AN EXPLORATION OF LAW ENFORCEMENT OFFICERS’ TRAINING EXPERIENCES, TRAINING NEEDS, AND INTERACTIONS RELATED TO AUTISM SPECTRUM DISORDER

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AN EXPLORATION OF LAW ENFORCEMENT OFFICERS’ TRAINING EXPERIENCES, TRAINING NEEDS, AND INTERACTIONS RELATED TO AUTISM SPECTRUM DISORDER

DISSERTATION

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the College of Education at the University of Kentucky

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2019

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ABSTRACT OF DISSERTATION

AN EXPLORATION OF LAW ENFORCEMENT OFFICERS’ TRAINING EXPERIENCES, TRAINING NEEDS, AND INTERACTIONS RELATED TO AUTISM SPECTRUM DISORDER

Although research confirms the effectiveness of training to improve law enforcement officers’ awareness and knowledge of people with intellectual disability, learning disabilities, and mental health disorders (Bailey, Barr, & Bunting, 2001; McAllister, Bailey, & Barr, 2002; Scantlebury et al., 2017; Wood & Watson, 2017), research related to the efficacy of autism-specific law enforcement training is limited. In order to provide up-to-date information regarding training for LEOs related to autism spectrum disorder (ASD), a systematic review of the literature was conducted for the first study. Adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Protocols 2015 (PRISMA), a search of 13 professional databases and 28 journals was conducted using search terms related to both ASD and law enforcement training. Two research team members compared decisions for study inclusion at two points, including upon initial screening and final inclusion. From 724 articles identified during the initial search, only two articles met inclusion criteria, which suggests that limited research exists that explores ASD and law enforcement training. Included studies were summarized in terms of participants as well as training format, content, and outcomes. Limitations of the current literature, directions for future research and current implications for practice are discussed.

When developing trainings, it is important to consider the input of multiple stakeholders. Thus, in the second paper, qualitative data was collected through semi-structured interviews with LEOs, adults with ASD, and caregivers. Given the importance of including the ASD community in research (Pellicano, Dinsmore, & Charman, 2014), input from individuals with ASD and caregivers was obtained to complement information solely from LEOs. The goals for study two centered around (a) characterizing LEOs’ knowledge of ASD, (b) understanding LEOs’ previous interactions with individuals with ASD, and (c) identifying training needs to best prepare LEOs for interactions with individuals with ASD. In addition, members of the ASD community, including adults with ASD and caregivers, shared perspectives regarding real and hypothetical interactions with LEOs as well as suggestions regarding LEOs’ ASD-specific training.
needs. Researchers utilized a grounded theory approach to analyze data from 17 participants, including six LEOs, six adults with ASD, and five caregivers. All semi-structured interviews were audio recorded, transcribed, thematically coded, and summarized by researchers according to grounded theory. Common themes among participants included the (a) potential for misinterpretations of behavior of individuals with ASD, (b) helpfulness of a universal identification system/symbol for ASD, (c) need for interactive, mandatory training unique to LEOs’ needs and roles, and (d) importance of building community connections between LEOs and individuals with ASD.

Together, these two studies add significant information to the current understanding of interactions between LEOs and the ASD community as well as autism-specific training for LEOs. Study one provides up-to-date information regarding evidence-based interventions for LEOs related specifically to ASD. Further, the second study provides an in-depth understanding of the interactions between LEOs and the ASD community as reported by multiple stakeholders. Across both studies, information regarding ASD-specific training, including LEOs’ prior experiences and participants’ training recommendations, can be utilized to inform the development and implementation of ASD-specific training currently being created and utilized in communities nationwide.

Keywords: autism, law enforcement, training, systematic review, grounded theory

Kirsten Scheil Railey

April 8, 2019
AN EXPLORATION OF LAW ENFORCEMENT OFFICERS’ TRAINING
EXPERIENCES, TRAINING NEEDS, AND INTERACTIONS RELATED TO
AUTISM SPECTRUM DISORDER

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CHAPTER 1

INTRODUCTION AND BRIEF LITERATURE REVIEW

In everyday interactions, law enforcement officers (LEOs) routinely encounter people who have a range of disabilities. In fact, individuals with developmental disabilities are seven times more likely to interact with LEOs when compared to citizens without disabilities (Curry, Posluszny, & Kraska, 1993; Organization for Autism Research, 2014). Given increased contact with persons with disabilities, LEOs are also more likely to interact with family members, medical and psychiatric facilities, and outreach programs/non-profit organizations who support individuals with disabilities. Decades after the deinstitutionalization of individuals with mental health concerns, LEOs play a critical role as primary gatekeepers to mental health services and the criminal justice system (Lamb, Weinberg, & Gross, 2004).

Beginning with the establishment of the Community Oriented Policing Services (COPS) model within the United States Department of Justice in 1994, law enforcement has placed greater emphasis on prevention, collaborative partnerships, and problem-solving (Bureau of Justice Assistance, 1994). Importantly, the COPS model encourages LEOs to build relationships with all people in their communities, especially those who may differ physically, intellectually, emotionally, and socially from individuals without disabilities or mental health concerns (Price, 2005). In addition to simply interacting more frequently with individuals with disabilities, LEOs might benefit from increasing their knowledge regarding signs of specific disabilities, appropriate interaction strategies and interventions, as well as the broader social systems which frame these interactions between LEOs and people with disabilities.
Given that the current prevalence rate of autism spectrum disorder (ASD) is now estimated at 1 in 59 (Baio et al., 2018), the likelihood that LEOs will encounter individuals with ASD is increasing, especially as these children grow into adulthood. In a recent study, one in five individuals with ASD reported either being stopped or questioned by police at least once by the time they were in their mid-twenties (Rava, Shattuck, Rast, & Roux, 2017). Despite the fact that the prevalence of ASD involvement in the criminal justice system is currently unknown (King & Murphy, 2014), research suggests that individuals with ASD are involved in interactions with LEOs as victims (Mayes, 2003) and suspects (Woodbury-Smith & Dein, 2014). In addition, individuals with ASD who frequently exhibit externalizing behaviors (e.g., hand flapping, pacing, self-harming) or elopement may have higher chances of coming into contact with LEOs and being arrested (Debbaudt & Rothman, 2001).

Many behaviors displayed by individuals with ASD can be misinterpreted by LEOs as challenging or disrespectful (Debbaudt & Rothman, 2001). Misinterpretations may contribute to the rising number of incidents involving individuals with disabilities and the criminal justice system (Rava et al., 2017). Unfortunately, several of these encounters between LEOs and individuals with ASD have ended in negative outcomes such as arrest or death (see Table 1.1 for case examples). Although it can be difficult for LEOs to quickly and accurately assess situations and take measures to protect themselves and others, the negative outcomes of these encounters highlight a need for LEOs to receive more ASD-specific training.

A lack of understanding of and training geared toward ASD is likely to result in inadequate support of individuals with ASD within law enforcement encounters. Given
the various reports of negative interactions between LEOs and persons with ASD, formal training on how to recognize and respond to the needs of community members with ASD are needed. To this end, researchers have also called for specialized training in the area of ASD to be developed after reviewing law enforcement training curriculum from seven states in the United States (Laan, Ingram, & Glidden, 2013). These researchers suggest that training should focus on how to recognize signs of ASD and various techniques LEOs can use to support persons with ASD, especially effective communication tactics and strategies to manage crisis situations. However, the authors did not provide information regarding specific information to include and mechanisms to use when presenting training programs (Laan et al., 2013). In fact, limited research exists regarding what works and does not work in training LEOs to interact with individuals with ASD.

In addition to a lack of research on outcomes of ASD-specific training for LEOs, limited knowledge exists regarding how the training programs are developed. To inform future research, it is important to examine the outcomes of training programs as well as how programs were developed. To respond to the gap in the literature, I chose the two-paper option for my dissertation. In the first paper, I systematically reviewed the current and seminal research examining the efficacy of training for LEOs related to ASD. The systematic review followed the five steps of systematic reviews proposed by Kahn, Kunz, Kleijnen, and Antes (2003) as well as adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Protocols 2015 ([PRISMA-P 2015]; Moher et al., 2015). Limitations of the current literature, directions for future research, and current implications for practice are discussed.
When developing training programs, it is important to consider the input of multiple stakeholders. For example, when designing training programs, the opinions and needs of both the individuals receiving the training and the target population should be considered. Thus, in the second paper, I collected qualitative data through semi-structured interviews with LEOs, adults with ASD, and caregivers. Given the importance of including the ASD community in research (Pellicano, Dinsmore, & Charman, 2014), I obtained input from individuals with ASD and caregivers to complement information solely from LEOs. There were two goals related to the second study. First, I focused on: (a) characterizing LEOs’ knowledge of ASD, (b) understanding LEOs’ previous interactions with individuals with ASD, and (c) identifying training needs to best prepare LEOs for interactions with individuals with ASD. Second, I explored concerns existing in the ASD community regarding interactions with LEOs as well as suggestions regarding LEOs’ training needs.

Together, these studies add significant information to the current understanding of interactions between LEOs and the ASD community as well as ASD-specific training for LEOs. Study one provides up-to-date information regarding evidence-based interventions for LEOs related specifically to ASD. In particular, study one reviews the content and outcomes (e.g., attitudes, knowledge, behavioral changes) of ASD-specific training programs. Although several ASD-specific law enforcement training programs exist national and internationally, it is important to review which interventions have been systematically developed, implemented, and published in peer-reviewed journals. These findings have the potential to influence criminal justice policy by identifying format and
content of various training programs as well as exploring the need for increased ASD-specific training for LEOs.

In the second study, I attained an in-depth understanding of the interactions between LEOs and the ASD community as reported by multiple stakeholders, including LEOs, adults with ASD, and caregivers of children with ASD. To the best of my knowledge, no study to date has obtained input from all three groups of stakeholders, including adults with ASD, regarding this topic. The detailed findings have important implications for understanding interactions between LEOs and the ASD community. In addition, findings can inform the development and implementation of ASD-specific training currently being created and utilized in communities nationwide.
### Table 1.1
Case Examples of Tragic Interactions between Individuals with ASD and LEOs

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Event</th>
<th>Result</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Los Angeles, CA</td>
<td>LEOs noticed a 27-year-old, Black male with ASD “acting suspiciously” and stopped to question him. LEOs reported that the man appeared to reach for something in his waistband.</td>
<td>Officers shot and killed the man out of fear of a weapon; however, no weapon was recovered on the man’s body.</td>
<td>Song (2010)</td>
</tr>
<tr>
<td>2011</td>
<td>Denver, CO</td>
<td>An 8-year-old boy with ASD engaged in challenging behaviors on a school bus. LEOs were called to the scene.</td>
<td>He was escorted in the back of a police car to a hospital in handcuffs.</td>
<td>Hayden (August, 2011)</td>
</tr>
<tr>
<td>2012</td>
<td>Calumet City, IL</td>
<td>A mother of a 15-year-old boy with high-functioning ASD called police to help get her son “under control.”</td>
<td>The boy had a knife and slashed the officer’s arm, which led the officer to shoot the boy.</td>
<td>Lutz and Johnson (2012)</td>
</tr>
<tr>
<td>2016</td>
<td>Mesa, AZ</td>
<td>A young woman called the police to tell them that her 24-year-old friend with ASD was suicidal. The officers made a visit to her home in response to the call. The woman drew a knife on two officers in a small hallway.</td>
<td>LEOs attempted to communicate with the woman, but she didn't respond to commands. One officer ended up fatally shooting the woman.</td>
<td>Blasius (2016)</td>
</tr>
<tr>
<td>2016</td>
<td>Miami, FL</td>
<td>A man with autism was playing with a toy truck, and his caretaker was sitting beside him on the sidewalk. A passerby made a call to 911 about a suicidal man with a gun.</td>
<td>The LEO shot the unarmed caretaker, and the man with autism was traumatized and could not eat/sleep for days.</td>
<td>Karimi, (2016)</td>
</tr>
</tbody>
</table>
CHAPTER 2
A SYSTEMATIC REVIEW OF LAW ENFORCEMENT TRAINING RELATED TO AUTISM SPECTRUM DISORDER

Abstract

Although research confirms the effectiveness of training to improve law enforcement officers’ (LEOs) awareness and knowledge of people with intellectual disability and learning disabilities, review of the effectiveness of ASD-specific law enforcement training is needed. Because few research studies have focused specifically on autism spectrum disorder (ASD), training guidelines do not necessarily specify how to best support interactions between LEOs and individuals with ASD. In order to provide up-to-date information regarding training for LEOs related to ASD, a systematic review of the literature was conducted. Adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Protocols 2015 (PRISMA), a search of 13 professional databases and 28 journals was conducted using search terms related to both ASD and law enforcement training. Included studies were summarized in terms of participants as well as training format, content, and outcomes. Limitations of the current literature, directions for future research and current implications for practice are discussed.

Keywords: autism, police officer, law enforcement, training, systematic review
Introduction

Beginning with the establishment of the Community Oriented Policing Services (COPS) model within the United States Department of Justice in 1994, law enforcement has placed greater emphasis on prevention, collaborative partnerships, and problem-solving (Bureau of Justice Assistance, 1994). Importantly, the COPS model encourages law enforcement officers (LEOs) to build relationships with all people in their communities, especially those who may differ physically, intellectually, emotionally, and socially from individuals without disabilities or mental health concerns (Price, 2005). In everyday interactions, LEOs routinely encounter people with a range of disabilities. In fact, one study found that 7% of all police contacts involve people with mental health needs (Deane, Steadman, Borum, Veysey, & Morrissey, 1999). In addition, individuals with developmental disabilities are seven times more likely to interact with LEOs when compared to other citizens without disabilities (Curry et al., 1993; Organization for Autism Research, 2014). Given increased contact with persons with disabilities, LEOs are also more likely to interact with family members/caregivers, medical and psychiatric facilities, and outreach programs/non-profit organizations who support individuals with disabilities. Decades after the deinstitutionalization of individuals with mental health concerns, LEOs play a critical role as primary gatekeepers to mental health services and the criminal justice system (Lamb et al., 2004).

