as well-intentioned as ASD card programs and first responder training initiatives are, case studies demonstrate they will likely not be enough. Public administrators must reinvent emergency response services to alleviate the policing burden on being mental health care workers. Only then will police resources be able to focus on

their primary duties while healthcare professionals can assist those with mental health care challenges adequately.

Elected officials and legislators are responding to the citizenry to address policing challenges, specifically relating to people with ASD. It is now incumbent upon public administrators to turn aspirations for improvements into positive outcomes on the ground. Public administrators must turn ASD card laws and programs and citizens' calls to action into a reality that fulfills the stated goals of such programs. Citizens have done their part with calls to action, and legislators answered the call, at least to some extent, with ASD card laws and programs. Public administrators now must do their part: by implementing these programs equitably, by improving upon them within the boundaries of the law, fine-tuning as needed, and by making additional recommendations for future reform based on gathered data, feedback, and outcomes throughout the process.

Perhaps, in the future, responding to a mental health crisis will not be a primarily police function at all. Public administrators should consider creating mental health social worker response teams working in parallel with, not in support of, the police departments. These individuals or teams would be dispatched in place of the police based on factors on the ground, especially during a healthcare emergency where the individual does not pose a threat to others' safety. Ideally, these workers would spend part of their professional workweek in mental health care facilities, staying current in the latest treatments and interventions, and would also spend part of their workweek on call, ready to respond to a crisis in the field. Unlike the discussed CIT model, this would not be a law enforcement function filtered through the police, but rather, it would be a stand-alone department for the sole purpose of helping people undergoing a mental health crisis. This model would

undoubtedly require an increase in social workers and training for working in higher-risk environments. However, corresponding reductions in the police departments' workloads might offset the administrators' increased burden. Some circumstances, particularly volatile ones where lives may be in danger, would still require a police presence, but having mental health social workers on scene, might lessen the likelihood of unnecessarily violent outcomes. This model certainly requires more detailed investigations and field trials, perhaps in a small jurisdiction, as a proof of concept. However, it may be the only way to ensure professionals with the right expertise are adequately matched with the citizens' unique needs, putting the burden of solving this challenge on administrators, not the citizens themselves.

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APPENDIX A

Institutional Review Board (IRB) Exemption

Institutional Review Board (IRB)
For the Protection of Human Research Participants

PROTOCOL EXEMPTION REPORT

Protocol Number: 04127-2021 **Responsible Researcher(s):** Patrick P. Davis

Supervising Faculty: Dr. Bonnie Peterson

Project Title: *Autism Spectrum Disorder Identification Cards.*

INSTITUTIONAL REVIEW BOARD DETERMINATION:

This research protocol is **Exempt** from Institutional Review Board (IRB) oversight under Exemption **Category 4**. Your research study may begin immediately.

If the nature of the research project changes such that exemption criteria may no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before continuing your research.

ADDITIONAL COMMENTS:

1. *Upon completion of this research study all collected data must be securely maintained (locked file cabinet, password protected computer, etc.) and accessible only by the researcher for a minimum of 3 years.*
2. *Names and/or identifying information should be removed from posts and from with-in comments before uploading into NVivo software.*

☒ ***If this box is checked, please submit any documents you revise to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your exemption.***