LEOs’ Attitudes and Knowledge Related to Individuals with Mental Health Concerns

In order to understand LEOs’ responses to individuals with disabilities, it is important to examine their knowledge, attitudes, and perceptions of people with mental
health concerns. In many facets of society, stigma is associated with people who have various mental health disorders. Coleman and Cotton (2010) suggest that the stigma against people with mental disorders may be present in law enforcement agencies such as police departments. For example, researchers have found that police officers sometimes perceive individuals with mental disorders as violent, unpredictable, and dangerous (Lamb et al., 2002). In addition, Modell and Mak (2008) found that, while police officers correctly identified key characteristics of disabilities, they were often unable to distinguish between disability groups. Although not all LEOs lack knowledge of disabilities or possess stigmatizing attitudes, it is important to understand LEOs’ knowledge and attitudes toward individuals with disabilities to address any knowledge gaps, negative attitudes, or stigmatizing attitudes through educational programs.

**Law Enforcement Approaches to Respond to Individuals with Mental Health Concerns**

Beginning in the 1970s, law enforcement agencies at the national and international level began investing in initiatives, such as educational training and specialized responses, to improve interactions between LEOs and people with mental health concerns. Local law enforcement regulations, availability of local resources, and LEOs’ general attitudes and beliefs influence which strategies law enforcement agencies implement to respond to calls involving people with mental health concerns. Cotton and Coleman (2017) suggest that it is essential to first focus on education and training to prepare personnel to use specialized response strategies and tactics during encounters with people with mental illness. Promising practices in police training and specialized responses as well as outcomes of the approaches are reviewed below.
Specialized Anti-Stigma, Awareness, and Sensitivity Training

Research suggests that LEOs report interest in learning more about how to interact with people with disabilities (Vermette, Pinals, & Appelbaum, 2005), and 75% of participants in one study noted that their departments’ training on mental health should be improved upon (Wells & Schafer, 2006). Cotton and Coleman (2008) found that LEOs received an average of ten hours of education and training on “mental illness” during their “basic training” in Canada. In the United States, Vermette and colleagues (2005) found that LEOs spend less than 2% of total training time learning how to best serve and respond to the needs of individuals with mental health disorders. In the United States, each state dictates its own training requirements given the lack of federal training guidelines (McAfee & Musso, 1995). Thus, educational programs vary substantially regarding skills and backgrounds of facilitators, content, depth and breadth of material, as well as the amount of time allotted for the training.

In their work, Coleman and Cotton (2010) suggest that the following factors may have an impact on learning outcomes of training programs: (a) characteristics and background of the facilitator, (b) formation of connections with local mental health agencies and professionals, (c) integration of input from people with disabilities and their families into the training, (d) focus on LEOs’ attitudes and stigmatization toward individuals with disabilities, and (e) adaptation of curriculum to meet the needs of people receiving the training. Given that these factors may affect training outcomes, it is important to design and implement training programs using input from LEOs, people with mental health concerns, and the people who support them (Cotton & Coleman,
Although training related to mental health have become more widespread, research is unclear as to which components and methods produce consistent, effective training. Due to the variability in type and quantity of training (McAfee & Musso, 1995), it is difficult to determine which components and learning methods produce the most substantial improvements related to LEOs’ attitudes and behavior during interactions with people with mental health concerns.

A recent systematic review of disability sensitivity training programs provided to LEOs highlights a need to determine which training programs are evidence-based (Viljoen, Borman, Wiles, & Tônsing, 2016). Viljoen et al. (2016) set the following eligibility criteria: (a) used qualitative, quantitative, or mixed-methods designs reporting on original data; (b) disseminated between 1980 to 2015; (c) participants included police officers at any level of training (e.g., new recruits, experienced officers); and (d) training covered information regarding a broad range of disabilities (mental disorders were excluded). Viljoen and colleagues did not place restrictions on the content, duration, or outcomes included in the training programs; for example, possible training outcomes included knowledge, skills, attitude, awareness training, perceptions, beliefs, and behavior. Results of the review identified three studies that met eligibility criteria; however, all three studies identified statistically significant improvements post-training (Bailey, Barr, & Bunting, 2001; Engelman et al., 2013; McAllister, Bailey, & Barr, 2002).

As a whole, mental health stigma, awareness, and sensitivity training for LEOs possess the following commonly shared elements: (a) factual knowledge of mental illness, (b) overview of signs/symptoms, (c) outline of suicide interventions, and (d)
review of appropriate interaction strategies (Corrigan, Morris, Michaels, Rafacz, & Rusch, 2012). Most training programs occur in one day for a brief period of time between 1 to 8 hours (Corrigan et al., 2012). Given that many negative attitudes, perceptions, and stereotypes exist related to mental health and disabilities, some training programs address attitudinal issues such as stigma and bias (Modell & Cropp, 2007). A few training programs include participation of people with mental health concerns and/or their caregivers (Corrigan et al., 2012). Corrigan and colleagues found that anti-stigma programs that involved individuals with mental health concerns and disabilities in facilitating training programs were deemed most effective.

An evaluation of an anti-stigma educational program in England revealed that personal contact with individuals with mental health concerns led to improvement in LEOs’ attitudes and willingness to interact with this population four weeks after the last training session (Pinfold et al., 2003). Hansson and Markström (2014) conducted the first controlled study examining the effectiveness of an anti-stigma intervention for LEOs. Authors found that LEOs in the intervention group reported improved attitudes toward people with mental health concerns and overall “mental health literacy” post-training. In addition, LEOs were more likely to feel positively toward future interactions with people with mental illness post-intervention (Hansson & Markström, 2014).

Currently, most studies employ indirect measures (e.g., behavioral intentions and attitudes) as opposed to direct behavioral indicators of change (e.g., number of calls where LEOs identify presence of ASD; Hansson & Markström, 2014; Pinfold et al., 2003). One exception is Krameddine and colleagues’ (2013) training that utilized a traditional, lecture method followed up with an experiential approach, which included
role-plays with actors portraying individuals with mental health concerns. LEOs also received feedback from the actors, senior LEOs, and mental health professionals after participating in the role-play scenarios; feedback related to how LEOs made the actors feel as well as how they could have behaved differently to improve their expression of empathy. Results indicated that the role-play approach led to the following direct improvements: (a) increased recognition of mental health as a primary reason for the call, (b) improved efficiency in working with individuals with mental health concerns, and (c) decreased interactions between LEOs and people with mental health concerns that involved weapons or physical violence (Krameddine, DeMarco, Hassel, & Silverstone, 2013). Beyond these behavioral outcomes, researchers found that the training saved the agency over $80,000 (Canadian) in the six months post-training; however, the training itself cost $120 (Canadian) for each LEO (Krameddine et al., 2013). Given limited research to date, future studies should investigate effects of training on both indirect and direct outcomes.

**LEOs’ Interactions with Individuals with Autism Spectrum Disorder**

Although it is possible to address some of the characteristics of autism spectrum disorder (ASD) through generalized training on mental health or ID, tailored training programs should address the unique challenges associated with ASD specifically. Rava and colleagues (2017) found that roughly 20% of individuals with ASD reported either being stopped or questioned by police at least once by the time they were in their mid-twenties. Although the prevalence of ASD involvement in the criminal justice system is currently unknown (King & Murphy, 2014), research suggests that individuals with ASD are involved in interactions with LEOs as victims (Mayes, 2003) and suspects.
(Woodbury-Smith & Dein, 2014). In addition, researchers suggest that individuals with ASD who frequently exhibit unusual behaviors (e.g., hand flapping, pacing, self-harming) or elopement have higher chances of encountering LEOs and being arrested (Debbaudt & Rothman, 2001).

Many behaviors displayed by individuals with ASD can be misinterpreted by LEOs as challenging or disrespectful (Debbaudt & Rothman, 2001). Misinterpretations may contribute to the rising number of incidents involving individuals with disabilities and the criminal justice system (Rava et al., 2017). Unfortunately, several of these encounters between LEOs and individuals with ASD have ended in negative outcomes such as arrest or death (see Table 1.1 for case examples). Although it can be difficult for LEOs to quickly and accurately assess situations and take measures to protect themselves and others, the negative outcomes of these encounters highlight a need for LEOs to receive more ASD-specific training.

Gardner, Campbell, and Westdal (2018) found that 72.2% of LEOs reported no training for working with individuals with ASD. LEOs who had received training reported feeling better prepared to respond to calls involving individuals with ASD; however, outcomes did not differ whether LEOs received training or not (e.g., use of handcuffs). Crane and colleagues (2016) found that LEOs identified time constraints and lack of training as barriers to providing adequate support to individuals with ASD in their roles as officers. Despite reporting that “understanding ASD” was one of the top two easiest aspects of policing related to ASD, only 48% of LEOs indicated that they felt well-equipped to serve individuals with ASD and 42% reported satisfaction in their dealings with the ASD community (Crane, Maras, Hawken, Mulcahy, & Memon, 2016).
Of concern, only 13% of caregivers of individuals with ASD reported “satisfactory” interactions between LEOs and their children with ASD. Moreover, only 15% of adults with ASD reported a “satisfactory” experience when describing interactions (Crane et al., 2016).

**LEOs’ Knowledge and Attitudes toward Individuals with ASD**

Despite interactions between LEOs and persons with ASD, results from a few studies reveal that LEOs are often not knowledgeable about ASD and report concerns about appropriately handling situations involving persons with ASD (Chown, 2009; Crane et al., 2016). To identify characteristics of ASD, it is essential that LEOs become aware of the range of symptoms individuals with ASD may present. Modell and Mak (2008) surveyed 124 police officers in the United States and found that 80% were unable to identify defining features of ASD; 35% of the sample reported simply associating ASD with the film “Rain Man.” A survey of LEOs in the United Kingdom found that officers rated their competence levels in providing support to individuals with ASD with an average of 2.63 (1 being least competent and 5 being most competent; Chown, 2009). The lack of appropriate support to individuals with ASD could potentially lead to emotional stress, breakdowns in communication, and behavioral regulation difficulties. However, misinterpretation of behaviors during high-stress or tense situations can be improved with proper training, education, and through increasing interactions with persons with ASD in commonplace settings (Chown, 2009). In addition to simply interacting more frequently with individuals with disabilities, LEOs would benefit from increasing their knowledge regarding signs of mental illness and specific disabilities,
appropriate interaction strategies and interventions, as well as the broader social systems which frame these interactions between LEOs and people with disabilities.

**Training of LEOs Regarding Persons with ASD**

As reviewed above, a lack of understanding of and training geared toward ASD is likely to result in inadequate support of individuals with ASD during law enforcement encounters. Given the various reports of negative interactions between LEOs and persons with ASD, formal training on how to recognize and respond to the needs of community members with ASD is needed. To this end, researchers have also called for specialized training in ASD to be developed after reviewing law enforcement training curriculum from seven states in the United States (Laan et al., 2013). Laan and colleagues (2013) suggest that training should focus on how to recognize signs of ASD and various techniques LEOs can use to support persons with ASD, especially effective communication tactics and strategies to manage crisis situations. However, the authors did not provide information regarding specific information to include and mechanisms to use when presenting training programs (Laan et al., 2013).

LEOs report that training may help them better manage emotional and behavioral reactions, sensory sensitivities, and communication needs of individuals with ASD (Crane et al., 2016). However, one study found that only 37% of LEOs had received training on ASD specifically, and over 25% of officers report dissatisfaction with the training they receive (Crane et al., 2016). In New Jersey, where the state mandated that all first responders receive ASD-specific training beginning in 2008, Kelly and Hassett-Walker (2016) found that a significant percentage of emergency personnel had not completed the mandatory training as of Fall 2014. Therefore, results of this study suggest
that ASD-related training for first responders may be limited even when mandated by a state.

**Purpose of the Review**

A review of existing research suggests that law enforcement training on ASD appears limited; however, a comprehensive, systematic review of the current literature is needed to describe the state of research regarding ASD training for LEOs. Although research confirms the effectiveness of training to improve LEOs’ awareness and knowledge of people with intellectual disability (Bailey et al., 2001) and learning disabilities (McAllister et al., 2002), a review of the efficacy of ASD-specific law enforcement training programs is needed. Thus, the purpose of the review is to provide up-to-date information regarding LEO training related to ASD. The current systematic review has four purposes: (a) review content of ASD-specific training programs for LEOs, (b) explore all outcomes of identified training programs, (c) highlight gaps in the current research body, and (d) provide implications for future practice and research.

**Method**

The current study followed the five steps of systematic reviews proposed by Kahn, Kunz, Kleijnen, and Antes (2003). In the first step, questions to be addressed in the review were framed clearly and included specific outcomes. In the second step, I set a priori study selection criteria that directly related to the research questions. Specifically, inclusion and exclusion criteria were set, and the minimal acceptable level of design was identified. In the third step, I assessed the quality of the studies using a general critical appraisal guide and design-based quality checklists. Later, results of the quality appraisal indicators were utilized to describe strengths and weaknesses of studies.
as well as make recommendations for future research. In the fourth step, data from identified studies were synthesized, and study characteristics were tabulated into a pre-established protocol. Lastly, in the fifth step, the findings of the review were discussed, and the quality of studies were reviewed.

**Study Identification and Selection**

Prior to conducting the search, I developed a protocol adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Protocols 2015 ([PRISMA-P 2015]; Moher et al., 2015). The protocol presented an explicit plan for the systematic review based on pre-defined eligibility criteria and a specific methodological and analytic approach. To identify a comprehensive list of published literature on LEO training and ASD, I performed a search of professional databases using the following keywords as search terms: (a) autism keywords: autis*, ASD, pervasive developmental disorder, Asperger, high functioning autism; (b) officer keywords: police officer, policing, law enforcement, sheriff, first responder; and (c) training keywords: training, professional development, education, professional training.

Next, search terms were combined (terms within groups combined with “OR,” terms across groups combined with “AND”). The specified keywords and search process were identified via: (a) review of search terms in relevant published articles; (b) consultation with librarians from the University of Kentucky who specialize in public health and education, and one criminal justice librarian from Eastern Kentucky University; (c) consultation with a professor/researcher who specializes in ASD and has published systematic reviews; and (d) review of terminology used in organizations related to law enforcement and ASD.
The initial electronic search was undertaken in March 2018. No date restrictions were placed on the search, and studies were identified through a variety of methods. First, 13 databases related to criminal justice, social sciences, and education were searched using the keywords identified above. The following databases were searched: Academic Search Complete, Education Resources Information Center, Criminal Justice Abstracts, Criminal Justice Database, Cumulative Index to Nursing and Allied Health Literature, International Security and Counterterrorism Reference Center, National Criminal Justice Reference Services Abstracts, Nursing and Allied Health, Psychology and Behavioral Sciences Collection, PsycInfo, Scopus, Social Science Database, and Web of Science Core Collection. Second, I conducted a hand search of the following 28 journals related to ASD and the CJS: International Journal of Police Science & Management; The Police Journal: Theory, Practice, and Principles; Journal of Intellectual Disabilities and Offending Behaviour; Psychology, Crime & Law; Criminology & Criminal Justice: An international Journal; Journal of Autism and Developmental Disorders; Focus on Autism and Developmental Disorders; Research in Autism Spectrum Disorders; Autism Research; Intellectual and Developmental Disabilities; Journal of Global Intelligence & Policy; Autism; Journal of Intellectual Disability Research; Psychology, Psychiatry, and Law; Criminal Justice Ethics; Journal of Correctional Education; Journal of Criminal Justice Education; Journal of Criminal Justice; Justice Quarterly; Crime & Delinquency; Criminal Justice and Behavior; Criminal Justice Policy Review; Criminology; Journal of Police and Criminal Psychology; Journal of Contemporary Criminal Justice; Journal of Crime and Justice; Police Quarterly; and Policing & Society. Next, a hand search of the most recent issue
of the aforementioned journals and an ancestral review of citations of selected articles was conducted in June 2018 to identify any additional articles.

**Study Eligibility**

The “PICO” method, which defines the population, intervention, appropriate control or comparator, and outcomes of interest, was utilized when formulating the questions for the review (Moher et al., 2015). The process of clearly describing the inclusion criteria for each of the PICO elements guided the determination of study eligibility, data extraction, analysis, and interpretation of results. Articles were included based on the following criteria.

**Population.** Included articles could contain LEOs at any level of experiential training. The population was not restricted by age, gender, or geographic location.

**Intervention(s).** Included articles could review all training program(s) that focused on the topic of ASD in any capacity. No restrictions were placed on the type of training programs in terms of content, duration, or outcome. The intervention could target individuals of all ages (e.g., young children, adults, elderly individuals with ASD). Training programs could focus on victims, suspects, and perpetrators with ASD. In addition, training programs that focused on broader concepts, that also included information about ASD, were considered.

**Comparisons or control groups.** All studies were included irrespective of the presence or absence of comparison or control groups.

**Outcome(s).** No restrictions were placed a priori on the type of outcomes.

**Study design.** All relevant scholarly studies were considered. Studies could include quantitative, qualitative, or mixed-methods designs. Studies were included if
they reported on original data analyzing the effects of an autism training presented to LEOS.

**Journal Type and Language.** All studies must have been published in English in a peer-reviewed journal.

**Date range.** No date restrictions were established for the search.

Articles were excluded for the following reasons: (a) they only provided descriptive information (e.g., review articles) and did not include an ASD-specific intervention component; (b) they were not peer-reviewed studies (e.g., dissertations, newspaper articles, blog articles, policy briefs, editorials); and/or (c) the intervention focused on disabilities (e.g., intellectual disability, learning disabilities, mental illnesses) other than ASD.

**Study Selection**

The study selection process is presented in a PRISMA flow diagram (Figure 1). First, two researchers (KSR and AML) screened all title and abstracts independently to determine relevance for the review. The full-text papers of the remaining articles were then further examined, and reviewers made study inclusion decisions per inclusion and exclusion criteria set a priori. While screening and reviewing citations of relevant studies, any additional articles that met criteria were added to the finalized list.

**Critical Appraisal Bias of the Included Studies**

The McMaster Quantitative Critical Appraisal Tool (Law, Stewart, Pollok, Letts, Bosch, & Westmorland, 1998) was utilized to assess the quality of identified studies. See Appendix A to review how study quality was assessed. First, reviewers independently assigned a score on each of the 15 domains (1 = Yes, 0 = No or not addressed). Then, the
agreement between both reviewers’ scores was calculated and common methodological issues were noted.

**Data Extraction Process**

Data from identified studies were extracted independently by each of the reviewers and recorded on the data extraction protocol. The following information was summarized from each study: (a) publication demographics; (b) participant information; (c) summary of intervention; (d) details of control conditions, if present; and (e) description of study outcomes as well as overview of limitations and future directions. Due to the varied focus of the studies and variety of methodologies used, completion of a meta-analysis of the data collected was not possible.

**Results**

Initially, 724 articles were identified, though 606 remained after de-duplication. Only one article remained after two researchers independently screened articles at the title and abstract level to ensure the study focused on ASD-specific interventions for LEOs. After this initial coding process, one additional article was identified after a citation search of relevant articles was completed. Thus, only the two following articles were included in the final quantitative synthesis: Murphy, Kelleher, & Gulati (2017; Study 1) and Teagardin, Dixon, Smith, & Granpeesheh (2012; Study 2). See the PRISMA diagram in Figure 1.

**Reliability during Study Selection Process**

During the study selection process, two researchers independently screened articles. Inter-rater reliability was calculated in the following two ways to examine agreement between authors: (a) percentage of agreement and (b) *kappa*. In both the
title/abstract screening and the full text review phases, percentage of agreement between researchers was 100% and kappa was 1.0. When Study 1 (Murphy et al., 2017) was identified while searching citations for relevant articles, two researchers (KSR and JMC) reviewed the full-text article and agreed that that the study met inclusion criteria.

**Critical Appraisal for Bias of Included Studies**

Two raters independently completed the McMaster Quantitative Critical Appraisal Tool while reviewing each of the two included studies. Each reviewer assigned a score of either 1 (Yes) or 0 (No or not addressed) for all 15 domains. See Table 2.1 for total score and summary of each article. There was 100% agreement between the scores of the two reviewers (KR and AML) for both articles. Common methodological problems for both studies were related to inadequate description and justification of sample size; limited psychometric description of outcome measures; limited description of intervention; and insufficient reporting about the avoidance of contamination and co-intervention.

**Study Demographics**

Both studies were conducted within the last decade in Ireland (Study 1) and the United States (Study 2; see Table 2.2). Study 1 employed a quasi-experimental pretest-posttest design without a control group while Study 2 conducted an experimental randomized, waitlist-controlled design. Additional information regarding data on the PICO constructs is provided below.

**Population.** Both studies were similar in terms of participant recruitment. Specifically, participants were recruited from relatively homogenous groups of police officers. All participants in Study 1 were police officers working for Ireland’s National
Police Service while a variety of law enforcement personnel from patrol officers to detectives were included in Study 2. Participant demographics were not described in detail for either study, and background information such as age or ethnicity was not provided. To participate in Study 2, individuals were excluded from the study if they had a family member or close relative with ASD. The sample sizes of both studies were small, ranging from 11 (Study 1) to 82 (Study 2) participants.

**Intervention.** In Study 1, a 90-minute ASD awareness training was conducted by a consultant psychiatrist with experience in diagnosis and treatment of ASD through the Continuous Professional Development unit in the county headquarters of the An Garda Síochána in Cork, Ireland. Information regarding the content and format of the training were requested from the authors but were not available upon publication of this manuscript. In Study 2, the intervention consisted of a 13-minute educational video about ASD created by the Sahara Cares Foundation. The video reviewed the definition of key characteristics of ASD as well as provided a general overview regarding how to identify and support individuals with ASD.

**Comparator/control.** Study 1 did not include a control group. Study 2 included a control group and treatment group. Due to practical limitations, random assignment occurred at the cohort level such that all participants who signed up to attend a training on the same day were treated as a single cohort. Participant cohorts were then randomly assigned to either the control ($n = 40$) or treatment group ($n = 42$). Participants in the control group received the training shortly after the treatment group.

**Outcome measures.** Both studies evaluated the effect of ASD-specific training programs on knowledge of ASD and confidence in identifying and supporting individuals
with ASD. In both studies, training evaluation measures were developed by the researchers. Study 1 used five self-report items, using a scale with 10-points of agreement, that were collected twice via pre- and post-test surveys. Participants answered five questions designed to measure awareness of ASD and confidence in approaching individuals experiencing a “meltdown” and utilizing communication strategies with individuals with ASD. One item measured perceived helpfulness of the training. Psychometric information was not provided, and the items were examined independently rather than as one complete measure. In Study 2, researchers developed a 12-item measure with ten questions related to knowledge of persons with ASD and two questions related to level of confidence in identifying and interacting with persons with ASD. The ten knowledge items were examined together as a mean percentage correct score for both the pre- and post-test, and the two questions related to self-reported confidence were assessed independently using dependent samples t-tests to compare pre- and post-test ratings.

**Main Findings**

Table 2.2 provides a summary of the included studies in terms of (a) country, (b) study design, (c) target group, (d) training format, (e) group size, (f) training duration, (g) training content, (h) training evaluation, (i) training outcomes, (j) constructs measured, (k) limitations, and (l) suggestions for future training. The studies reported statistically significant improvements in participants’ self-reported awareness of ASD and confidence in supporting individuals with ASD (Study 1) as well as knowledge of ASD and confidence in identifying and interacting with people with ASD (Study 2).
Discussion

In order to provide up-to-date information regarding ASD-specific training for LEOs, a search of 13 databases and 28 journals that cover topics related to criminal justice, psychology, public health, and education was conducted. Two researchers independently reviewed articles during all steps of the screening process to determine article eligibility based on inclusion and exclusion criteria set a priori. Despite a thorough literature review, only two studies were identified that evaluated ASD-specific training for LEOs. Main findings of the review, limitations, and recommendations for future research are outlined below.

Summary and Implications of Main Findings

Overall, one of the major findings of the review is the scarcity of research concerning ASD-specific training programs for LEOs. Only two articles describing 93 participants and two different interventions met the inclusion criteria, which were purposefully broad in order to capture as many studies as possible. Even though no date restrictions were placed on the search, both studies were published within the last decade. Specifically, Teagardin and colleagues (2012) published the first intervention study in the United States whereas Murphy and peers (2017) conducted a more recent study in Ireland. The present findings suggest that ASD specific interventions have potential benefits; however, it is difficult to evaluate effectiveness given limitations of both studies.

A second finding of this review involves the exploration of research methodologies found in the literature on ASD-specific training for LEOs. Out of the two identified articles, only one study (Teagardin et al., 2012) utilized a randomized waitlist-
controlled design; however, randomization occurred at the cohort level, as officers in attendance on a particular day were treated as a single cohort. Murphy and colleagues (2017) utilized a cross-sectional, pretest-posttest design and included only 11 LEOs from the same cohort. A major limitation of both studies involves the inclusion of a small sample with participants who may be biased in their responses. For example, it is important to note how participants were selected, whether the sample was representative of the larger departments, and prior experiences of LEOs who participated. Not only do both studies include small sample sizes, but little information is provided about participant demographics and selection, which raises concerns about participant self-selection bias given that participants may have chosen to participate due to a strong interest in ASD (Nabatchi, 2012). Teagardin and colleagues (2012) stated that they excluded LEOs if they had a family member of close relative with ASD given that prior knowledge of ASD may result in participant bias. Future research should consider the background of participants such as prior relationship and training related to ASD. In addition, collecting participant demographic information would allow for exploration of additional descriptive differences between groups.

In both studies, researchers developed outcome measures to reflect information obtained during their respective training programs. Outcomes relied on self-report measures, and psychometric information on the measures was not provided to assess reliability and validity. Murphy and colleagues (2017) utilized four self-report items that were designed to measure awareness of ASD, confidence with communication strategies, and confidence in approaching individuals experiencing a meltdown as well as one item that assessed helpfulness of the training. The other group of researchers (Teagardin et al.,
2012) included ten items related to LEOs’ knowledge of ASD and two items measuring participants’ level of confidence in identifying and interacting with individuals with ASD; however, authors did not include the measure within the published article or discuss the factor structure of the knowledge section.

Although it is important for training to improve participants’ knowledge of ASD and confidence in interacting with individuals with ASD, incorporation of behavioral outcome measures would strengthen research into the effectiveness of ASD-specific training for LEOs. Researchers have proposed the following outcome measures when measuring the effectiveness of LEOs’ training programs focused on mental health disorders that could be applied to ASD-specific training: (a) number of use of force occurrences during certain calls (e.g., involving individuals with ASD), (b) supervisor ratings of empathic communication, (c) satisfaction measures of individuals of interest (e.g., individuals with ASD) that interacted with LEOs, (d) satisfaction measures of community and mental health services that interact with LEOs, (e) number of arrests compared to total number of interactions with certain population (e.g., individuals with ASD), and (f) number of injuries during interaction between LEOs and individuals with disabilities (Krameddine, Yasmeen, & Silverstone, 2015). Empirical evidence does not yet connect the possession of knowledge of ASD with improvements in LEOs’ behaviors during interactions with the ASD community; thus, behavioral change outcome measures should be utilized to evaluate training effectiveness. An essential step in measuring behavior change is to investigate and understand the behavior from the perspective of LEOs who will be expected to change their own behaviors after participating in the training.
Training facilitators may also consider including direct observations of LEOs during real-life interactions with individuals with ASD (via observation or body camera footage) as a potential behavioral outcome measure. After observing these encounters, a variety of individuals (e.g., supervisors, mental health providers, persons with ASD) could provide feedback on LEOs’ behaviors and responses, and LEOs may also benefit from self-evaluations after watching interactions as this may increase their awareness of how they approach certain encounters. In addition to the need to incorporate behavioral outcomes, longitudinal research should also be conducted to allow for exploration of the long-term effects on LEOs’ attitudinal and behavioral changes. Longitudinal studies may help training developers and implementers identify when to provide follow-up training based on when LEOs begin to lose knowledge and skills over time.

Another major finding in this review relates to the training content and format in the two identified studies. Despite statistically significant improvements in self-reported knowledge of ASD in one study (Teagardin et al., 2012), participants’ scores on the posttest remained low for both the control and training group (47% and 53%, respectively). These low scores may be related to the fact that the intervention solely involved a 13-minute video that provided a general overview on how identify and support individuals with ASD. Some disability sensitivity training programs for students and professionals have reported training that lasts between eight (Shields & Taylor, 2014) to 12 weeks (Morgan & Lo, 2013). One training for LEOs that focused on anti-stigma and mental illness lasted 3 weeks (Hansson & Markström, 2014) while one of the newest training models to support interactions between LEOs and persons with mental illness, the Crisis Intervention Team (CIT) model, consists of a 40-hour course for LEOs.
(Thompson & Borum, 2006). Given the range in durations of similar training programs, it is important to consider the appropriate length to ensure that the ASD-specific training is effective while remaining considerate LEOs’ time and other demands.

Although posttest scores remained fairly low in Teagardin and colleagues’ (2012) study, it is promising to learn that LEOs’ knowledge of ASD improved with a brief, video-only intervention. This is especially important given that law enforcement departments require LEOs to receive training on a variety of topics, from tactical skills to traffic laws. Thus, the need to focus on such a large amount of content may limit the time that LEOs can participate in a training solely related to ASD. Despite the need to receive a training on a vast number of topics, LEOs would benefit from ASD-specific training given that 20% of individuals with ASD report interactions with LEOs by the time they reach their mid-twenties (Rava et al., 2017). Providing ASD-specific training is likely to decrease the likelihood of negative outcomes during interactions between LEOs and individuals with ASD, which benefits both law enforcement departments and the ASD community.

Although the training provided in the study by Murphy and colleagues (2017) was longer than a 13-minute video, limited information about the training format and content was provided outside of the training duration of 90 minutes in length. In addition, authors note that the training content focused on awareness of ASD, communication strategies, and management of individuals engaging in ‘meltdowns’ (Murphy et al., 2017) with no discussion of their training approach. Given the effectiveness of active engagement in learning (Dunst, Trivette, & Hamby, 2010) and its focus in the andragogical approach, Dunst and Trivette’s (2009) Participatory Adult Learning
Strategy (PALS) is a useful adult training model to inform ASD-specific law enforcement training. In a meta-analysis on the PALS model, Dunst and colleagues (2010) found that the following adult learning characteristics were associated with the largest mean effect sizes (shown in parentheses): (a) identifying personalized training goals ($d = 1.27$), (b) self-assessing strengths and weaknesses ($d = 0.94$), (c) applying concepts to “real-life” ($d = 0.94$), (d) role-playing “real-life” scenarios ($d = 0.86$), and (e) completing a standards-based assessment ($d = 0.86$).

When considering results from Teagardin and colleagues’ (2012) research, low posttest knowledge scores may be attributed, at least in part, to the fact that effective adult learning strategies were not incorporated into the 13-minute video training. Knowledge of these effective characteristics (Dunst et al., 2010) can inform further training efforts, and future research should continue to examine the influence of various active ingredients in effective ASD-specific training. Regarding ASD training, role-play scenarios and examples of how knowledge of ASD can be applied directly to LEOs’ work would be beneficial. Research suggests that LEOs also prefer videos and small-group discussion when asked about preferred format for training related to mental illness (Vermette et al., 2005). It is also important for LEOs to receive feedback after they participate in role-play activities and engage in discussion (Silverstone et al., 2013). In addition, LEOs would benefit from engagement in a self-assessment process and reflection on their experiences and knowledge to continue the application of the new information and skills.

Future ASD-specific training should consider the benefits of incorporating aspects of the CIT training model given its didactic, experiential, and practical training format.
Like the format of the CIT model, ASD-specific training should focus on the inclusion of community providers, family members, and individuals with ASD as well as collaboration with mental health providers and other community stakeholders (Compton, Broussard, Hankerson-Dyson, Krishan, Steward, Oliva, & Watson, 2010; Thompson & Borum, 2006). Given findings that ASD-specific training for LEOs has the potential to improve knowledge of ASD and increase LEOs’ confidence in interacting with people with ASD (Murphy et al., 2017; Teagardin et al., 2012), practitioners and researchers should continue to explore and identify which training components, characteristics, and modalities are most effective.

**Future Research**

Given the scarcity of identified research and methodological limitations of the included studies, future research is warranted. Specifically, future researchers should utilize random sampling of participants and adequate sample sizes that include unbiased participants. In order to examine differences across cultural contexts and geographical locations, studies should be conducted in the United States and other countries as law enforcement department may differ for a variety of reasons. Both studies identified in the review are cross-sectional in nature, which suggests the need for longitudinal studies to evaluate of changes over time. There is a need for studies to explore which training characteristics and modalities are most effective to inform future training development. For example, researchers could investigate the effectiveness of video- or online-only versus in-person training. Further examination of the design and utilization of reliable, valid measures to evaluate outcomes would be useful. Lastly, outcome measures should
include direct behavioral outcomes in addition to investigating self-reported changes in knowledge, attitudes, and/or intentions.

**Strengths and Limitations of the Review**

The overall approach to this review was strengthened by the development of an a priori protocol and adherence to the PRISMA guidelines (Moher et al., 2015). An additional strength included the fact that key terms were broad, and no date restrictions were placed on the search. Only one study (Murphy et al., 2017) was found by hand-searching reference lists and conducting citation searches, which indicates that the original search was reliable in targeting relevant papers. Another strength of the study involves the collaboration of three researchers during the search and eligibility decision process. Specifically, two researchers made independent decisions regarding inclusion of articles, which resulted in a percentage of agreement between researchers of 100% during both the screening and eligibility phases.

Despite strengths of the current review, findings are limited to the search terms, databases, and journals included in the process. Although several librarians and ASD researchers were involved in selecting key terms and search engines, it is possible that not all available research was identified. In addition, the two included studies varied in the standards with which they were conducted and reported; therefore, findings are a direct reflection of methodological limitations of the included studies. Lastly, the review did not include dissertation studies unless they were published in peer-reviewed journals, which could have limited the number of identified studies.
Conclusion

Research suggests that several encounters between LEOs and members of the ASD community have resulted in a variety of outcomes, including arrest or death (Copenhaver & Tewksbury, 2018). The potentially negative consequences of these interactions highlight the need for LEOs to receive specialized training in ASD, which focus on identification of characteristics of ASD and engagement in strategies to support people with ASD. Despite the need for ASD-specific training for LEOs, the present comprehensive search of literature identified only two studies that empirically investigated effects of law enforcement training related to ASD. The two studies varied in their methodological approaches and outcomes; however, both studies utilized only short-term knowledge and attitudinal measures and included potentially bias, small sample sizes. Although both studies provide promising results (Murphy et al., 2017; Teagardin et al., 2012), the review highlights the need for more empirical evidence to establish effective training protocols for teaching LEOs to support people with ASD. Findings from the present study serve as a stepping stone to understanding available literature and act as a catalyst for further research in this area.
### Table 2.1

*Quality Scores for Critical Appraisal of Included Studies*

<table>
<thead>
<tr>
<th>Included Studies</th>
<th>Murphy et al. (2017)</th>
<th>Teagardin et al. (2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Was the purpose clearly stated?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2. Was relevant background literature reviewed?</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3. Was the study design described?</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4a. Was sample described in detail?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4b. Was the sample size justified?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5a. Were the outcome measures reliable?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5b. Were the outcome measures valid?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6a. Was the intervention described in detail?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6b. Was contamination avoided?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6c. Was co-intervention avoided?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7a. Results were reported in terms of statistical methods?</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7b. Were the analysis method(s) appropriate?</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7c. Was clinical importance reported?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7d. Were dropouts reported?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>8. Conclusions were adequate given the study methods and results?</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Score (/15)</strong></td>
<td><strong>5 (33.3%)</strong></td>
<td><strong>7 (46.7%)</strong></td>
</tr>
</tbody>
</table>

*Note: The key to scoring follows: 1 = Yes; 2 = No or not addressed. A maximum score of 15 could be allotted.*
Table 2.2  
Data Extraction of Main Findings

<table>
<thead>
<tr>
<th>Authors</th>
<th>Study 1 Murphy et al. (2017)</th>
<th>Study 2 Teagardin et al. (2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Ireland</td>
<td>United States</td>
</tr>
<tr>
<td>Study design</td>
<td>Quasi-experimental; pretest-posttest design</td>
<td>Experimental; Randomized, waitlist-controlled design</td>
</tr>
<tr>
<td>Target group</td>
<td>Police officers in An Garda Síochána, Ireland’s National Police Service, through the Continuous Professional Development unit in the county headquarters in Cork.</td>
<td>“In the field” officers, including patrol officers and detectives, from Ventura County Law Enforcement Department who spoke English and did not have a family member or close relative with ASD.</td>
</tr>
<tr>
<td>Training format</td>
<td>Not provided. Requested in October 2018.</td>
<td>The training consisted of LEOs viewing an educational video about ASD. The following topics are covered in the video: definition and key characteristics of ASD, how to identify individuals with ASD, and how to appropriately support people with ASD.</td>
</tr>
<tr>
<td>Group size</td>
<td>11 officers; no control group</td>
<td>42 LEOs in training group; 40 LEOs in control group; random assignment occurred at the cohort level</td>
</tr>
<tr>
<td>Training duration</td>
<td>90-minute in-person training</td>
<td>13-minute video training</td>
</tr>
</tbody>
</table>
Table 2.2 (continued)

<table>
<thead>
<tr>
<th>Authors</th>
<th>Study 1 Murphy et al. (2017)</th>
<th>Study 2 Teagardin et al. (2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training content</td>
<td>Not provided. Requested in October 2018.</td>
<td>The training consisted of LEOs viewing the video. The video begins with a caregiver searching for her son with ASD who has eloped. A detective who is the Crisis Intervention Training Program Director in Utah then discussed symptoms of ASD as well as strategies to respond to people with ASD. In addition, the video presents facts about ASD, including the prevalence rate, and includes three LEOs whose sons have ASD.</td>
</tr>
<tr>
<td>Training evaluation</td>
<td>Pre- and post-test survey with 5 items using Likert scales on a scale of 1 to 10 (1 = no; 10 = yes) administered immediately before and after training.</td>
<td>Pre- and post-test surveys were utilized. A 12-item questionnaire consisting of 10 questions designed to assess knowledge of ASD and 2 questions to assess participants’ level of confidence identifying and interacting with people with ASD using a 5-point Likert scale.</td>
</tr>
<tr>
<td>Training outcomes</td>
<td>Mean self-reported understanding of ASD improved significantly between pre- ( (M = 4.9) ) and post-test ( (M = 7.9) ). In addition, officers’ awareness of common difficulties experienced by people with ASD significantly improved between pre- ( (M = 4.7) ) and post-test ( (M = 8.3) ). Mean self-reported confidence around use of effective communication strategies improved significantly between pre- ( (M = 4.7) ) and post-test ( (M = 8.3) ). Mean self-reported confidence on approaching individuals experiencing a “meltdown” improved significantly between pre- ( (M = 4.0) ) to post-test ( (M = 8.8) ).</td>
<td>Results of a ( t )-test show significant improvements in knowledge of ASD based on changes in average scores on the pre- ( (M = 29%) ) to post-test ( (M = 53%) ) for the training group. For the control group, scores on the outcome measure only improved between the second pretest ( (M = 19%) ) to the post-test ( (M = 47%) ). Mean self-reported confidence in identifying people with ASD improved after the training ( (t = 4.28, p &lt; 0.001) ). Mean self-reported confidence in interacting with people with ASD also improved ( (t = 2.48, p = 0.15) ).*</td>
</tr>
</tbody>
</table>
### Table 2.2 (continued)

<table>
<thead>
<tr>
<th>Authors</th>
<th>Study 1</th>
<th>Study 2</th>
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<tbody>
<tr>
<td></td>
<td>Murphy et al. (2017)</td>
<td>Teagardin et al. (2012)</td>
</tr>
<tr>
<td>Constructs measured</td>
<td>Self-reported understanding of ASD and confidence</td>
<td>Self-reported knowledge of ASD and confidence in identifying and interacting with people with ASD</td>
</tr>
<tr>
<td>Limitations</td>
<td>Small sample size of officers from Cork, Ireland; lack of demographic information provided; limited description of training format or content; no control group; limited description of evaluation instruments and no proven validity or reliability; lack of behavioral outcome measure (only self-report)</td>
<td>Use of video-only, brief training; sample represents only one law enforcement department included; participant demographic information not provided; no analysis of behavioral outcomes; lack of standardization of outcome measure and no discussion of how 10 knowledge items were created</td>
</tr>
<tr>
<td>Suggestions for future training</td>
<td>None provided.</td>
<td>Video training alone may not be as sufficient as traditional in-person training methods, including hands-on activities. Training length should be increased beyond 13 minutes. Authors suggest practical implementation of training should be considered.</td>
</tr>
</tbody>
</table>

* = Authors report a $p$-value of 0.15 and interpret this as significant.
Figure 2.1. PRISMA flow diagram of the study selection process.
CHAPTER 3
AN EXPLORATION OF LAW ENFORCEMENT OFFICERS’ TRAINING NEEDS AND INTERACTIONS WITH INDIVIDUALS WITH AUTISM SPECTRUM DISORDER

Abstract

Semi-structured interviews were employed to (a) characterize LEOs’ knowledge of ASD, (b) understand interactions between LEOs and individuals with ASD, and (c) identify training needs to prepare LEOs for interactions with the ASD community. Researchers utilized a constructivist grounded theory approach to analyze data from 17 participants: (a) six LEOs, (b) six adults with ASD, and (c) five caregivers. Common themes included the (a) potential for misinterpretations of behavior of individuals with ASD; (b) helpfulness of a universal identification system for ASD; (c) need for interactive, mandatory training unique to LEOs’ needs; and (d) importance of building community connections between LEOs and individuals with ASD. Findings are discussed within the context of previous research related to law enforcement and ASD.

Keywords: autism, police officer, law enforcement, training, interactions, knowledge, grounded theory
Introduction

After the establishment of the Community Oriented Policing Services (COPS) model within the United States Department of Justice in 1994, law enforcement agencies across the United States have placed increasing emphasis on building relationships with all community members, including those who may differ physically, intellectually, emotionally, and socially from individuals without disabilities or mental health concerns (Bureau of Justice Assistance, 1994; Price, 2005). In particular, the COPS model focuses on prevention, effective problem-solving, as well as collaboration and partnerships with community. Highlighting the need to foster relationships with all community members, one study found that 7% of all police contacts involve people with mental health needs (Deane et al., 1999). In addition, other research suggests that individuals with developmental disabilities are seven times more likely to interact with law enforcement officers (LEOs) when compared to citizens without disabilities (Curry et al., 1993; Organization for Autism Research, 2014).

LEOs’ Interactions with Individuals with Autism Spectrum Disorder

Applying the COPS model, LEOs would benefit from increased knowledge and interactions with individuals with autism spectrum disorder (ASD) given that the current prevalence rate of ASD is now estimated at 1 in 59 children (Baio et al., 2018). As children with ASD grow into adulthood, the likelihood that LEOs will come into contact with them is increasing. In a recent study, one in five individuals with ASD reported either being stopped or questioned by police at least once by the time they were in their mid-twenties (Rava et al., 2017). Unfortunately, several encounters between LEOs and individuals with ASD have ended in negative outcomes (see Table 1.1) such as arrest or
even death (Blasius, 2016; Copenhaver & Tewksbury, 2018; Karimi, 2016; Lutz & Johnson, 2012).

Research suggests that individuals with ASD are involved in interactions with LEOs as victims, suspects, and in routine daily police contact with community citizens (Mayes, 2003; Woodbury-Smith & Dein, 2014). Specifically, individuals with ASD who exhibit unusual behaviors (e.g., hand flapping, pacing, self-harming) or elopement in the community have higher chances of coming into contact with LEOs and being arrested (Debbaudt & Rothman, 2001). During interactions, LEOs may unintentionally misinterpret behaviors displayed by individuals with ASD as challenging or disrespectful, which may help explain the rising number of incidents involving individuals with disabilities and the criminal justice system (Rava et al., 2017). Examples of behaviors associated with ASD that may be misinterpreted include aversion to police lights/noises and being handcuffed as well as difficulty navigating social rules and communicating effectively with LEOs.

One recent study found that only 42% of LEOs reported satisfaction in their dealings with the ASD community (Crane et al., 2016). Further, reports from the autism community regarding involvement with LEOs even further emphasize the need to conduct research to explore these interactions. Specifically, only 13% of caregivers of individuals with ASD reported “satisfactory” interactions between LEOs and their children with ASD, and a mere 15% of adults with ASD reported a “satisfactory” experience when describing previous interactions with LEOs (Crane et al., 2016). Although in-depth detail regarding these interactions was not provided, adults with ASD reported experiencing discrimination and lack of clarity during interactions as well as
feeling as though their individualized needs were not addressed (Crane et al.). Currently, limited research examines the experiences and perceptions of LEOs and individuals in the ASD community regarding their interactions with one another.

LEOs’ Knowledge of ASD

Although interactions between LEOs and individuals with ASD have increased, results from a few studies reveal that LEOs are often not knowledgeable about ASD and report concerns about how to appropriately respond to the needs of individuals with ASD (Chown, 2009; Crane et al., 2016). To understand LEOs’ interactions with individuals with ASD, it is important to examine their knowledge, attitudes, and perceptions of people with ASD. Further, any identified knowledge gaps or negative, stigmatizing attitudes can be targeted through educational programs.

In order to identify characteristics of ASD, it is essential that LEOs become aware of the range of symptoms individuals with ASD may present. After surveying 124 LEOs in the United States, Modell and Mak (2008) found that only 20% of LEOs were able to identify defining features of ASD. In addition, 35% of the sample reported simply associating ASD with the film “Rain Man.” In the same study, researchers suggest that while many LEOs may be able to correctly identify key characteristics of disabilities, some may be unable to distinguish between behaviors and symptoms associated with different disability groups (Modell & Mak, 2008). Lastly, one study in the United Kingdom found that LEOs self-rated their competence levels in providing support to individuals with ASD with an average of 2.63 (1 being least competent and 5 being most competent; Chown, 2009).
To date, limited research has systematically investigated LEOs’ knowledge of ASD and perceptions of interactions with individuals with ASD. In addition, little is known about the perceptions members of the autism community may have regarding actual or potential encounters with law enforcement. Without proper knowledge, LEOs may not be equipped to provide adequate, appropriate support to individuals with ASD, which could potentially lead to emotional stress, breakdowns in communication, and behavioral regulation difficulties. To inform educational and training efforts, research should continue to focus on the experiences and perceptions of LEOs regarding their interactions with and support of individuals with ASD, especially detailed accounts describing what was effective and ineffective in these encounters. The current study responds to this gap in the literature; a qualitative methodology was chosen due to the lack of research in this area and to help attain rich, descriptive data.

**Application of Adult Learning Models to Police Training Programs**

Though it is important to gather input from LEOs and the ASD community regarding training needs, it is also essential to utilize a well-developed, relevant model of adult learning and professional development to inform ASD-specific training. In regard to law enforcement professional development, Reuland and Schwarzfeld (2008) suggest that training will differ depending on the community in which LEOs are serving. Advocates for change within police training suggest that more traditional methods are outdated (Birzer & Tannehill, 2001), which has led law enforcement training research to focus on the adult-based learning theory of andragogy (Birzer, 2003; White, 2007). Proponents argue that andragogical techniques may be helpful in closing the gap between theory and practice that exists within the policing profession (Birzer, 2003). Specifically,
the model focuses on the overall needs and dispositions of adult learners, and it emphasizes the importance of collaborating with learners while planning and implementing the training programs.

As a whole, the andragogical approach takes into account many theories of adult learning and posits a set of assumptions regarding why and how adults learn, which then inform principles for facilitating learning (Vodde, 2012). Within the andragogical approach, learning is frequently self-directed by trainees while instructors facilitate the process, and the method draws on trainees’ past experiences and adapts to individualized needs of trainees while fostering critical thinking and creativity (Knowles, 1980; Knowles, 1984). Traditionally, introductory training involves classroom-based instruction that relies heavily on PowerPoint and lecture format; however, the andragogical approach emphasizes experiential, problem-based learning, which incorporates modeling and simulation of skills, role-play, group discussion, as well as use of video/film (Coleman & Cotton, 2010; Knowles et al., 1998; Vermette et al., 2005). In creating training curriculum, the andragogical approach suggests that learners’ needs are first identified via a collaborative needs assessment, which identifies trainees’ current understanding of content, any gaps in knowledge, as well as suggestions for training content and format from learners, the organization itself, and society as a whole (Vodde, 2012).

**Participatory Adult Learning Strategy**

One model that adheres to the andragogical approach and focuses on experiential learning is Dunst and Trivette’s (2009) Participatory Adult Learning Strategy (PALS) model. The PALS method of adult learning was developed from findings of meta-
analyses investigating evidence-based adult learning methods and synthesis of research studies into the most effective adult learning practices (Dunst & Trivette, 2009; Dunst et al., 2010; Trivette, Dunst, Hamby, & O’Herin, 2009). In particular, the four well-known adult learning methods delineated through meta-analyses are as follows: (a) accelerated learning (Meier, 2000), (b) coaching (Hangreaves & Dawe, 1990), (c) guided design (Hancock, Coscarelli & White, 1983), and (d) just-in-time training (Beckett, 2000). In the meta-analysis, researchers reviewed 58 randomized control design studies and estimated the influence of adult learning methods and strategies on specific learner outcomes using weighted Cohen’s $d$ effect sizes for differences in post-test scores between intervention and non-intervention participants (Dunst et al., 2010). Results suggested that the following adult learning characteristics were associated with the largest mean effect sizes (shown in parentheses): (a) identifying personalized training goals ($d = 1.27$), (b) self-assessing strengths and weaknesses ($d = 0.94$), (c) applying concepts to “real-life” ($d = 0.94$), (d) role-playing “real-life” scenarios ($d = 0.86$), and (e) completing a standards-based assessment ($d = 0.86$). In sum, results of the meta-analysis highlight the importance of active learner participation particularly in adult professional development.

Given its effectiveness, the PALS model is a useful adult training model to inform ASD-specific law enforcement training. Specifically, Dunst and Trivette (2009) designed a four-phase learning process that emphasizes active learner involvement (Figure 2) and can be applied to ASD-specific training programs. In the introduction phase, the instructor introduces the topic and illustrates how the information directly applies to practice. For example, instructors introduce learning topics, describe key elements,
incorporate trainee input, and demonstrate application. In the *application* stage, the knowledge is directly applied to situations and information related to the specific objectives of the training and needs of the population being trained. In regard to ASD-specific training programs, role-play scenarios and examples of how knowledge of ASD can be applied directly to LEOs’ work would be beneficial. During this stage, it is also important for LEOs to receive feedback after they participate in role-play activities.

In the *informed understanding* phase, trainees are asked to reflect on newly acquired information, and instructors continue to provide behavioral suggestions to better improve trainees’ skills and knowledge base. For example, trainees may complete self-assessments and engage in group discussions to allow them the opportunity to actively engage with and reflect on their learning experience. Finally, in the *repeat learning process* stage, instructors work collaboratively with trainees to identify future learning needs and plan for the ongoing learning process. During each stage, the learning process is bidirectional in that instructors solicit ongoing input from learners to enhance content mastery and true application of knowledge. As part of the training, trainees are encouraged to engage in a self-assessment process and reflect on their experiences and knowledge in order to continue gathering information and developing skills.

**Law Enforcement ASD-Specific Training**

Each state in the United States dictates its own law enforcement training requirements due to the lack of federal training guidelines (McAfee & Musso, 1995). In order to increase awareness of ASD and prepare LEOs for interactions with individuals with ASD, law enforcement departments should receive formalized ASD-specific training. In particular, the training programs should address knowledge gaps and provide
LEOs with information and skills to recognize and respond to the needs of community members with ASD. Laan and colleagues (2013) analyzed the quality of ASD-specific training curricula in seven states in the southeastern region of the United States using Debbaudt’s (2007) recommendations. Results of the content analysis concluded that each state provided ASD-specific training that were inconsistent with expert guidelines and more limited in content than recommended (Laan et al., 2013). In conclusion, the authors suggested that future training programs focus on how to identify symptoms of ASD as well as various skills that can be used to support people with ASD, especially effective communication tactics and strategies to manage crisis situations.

In another study, researchers surveyed 98 first responder agencies in New Jersey to determine if they had provided ASD-specific training (by Fall 2014) that were mandated by the state in 2008 (Kelley & Hassett-Walker, 2016). Results indicate that 23% of agencies had not provided the required training and 5% of departments stated they were “unsure” how to respond to the question (Kelly & Hassett-Walker, 2016). As part of the mandate, New Jersey required all officers hired pre-2008 to receive ASD-specific training by 2011, and findings suggest that many pre-2008 LEOs had not completed this training. After extrapolating results to the large number of first responders in the state, researchers concluded that a large number of first responders have not received the necessary training and tools to interact with individuals with ASD. Lastly, the researchers also recommended that members of the autism community, advocates, and professionals be included in the training process to ensure first responders are adequately equipped to serve community members with ASD (Kelly & Hassett-Walker, 2016).
Research surveying 394 officers in England and Wales found that only 48% of LEOs self-reported feeling well-equipped to serve individuals with ASD, and many LEOs reported that training could help them better manage emotional and behavioral reactions, sensory sensitivities, and communication needs of individuals with ASD (Crane et al., 2016). In addition, only 37% of LEOs reported that they previously have received ASD-specific training, and over 25% of officers reported dissatisfaction with training (Crane et al., 2016). When asked to explain reasons for their dissatisfaction, many LEOs reported brevity of training and lack of engagement and flexibility provided through online training programs (Crane et al., 2016). In sum, combined research highlights the need for curriculum and materials to be updated to reflect current needs of LEOs and ASD community as well as to ensure consistency with existing training guidelines specific to ASD.

Although formal research on ASD-specific training for LEOs is limited, both peer-reviewed and non-peer-reviewed training programs and response models discussed are summarized in Table 3.1. Of note, educational programs vary substantially regarding skills and backgrounds of facilitators, content, depth and breadth of material, as well as the amount of time allotted for the training. Due to the variability in type and quantity of training (Kelly & Hassett-Walker, 2016; McAfee & Musso, 1995), it is difficult to determine which components and learning methods produce the most substantial improvements related to LEOs’ behavior during interactions with individuals with ASD.

Coleman and Cotton (2010, 2017) suggest the following factors may impact learning outcomes of law enforcement training: (a) characteristics and background of facilitator, (b) formation of connections with local mental health agencies and
professionals, (c) integration of input from people with disabilities and their families into the training, (d) focus on LEOs’ attitudes and stigmatization toward individuals with disabilities, and (e) adaptation of curriculum to meet the needs of people receiving the training. Given the potential influence of these factors on training outcomes and limited systematic research on the topic, it is important to design and implement training programs using input from LEOs, individuals with ASD, and the people who support them (Cotton & Coleman, 2017).

**Purpose, Goals, and Research Questions**

By gathering information regarding LEOs’ knowledge of ASD and interactions between individuals with ASD and LEOs, results can inform future training and ensure that both content and format of training programs directly lead to attitudinal and behavioral changes. Because few research studies have focused specifically on this topic, people who develop law enforcement training guidelines and strategies may be estimating how to best support LEOs’ interactions with individuals with ASD. In response to this gap in the literature, the current exploratory study examined the perspectives of multiple stakeholders, including LEOs, caregivers of individuals with ASD, and adults with ASD, when developing ASD-specific training. Given the importance of including the ASD community in research (Pellicano et al., 2014), input was obtained from interviews with individuals with ASD and caregivers rather than information solely from LEOs.

Interviews served as a means to understand experiences and needs of the ASD community in regard to law enforcement interactions in that they allow researchers to collect rich, detailed data and to truly understand the lived experiences of participants.
In particular, constructivist grounded theory (CGT) methodology best fits the research questions given its emphasis on individual processes, interpersonal relations, and reciprocal effects between individuals and larger social processes (Charmaz, 2014). First, results of the study were utilized to (a) characterize LEOs’ knowledge of ASD, (b) understand LEOs’ previous interactions with individuals with ASD, and (c) identify training needs to best prepare LEOs for interactions with individuals with ASD. Second, the current study explores perceptions existing in the ASD community regarding interactions with LEOs and identifies recommendations to inform ASD-specific training.

**Research Questions**

The following research questions guided the study:

1. What are LEOs’ previous experiences with and perceptions of individuals with ASD and what ASD-specific training recommendations do they provide?

2. What perceptions do adults with ASD report regarding potential or actual interactions with law enforcement and what recommendations for police officer training do they offer?

3. What perceptions do caregivers of individuals with ASD have regarding their children’s potential or actual interactions with LEOs and what LEO training recommendations do they offer?

**Subjectivity Statement**

As part of qualitative research, a subjectivity statement is provided so that all related experiences of the researcher are presented transparently to ensure that readers can critically examine the trustworthiness of the research (Given, 2008). In regard to my
training and background, I have obtained a master’s degree in education and completed certification to become Board Certified Behavior Analyst (BCBA). My coursework and related field experiences have greatly influenced my desire to understand the lived experiences of individuals with ASD.

As a researcher, clinician, and advocate, several life experiences have shaped my view of law enforcement interactions with the autism community as well as LEOs’ ASD-specific training. First, I am a researcher who has previously examined school experiences of students with ASD, including attitudes of peers toward students with ASD, peers’ knowledge of ASD, and the effectiveness of autism peer education interventions. Thus, I have always been interested in community ASD awareness, beginning with my interest in ASD awareness in school settings. Secondly, I have completed practicum and internship in school, clinic, and home settings where I have provided assessment and intervention services to individuals with ASD as well as other disabilities. In these experiences, I have heard caregivers and professionals express concerns about their loved ones previous or potential interactions with law enforcement.

In addition, my own development leading to this project cannot be removed from the larger societal context that helped inform and facilitate the development of this line of research. Specifically, I began serving as a facilitator and advocate for the Police-Autism Community Training (PACT) group after an incident in Florida between an officer, adult with autism, and behavior therapist ended with an officer shooting the therapist in July 2016. After learning more about this situation, I began to consider how I could help increase ASD awareness to community members outside of the school settings where I have previously worked and conducted research. Through PACT thus far, I have co-led
ASD-specific training for law enforcement departments across the state of Kentucky and co-hosted community ‘meet and greets’ where LEOs, persons with ASD and caregivers, as well as other members of the community can gather resources and engage in conversations about how to best prepare for crisis situations. By participating in these training programs and community events, I began to consider how my dissertation research could seek to understand interactions between LEOs and individuals with ASD as well as inform future ASD-specific law enforcement training.

**Method**

Appropriate Institutional Review Board approval was secured prior to initiation of the research.

**Recruitment**

**Law enforcement officers.** LEOs were recruited via contact with local law enforcement departments (i.e., Lexington and Louisville police departments). In addition, advertisements were shared with the following training academies: (a) Kentucky Department of Criminal Justice Training (DOCJT), held on the campus of Eastern Kentucky University, (b) Southern Police Institute at the University of Louisville, and (c) Police Training Academy at Bluegrass Community and Technology College (BCTC) in Lexington. All identified training academies offer continuing and advanced training courses to in-service Kentucky officers. The DOCJT serves Kentucky county and sheriff police and university police outside of Lexington-Fayette police, Kentucky State University Police, and Louisville police.

**Autism community.** Participants from the autism community were recruited via email, social media, medical/psychological clinics, local school ASD parent support
groups, direct contact, and referral methods. E-mails with the advertisement for the study were sent to relevant listservs (e.g., Autism Society of the Bluegrass [ASBG] and Embracing Asperger/Autism Gifts and Life Experiences [EAGLE]), and individuals were asked to contact the lead researcher to express interest in the study. An advertisement was also sent to relevant medical, psychological, and behavioral clinics that serve individuals with ASD. To recruit individuals, the lead researcher also attended events where potential participants with ASD and caregivers may be present. Specifically, the researcher attended the Bluegrass Autism Walk, Lexington Autism Safety Day, two ASBG and EAGLE monthly meetings, and one monthly ASD parent support group meetings for Fayette County Public Schools.

Lastly, snowball sampling was utilized with all three groups of participants to promote the study among their relevant contact networks by sharing the advertisement.

**Participants**

A total of 17 individuals participated in the current study; 6 adults with ASD, 5 caregivers of children with ASD, and 6 LEOs. Participant sub-groups are described in detail below.

**Law enforcement officers.** Six LEOs participated in the current study. A summary of LEOs’ demographic information is provided in Table 3.2. Of note, LEOs represented a variety of ranks and positions in law enforcement departments, including patrol officers \((n = 3)\), detectives \((n = 1)\), community resource officers \((n = 1)\), and sergeants \((n = 1)\). Inclusion criteria for LEOs were as follows: (a) minimum of 18 years of age, (b) currently serving as a police officer (i.e., not a ‘LEO in training’), (c) previous experience with someone believed to have ASD based on LEO self-report, (d) ability to
use English fluently during interviews, and (e) cognitive capability to provide research consent and participate successfully in an interview.

**Adults with ASD.** Six adults with ASD participated in the study. A summary of demographic information is provided in Table 3.2. Inclusion criteria for adults with ASD were as follows: (a) current diagnosis of ASD that was confirmed based on self-report Social Responsiveness Scale- Second Edition (SRS-2; Constantino & Gruber, 2012), (b) minimum of 18 years old, (c) ability to understand and speak in English, and (d) cognitive capability to provide research consent and participate successfully in an interview. To assess capacity to consent, each participant completed the University of California San Diego Brief Assessment of Capacity to Consent (UBACC; Jeste et al., 2007; Appendix B; described in the Measures section) after reading the consent form. All six participants who completed the screening were eligible to participate based on a cut-off score of 15 on the UBACC. Scores on the UBACC measure ranged from 17 – 19, with an average of 18.5. In addition, I made appropriate modifications during the interview process to meet identified individualized needs of participants with ASD (e.g., outline of questions given prior to interview, increased use of breaks, ability to write response to questions, presence of support individual during interviews).

**Caregivers of children with ASD.** Five caregivers of children with ASD participated in the study. A summary of caregiver demographic information is provided in Table 3.2. In order to understand a diverse range of experiences, I sampled caregivers of children who are nonverbal, i.e., unable to speak meaningful words based on parent report. Inclusion criteria for caregivers were as follows: (a) minimum of 18 years old and child with ASD of at least five years old, (b) child must have a diagnosis of ASD as
confirmed by completion of Social Communication Questionnaire (SCQ; Rutter, Bailey, & Lord, 2003), (c) ability to use English fluently during interviews, and (d) cognitive capability to provide research consent and participate successfully in an interview.

Measures

Law enforcement interview schedule (LEIS; Appendix C). The LEIS was used to understand LEOs’ knowledge of ASD, previous interactions with persons with ASD, and recommendations for ASD-related training and supporting with individuals with ASD.

Adult interview schedule (AIS) and caregiver interview schedule (CIS; Appendix C). The AIS and CIS were developed and utilized to better understand the perceptions of the ASD community regarding interactions with LEOs. Caregivers and adults with ASD described any previous encounters with law enforcement and provided input regarding future LEO training related to ASD. If caregivers and adults with ASD did not report previous encounters with law enforcement, then they were asked to describe their perceptions of hypothetical interactions with LEOs.

Demographic questionnaires. Demographic questionnaires were utilized to gather information from each of the respective participant groups. LEOs provided the following information: (a) age, (b) gender, (c) race, (d) highest level of education completed, (e) years of service in law enforcement, (f) current rank, and (g) total household income. In addition, LEOs answered open-ended items in which they described prior experiences and training related to individuals with disabilities and ASD. Adults with ASD provided the following information: (a) age, (b) gender, (c) race, (d) current ASD diagnosis label, (e) highest level of education completed, (f) place of
residence (city/state), and (g) total household income, if applicable. Caregivers reported the following information: (a) their age, (b) their gender, (c) their race, (d) their highest level of education completed, (e) their total household income, (f) their place of residence (city/state), (g) their relationship to their child with ASD (e.g., biological or adoptive parent, related or non-related guardian), (h) child’s current ASD diagnosis label, (i) child’s age, (j) child’s gender, (k) child’s race, (l) child’s place of residence (city/state), and (m) child’s highest level of education completed.

**Social Responsiveness Scale-Second Edition.** The SRS-2 (Constantino & Gruber, 2012) was utilized to confirm ASD diagnoses for the adults with ASD. The SRS-2 is a 65-item rating scale used to identify the presence and severity of social impairment within the autism spectrum in individuals ages 2.5 years through adulthood. The scale can be completed by multiple raters; however, for the current study, the adult form was utilized for individuals 19 and older and school-age form for 18-year-olds. The cutoff score that indicates someone is on the autism spectrum is 60 or higher. For the current study, participants were included in the study if they scored above the cutoff score.

**Social Communication Questionnaire.** The SCQ (Rutter, Bailey, & Lord, 2003) is a 40-item screening tool for children at risk of developmental problems. In the current study, caregivers completed the SCQ, which contains items related to reciprocal social interaction, language and communication, and repetitive and stereotyped patterns of behavior. The cut-off score of 15 or greater indicates that a child is on the autism spectrum.
University of California San Diego Brief Assessment of Capacity to Consent.

The UBACC is a 10-item scale that includes questions related to an understanding and appreciation of the information concerning a research protocol (Jeste et al., 2007). In the current study, the UBACC was utilized to document that each adult with ASD manifested at least a basic level of comprehension of the study protocol prior to enrollment. After participants reviewed the consent form, they were asked the 10 questions included on the UBACC, which were each associated with an expected 2-point response (see Appendix B). Although participants had access to the consent form while questions were asked, they were expected to explain information relevant to each item in their own words. Each item was scored on a scale of 0 to 2 points, with 0 reflecting a ‘clearly incapable’ response and 2 indicating a ‘clearly capable’ response; furthermore, a score of 1 was used for ‘partially appropriate responses.’ Total scores for the UBACC range from 0 to 20, and participants were deemed eligible for the current study if they scored above the threshold of 15 on the UBACC.

Procedure

As part of CGT methodology, I kept a methodological journal during the entire recruitment and interview process (Charmaz, 2014). When participants expressed interest in the study, they participated in a phone screening process. Screening questions depended on participant type (i.e., adult with ASD, caregiver, or LEO; screening questions appear in Appendix D). After the screening, interviews were scheduled at public places (e.g., libraries) that were convenient for participants who consented to participate and met inclusion criteria. Caregiver and LEO data collection consisted of one meeting with the researcher whereas adults with ASD met the researcher two times.
During the first meeting, adults with ASD first signed the consent form and completed the UBACC (Appendix B) to determine their capacity to consent. In addition, adults with ASD answered the demographic questionnaire, completed the SRS-2 measure, described any accommodations needed for the interview, and scheduled a second meeting. During the next meeting, adults with ASD participated in the semi-structured interviews with necessary accommodations. During their meeting with the lead researcher, caregivers completed the consent form, demographic questionnaire, and SCQ before participating in the interview. Similarly, LEOs signed the consent form and completed the demographic questionnaire before their interviews. Of note, each participant was paid $30 upon interview completion utilizing grant funds provided by ASBG.

In-person interviews were utilized in order to best facilitate meaningful conversations and attend to verbal and non-verbal data (Creswell, 2007). The interviews were semi-structured to allow for flexibility and a conversational style (Creswell, 2007). Interviews lasted between 35 and 106 minutes and adhered to parallel interview schedules that were tailored to each participant group (see Appendix C). Before data collection began, interview protocols were piloted with a caregiver, LEO, and an adult with ASD to identify any necessary alterations to the interview schedules. All interviews were audio recorded, transcribed verbatim, de-identified, thematically coded, and summarized according to CGT (Charmaz, 2014). Producing verbatim transcriptions of the interviews is important to CGT methodology as this allows researchers to continuously access and code data at each step of the process (Strauss & Corbin, 1990).

Part of the consent form asked participants to specify if they were willing to be contacted one additional time to review their transcripts. Participants who indicated ‘yes’
were emailed a copy of their transcript after their interviews were transcribed. Participants were offered the opportunity to provide written feedback or schedule a phone meeting that may last up to 30 minutes to discuss their transcripts and feedback related to the research. No participants chose to provide additional feedback. Offering the opportunity for participants to review transcripts and provide clarification and elaboration ensured theoretical sampling took place to support saturation of the data (Fassinger, 2005). In addition, following up with participants addressed the trustworthiness of the qualitative research in that it is allowed for member checking, which is a technique for exploring the credibility of results (Birt, Scott, Cavers, Campbell, & Walter, 2016).

Data analysis

The constant comparative method associated with a CGT approach was utilized to understand LEOs’ knowledge of ASD, attitudes toward people with ASD, experiences with individuals with ASD, as well as ASD-related training needs. For the caregiver and adult with ASD interviews, the same methodological approach was used to understand attitudes toward LEOs, perceptions of past or potential interactions with LEOs, and recommendations for ASD-specific law enforcement training.

CGT methodology was developed as a systematic method for understanding the lived experiences of participants and developing theory by coding qualitative data, writing memos, and engaging in theoretical sampling. CGT methodology was utilized because it (a) honors the voice and experience of the participants, (b) is intentional in its consideration of context, (c) aids in theory development, and (d) recognizes the role of the researcher in interpretation (Bryant & Charmaz, 2012; Charmaz 2014). In CGT, theoretical sampling, which includes sampling data to comprise an emergent conceptual
category, is undertaken until saturation is reached. According to Bryant and Charmaz (2012), theoretical saturation occurs when the continued data gathering fails to produce new insights or properties.

The steps of the CGT process are outlined in Table 3.3. Throughout the data collection and analysis process, I wrote memos to capture the ideas, assumptions, and insights into the data (Charmaz, 2014). Memos highlighted my understanding and perception of the participants’ experiences and reflections, which is a critical step in allowing researchers to analyze the data, identify gaps, and support the development of the theoretical model (Charmaz, 2014). An example memo after an interview with a participant is provided in Appendix E. Interviewing and data analysis were both iterative processes, and steps of the process did not necessarily occur in a sequential order as listed in the table (Charmaz, 2014). In order to determine links between the data as a whole, coded data were interpreted in terms of words, context, frequency and extensiveness of comments, specificity of comments, intensity of comments, internal consistency, and big ideas noted in the data.

First, line-by-line coding of printed transcripts was performed to develop both initial and focused codes. All data were coded at the line-by-line level to ensure all data were extracted that has potential relevance to substantive categories. Themes and concepts of the data were identified during the coding phases, organized into categories, and summarized in an analytical manner. I reviewed all transcripts, and one other reviewer (JBC) coded at least one transcript for each participant sub-group at the initial and focused code level. Then, two individuals (KSR & JBC) collaborated to assemble and categorize initial codes into categories labeled ‘focused codes’ for the transcripts they
both reviewed. During the same meeting, researchers discussed code maps that they created to summarize initial and focused codes for each participants’ transcript. Data were grouped and labeled based on similar concepts using the constant comparative method, and new codes were created when data did not fit into previously established codes. A few example excerpts from participant code maps are provided (Figure 3).

Later, two researchers (KR & JBC) worked together to identify thematic categories as well as relationships between specific thematic categories. For example, descriptions of family members and friends with ASD (initial codes) were used to develop a focused code titled knowledge through personal connections, which was later categorized under the thematic category for LEOs labeled identifying prior knowledge and training related to ASD. See Table 3.4 for a code map depicting which focused codes relate to thematic categories for each participant sub-group. In CGT methodology, thematic categories are intended to focus on answering the proposed research questions. Throughout the process, if there was a disagreement regarding coding between researchers, the meaning of the narrative, codes, and themes were discussed until consensus was reached.

**Study credibility and trustworthiness.** In the present study, credibility and trustworthiness were established in a number of ways, including the consideration of data saturation and theoretical sampling, identification of researcher bias, triangulation of data, incorporation of member checking, and use of additional researcher to code transcripts. In addition, to ensure reliability and validity of results, researchers utilized methods to ensure data saturation. Data saturation is obtained when “there is enough information to replicate the study, when the ability to obtain additional new information
has been attained, and when further coding is no longer feasible” (Fusch & Ness, 2015, p. 1408). First, parallel interview schedules were structured in such a way as to facilitate the same understanding among participants within and between groups. Specifically, all participants were given the same set of semi-structured, open-ended questions, and follow-up questions were asked in a consistent manner. During the sampling and analysis process, data were integrated and compared until no new themes arose and each theme had been exhausted.

In order to address descriptive validity (i.e., accuracy and objectivity of information gathered) and engage in member checking, copies of the transcripts and related codes were sent to participants who opted to see them, and follow-up phone calls were offered. Member checking involved asking participants if the themes, arguments, or assertions developed from the codes accurately described their statements (Birt et al., 2016; Maxwell, 1992; Maxwell, 2005). Specifically, participants were given the opportunity to read, discuss, and comment on their transcripts as well as the related codes and themes. Follow-up interviews were offered to participants for clarification and elaboration of earlier interviews, if participants deemed necessary. Sending participants their transcripts and code maps following the interview provided the option for member checking to further develop emergent themes, refine ideas, as well as assess the adequacy, relevance, and meaningfulness of identified themes (Charmaz, 2014); however, no participants chose to clarify or elaborate upon their initial thoughts.

To address triangulation of data, the findings across various participant groups (e.g., LEOs, caregivers, adults with ASD) were compared to one another. Triangulation of qualitative data refers to improving the rigor of analysis by drawing information from
more than one vantage point (Leech & Onwuegbuzie, 2007; Schwandt, 2001); thus, interviewing three separate participant groups to identify themes addresses triangulation of data. In addition, 18% \( (n = 3) \) of the transcripts were coded by a second reviewer (JBC) with a specialization in CGT. Initial and focused codes were compared with those coded by the independent researcher, who was involved in the complete data analysis process.

**Results**

LEOs, adults with ASD, and caregivers shared diverse stories related to their interactions with and perceptions of one another. Table 3.4 summarizes the main thematic categories as well as focused codes related to each thematic category. Representative direct quotes from participants are included below.

**Thematic Categories for LEOs**

All six LEO participants responded to the recruitment flyer within three days of receiving it from their departments. The LEOs were diverse in years of service, age, and background training and prior experiences; they also served in a variety of roles within law enforcement departments, which allowed for reporting of a variety of experiences involving individuals with ASD. Many of the LEOs described detailed stories of their experiences with individuals with ASD who ranged from young children to adults. The LEOs shared innovative approaches to support the ASD community that can be utilized to inform future ASD training for LEOs. In addition, all LEOs identified their past training experiences and shared their perspectives regarding how to best train LEOs to support people with ASD. Main LEO themes and representative quotes are described below.
Identify prior knowledge and training related to ASD. All participants described their sources for ASD knowledge and history of training related to ASD. LEOs reported that they first learned about ASD through a variety of methods. Specifically, two LEOs (L3, L6) had prior firsthand professional experience (e.g., teaching, social work) working with individuals with ASD. One participant suggested that the initial knowledge she obtained in college over two decades ago may be outdated given the changes in understanding of ASD over time.

Well, I actually first heard about autism in college given my major…but that was between 1993 and 1998 that I went to college, so you know, obviously a lot has changed since then. But, you know, I first became familiar with it then (L3).

Other LEOs obtained knowledge of ASD through (a) their experiences with mothers who were teachers and social workers (L1, L3), (b) friendships with individuals with ASD (L1, L6), or (c) family members with ASD (L1, L5). For example, one LEO explained how helpful his mother’s profession was in shaping his understanding of individuals with exceptionalities:

My mom did stuff like this [work with people with ASD]. She’s a social worker and stuff so, I mean, I grew up around people like that. Like if I went to work with her, there were people who were just kind of, like, as a kid I had no idea what was wrong with them but they were just different (L1).

In addition, some LEOs acquired autism knowledge through textbook-type sources and media sources such as college coursework, newspaper articles, television shows, and movies (L2, L3, L6). The only LEO (L4) who did not have personal connection to ASD noted he first learned about ASD during a training provided during his training as a “basic recruit.” In fact, many LEOs reflected on prior training where they obtained information about ASD in some capacity. All LEOs obtained training on ASD through the comprehensive Crisis Intervention Team (CIT) programs that focus
broadly on people with mental illness and/or experiencing mental health crises. In addition, one LEO shared that an online training on elopement provided great detail about ASD (L1). Two LEOs received in-person ASD training; however, while one LEO (L6) easily recalled details he learned through the program, another participant’s comment highlighted the need for refresher training courses for LEOs who received the information many years ago. He stated, “I did go to some training that addressed autism a million years ago, where they covered it for a few hours, but if you ask about that, I can tell you what little I remember. It’s not very much” (L2).

Several LEOs (L1, L5, L6) attended community ‘meet and greet’ events where they interacted with individuals with ASD and their caregivers and obtained helpful resources upon completion of an ASD awareness training. Participants’ comments highlighted the benefit of these interactive, community-centered training opportunities. One LEO preferred the hands-on nature of this learning experience: “It was much better than the lecture because, well, even we would do a couple stations, I think, where we would ask them questions and their parents would try to teach them answers just in case” (L5). Throughout the interviews, many LEOs reflected on the helpful strategies they acquired through both ASD-specific and CIT training programs.

**Recalling “on the job” experiences involving individuals with ASD.** Given that LEOs’ inclusion criteria required that they had at least one prior interaction with someone they believed to have ASD while serving in their LEO role, all participants provided details surrounding these previous encounters. In particular, LEOs recalled responding to the following types of encounters: (a) domestic disputes with family members (L1, L3, L6), (b) instances of child elopement (L2, L4), (c) an interview where
a female victim with ASD reported an alleged rape charge against someone (L3), (d)
inappropriate behavior of person with ASD such as public indecency (L4), (e)
engagement in aggression and/or self-injurious behavior (L1, L5, L6). When recalling
these encounters, LEOs described their various perceptions of individuals with ASD and
caregivers.

LEOs frequently reflected on the characteristics and behaviors of the individuals
with ASD with whom they previously interacted with in their job as a LEO. Many LEOs
highlighted the deficits in social-communication skills that they recognized during their
interactions with people with ASD. LEOs noted the following characteristics associated
with ASD: (a) lack of eye contact, (b) difficulty communicating, (c) experiencing sensory
sensitivities, (d) engaging in repetitive behaviors, (e) aversion to physical touch, and (f)
vulnerability of people with ASD. For instance, one LEO stated:

I mean, the first hour he was using words and then that middle bit he was still
frantic and nonverbal. I want to say at the end he kind of came back to being
verbal, but it was normally just like audible noises. It wasn’t really words. He was
communicating with noises. (L1)

As another example, one LEO (L3) noted that support staff described a young woman
with ASD who was reporting a rape as someone who wanted to “make people happy”
and made “the perfect victim.”

In addition to describing characteristics and behaviors associated with ASD, all
LEOs reported how the individuals with ASD responded to LEOs, including themselves,
during encounters. Two LEO described separate situations where young men with ASD
reacted with aggression when the LEO tried to approach and communicate with him:

Yeah because I got close and that’s when he threw the… I got into his bubble. I
was, like,
12 feet away from him but I got into his bubble and he threw a tantrum, threw an ottoman or something at me. Because, like, if I got closer or tried to...like I raised my voice to try to talk to him, just to make sure he could hear me, he would start pounding the wall and I was like, “Okay, well I’m not gonna get through to him. (L1)

…at that moment, I was like, man, he just punched me, spit in my face, and grabbed my radio, and I was just like, what do I do? (L6)

On the other hand, the same LEO (L1) reflected on other encounters where two other individuals with ASD responded positively to his attempts to communicate. One younger teenager with ASD utilized an alternative communication system to interact with the LEO (“…we just passed the notes back and forth…” and “…then he had a little card with all the emotions on it that he pointed to when he wanted to…”) while higher-functioning young adult with ASD was able to self-advocate and verbally communicate with the LEO (“He straight up told me like, ‘I’ve got autism and it’s just too much to be here”).

Several LEOs described responses to calls they received related to individuals with ASD eloping from their homes. One notable interaction occurred when a LEO (L2) received a dispatch call around midnight from a family who was concerned that their adolescent with ASD, who had a history of elopement, had left their home. The LEO described asking the caregivers about their son’s favorite places and interests before the father identified his son’s fascination with hotel swimming pools. The LEO stated,

He just wanted to go swimming at a hotel pool. When we found him, I asked the boy why he left, he said ”I wanted to go swim. I want to swim.” So we all laughed because I guess that’s why he left home for that hotel swimming pool. (L2)

In this situation, the officer notified the helicopter pilot to avoid using bright lights to avoid overwhelming the adolescent with ASD with sensory stimulation as they searched
for him. In fact, the LEO stated that he learned to avoid using bright lights/loud noises during an ASD-specific training:

And somebody mentioned, "Well, maybe we need to get the helicopters up." And I remember thinking...maybe it was from that training where I was like, "We gotta turn off the bright lights, guys. It's gonna freak him out and he’ll never come out.” (L2)

In addition to describing the behaviors of individuals with ASD, many LEOs reflected on the role that caregivers played during encounters. Interestingly, all of the LEOs reported that caregivers were the first people to quickly disclose their children’s ASD diagnoses to LEOs either during the initial call to LEOs or when they first arrived on scene. Many LEOs shared stories that reflected on the fear and/or stress caregivers experienced when their children were either missing after eloping or engaging in aggression and/or self-injurious behavior (L1, L2, L4, L5). In some situations (e.g., elopement calls), LEOs found caregivers to be helpful. For example, one LEO stated that parents’ input was helpful in identifying an effective strategy to use after a young child with ASD eloped:

… the parents said he loved, like...it was, like, Mötley Crüe or Guns N' Roses. So we all have PAs on our cruisers so they just fired up Mötley Crüe on their cruiser and the kid walks right up to the cruiser (L1).

Despite these positive caregiver interactions, several LEOs shared stories where caregivers were not helpful during interactions between LEOs and their children with ASD. For example, one LEO stated “…mom was kinda antagonizing him a little bit…she was yelling at him” (L6). Similarly, another LEO reported the following encounter, “…he would just tell us that, you know that he doesn’t like his mom, to get her to “go away,” stuff like that. She was definitely the catalyst to him becoming
nonverbal” (L1). In both instances, LEOs found it helpful to separate the caregiver from the child in order to appropriately and effectively respond to the situation.

In addition to describing perceptions of individuals with ASD and caregivers, LEOs also recalled details regarding the roles that other individuals (e.g., neighbors, other first responders, support staff) served during encounters. Several LEOs (L1, L2, L4) recalled the helpfulness of neighbors and other caretakers during encounters. One LEO reported that support staff were helpful when the LEO was investigating details after a young woman with ASD reported being raped (L3). In addition, another LEO (L1) described a neighbor who was able to help diffuse a situation involving a young man with ASD who was engaging in aggression. Specifically, the neighbor took away the young man’s bayonet and helped him de-escalate to the point where LEOs could communicate with him.

In a few instances, LEOs relied on other first responders for support, especially if the individual with ASD was in crisis. During these encounters, the first responders sometimes brought individuals with ASD to the hospital and/or a mental health residential facility (L1), but they sometimes provided solely on-scene support (L5).

Based on LEOs descriptions of the encounters with members of the autism community, it was clear that they were interacting with many people, including individuals with ASD, caregivers, support staff, neighbors, and first responders.

**Describing ASD-specific training recommendations.** All LEOs highlighted the importance of ASD-specific training. Four of the six LEOs (L1, 2, 4, 5) suggested the ASD training should be mandatory, and two specifically mentioned that the training should be compensated (L1, 2). When reviewing LEOs’ responses, recommendations
related specifically to training content and format, and most LEOs provided suggestions about both aspects of the training.

**Content.** All six LEOs described the need for LEOs to possess knowledge of the core characteristics of ASD, especially related to social-communication deficits, sensory sensitivities, and restricted, repetitive behaviors. One LEO specifically highlighted the importance of learning ASD characteristics that LEOs are easily able to remember and access quickly during encounters: “Teach us like little things about what we may notice in someone with autism. That's huge because we work in split seconds” (L1). Several LEOs suggested that officers do not need to possess knowledge of ASD that is as comprehensive as other professionals (e.g., doctors, psychologists). Instead, a few LEOs suggested that the knowledge of ASD should be relevant to LEOs’ unique roles. For example, one LEO stated, “teach us what type of information is important for officers to know about autism from what you know?” (L6).

Half of the LEOs (L1, 2, 5) recognized the need for information related to distinguishing ASD from other disabilities (e.g., intellectual disability, attention deficit hyperactivity disorder) and mental health disorders. Further, many LEOs (L1, 3, 5, 6) suggested that the training should attempt to address misperceptions and potential misinterpretations of the behavior of individuals with ASD. In particular, LEOs referenced the fact that several characteristics associated with ASD (e.g., odd gait, repetitive behaviors, social-communication deficits) may resemble excessive drug or alcohol abuse. For example, one LEO stated:

No usually with, like I said, there’s more physical aspects you identify with people being on drugs where the eyes roll back and the other stuff. So hopefully I would see that in comparison to autism, but some of the things look the same. I’ll be completely honest, I don’t know. It would just be a situation where let’s hope I
realize it and don’t make a mistake. It would be nice to learn how to avoid that type of bad mistake. (L6)

In addition to wanting knowledge of ASD, all LEOs emphasized the need to learn effective strategies to support interactions between LEOs and persons with ASD. Specifically, LEOs highlighted the need to learn a variety of strategies such as: (a) use of effective communication strategies (all LEOs), (b) decrease use of patrol car lights and sirens (L2, 3, 4, 5), (c) de-escalation and calming strategies (L1, 2, 4, 5, 6), (d) rely on caregiver, neighbors, and/or support staff for support (L1, 2, 3, 5, 6), (e) empathic response strategies such as active listening and perspective-taking (L1, 2, 3, 4, 5), and (f) incorporation of responses that incorporate the interests of individuals with ASD (L1, 3, 6). Although LEOs suggested that the ASD training cover a variety of responses outlined above, two LEOs (L1, 3) also noted the importance of remaining flexible in using strategies as everyone person with ASD has unique needs.

**Format.** LEOs also provided suggestions regarding the format of the ASD-specific training. LEOs’ opinions varied regarding who should lead the training; they suggested the following people as potential leaders: (a) individuals with personal connection to ASD such as caregivers, and local ASD support group representatives (L2, 3, 4); (b) professionals with specialization in ASD (L1, 4, 5); and (c) LEOs with ASD and policing experience (L1, 6). Half of the LEOs (L1, 5, 6) noted the benefits of a collaborative training with facilitators consisting of LEOs, members of the ASD community, and professionals with an interest in ASD.

All LEOs emphasized the importance of making training interactive; however, interactive strategy recommendations varied amongst LEOs. LEOs recommended the following approaches to ensure the training is interactive in nature: (a) discussion
surrounding real case examples describing encounters between people with ASD and LEOs, (b) role-playing scenarios with actors portraying individuals with ASD, (c) feedback regarding their interactions during role-play scenarios, (d) small-group discussions, (e) exposure to members of the ASD community and caregivers, and (f) review of videos portraying real and/or hypothetical interactions between LEOs and persons with ASD.

Half of the LEOs (L4, 5, 6) mentioned the importance of community interactions with members of the ASD community, particularly as part of a training program. In fact, two-thirds of the LEOs (L1, 3, 5, 6) previously participated in community events where they interacted with people with ASD and their loved ones after receiving a 2-hour ASD-specific training. One LEO noted that interactions with a heterogenous group of individuals with ASD across the lifespan was helpful as part of his recent training experience: “I mean there was a lot more of a range of kids and their struggles, so I could see it firsthand. It’s good to see the kids with different problems and needs” (L5). Another LEO stated that the community interactive training was an efficient, helpful strategy to quickly gain exposure to people with ASD:

I think they’re insanely beneficial. I think it’s pretty good that you can learn if you don’t know how to recognize signs or you’ve never been actually put into a situation with somebody like that. It’s a very fast learning curve, and I feel like it’s a crash course and you’re going to learn really fast (L6).

**Suggesting need to identify ASD prior to encounter.** Several LEOs referred to the helpfulness of knowing someone has ASD before arriving on a scene and interacting with the person with ASD. LEOs noted that they could receive knowledge of ASD diagnoses through several means, including (a) disclosure by caregiver, person with ASD, staff support personnel, or neighbor, (b) presence of identification stickers/signs on
cars and houses of people with ASD, or (c) reference to special incident reports that allow
LEOs to track profiles of people with disabilities. During one incident, a LEO changed
his response strategy (e.g., did not use the sirens/bright lights on his patrol car) after a
mother disclosed her son’s ASD diagnosis to LEOs during her initial call to report a
domestic dispute with her husband: “I think she did tell us to cut off the lights. I’m not
exactly sure if she said use the silent approach, but I know she said that he was autistic to
dispatch” (L1). Several LEOs (L1, 4, 5) referenced the helpfulness of unique programs
such as programs that provide identification cards/badges to individuals with ASD, a
universal ASD symbol that is recognizable to first responders, and a special needs
incident report form. One LEO (L1) who collaborated with a mother to create a special
incident form described it as follows:

In this form, it was basically just all the questions about the child with autism.
Like, you know, it was a picture of the kid or whoever ran off or wandered, all
their information, where they went, what things they like…and what we we’re
going to try to use it as, is something we could take, report on, and then dispatch
could pull it up whenever it’s needed. Like “Oh, Timmy is, you know, this old.
He looks like this. He likes the color red and he likes Mickey Mouse songs.” You
know, helpful stuff like that. (L1)

While acknowledging that knowledge of an ASD diagnosis may come from a variety of
sources, LEOs’ stories highlighted the importance of possessing this information prior to
arriving on scene in order to ensure LEOs are able to adequately respond to the needs of
people with ASD.

**Thematic Categories for Adults with ASD**

To obtain a representative, diverse sample, all adults with ASD were invited to
participate as long as they were able to comprehend the purpose of the research, data
collection process, and their rights as participants. All six participants with ASD
responded to the recruitment flyer within one week of the materials being shared publicly in the community, and interviews always took place at locations convenient to participants (e.g., university and public libraries, community art program conference room). Although all adults with ASD showed signs of the core deficits associated with ASD (i.e., social-communication difficulties and restricted, repetitive behaviors/interests), they displayed and identified different abilities, strengths, and challenges. During interviews, four individuals (A2, 3, 4, 5) experienced noticeable sensory sensitivities, which included oversensitivity to noises (e.g., people talking outside room, faint echoing in room) and visual stimulation (e.g., lights in room, small red light on microphone). A few individuals provided details regarding previous encounters with law enforcement; however, all participants described their perceptions regarding potential interactions with LEOs, including the nature of encounters and how LEOs can best support people with ASD. Collectively, adults with ASD identified unique recommendations to inform not only the content of the training, but also the format and approach to presenting the information. Main themes and representative quotes from adults with ASD are described below.

**Describing personal ASD characteristics.** Throughout the interviews, all adults with ASD described their own characteristics and behaviors associated with their ASD diagnosis. All adults identified and referenced behaviors that may stand out during interactions to other individuals, such as LEOs. While all adults with ASD utilized words to communicate, their communication skills and preferences varied greatly. For example, two adults with ASD (A2, 4) noted that they may not use complete sentences to communicate. Further, one adult (A4) stated that he uses “broken English” to
communicate with others, and another individual described that “some people with autism can’t speak, they just make noises or say nothing” (A2). A few individuals (A2, 3, 5) noted that they have difficulties modulating the loudness and tone of their voices (e.g., “…sometimes I talk loud without realizing it”). Another adult (A6) explained that he is “lacking a particular skill in brevity when communicating verbally” while many participants (A1, 2, 3, 4, 5) noted that they tend to perseverate on their own interests (e.g., books, anime, movies, cats) when engaging in conversations with others. All participants also described difficulties with social interactions as exemplified by the following participant:

I would say they are socially withdrawn, or very socially awkward. And some of them…some of us might not speak or some of us will speak. And we also might look a bit more clumsy or uncoordinated than others. So I think if I summed it up in three things, in, like, in about 30 seconds, I would say that we appear more socially awkward or socially uncomfortable. (A6)

In addition to social-communication deficits, all adults with ASD identified their restricted, repetitive behaviors and interests. For example, most adults with ASD (A2, 3, 4, 5, 6) suggested that LEOs and others may identify them due to their gait (e.g., jumping, head swaying, toe walking). Several participants (A1, 2, 5, 6) also described their sensory sensitivities to lights, sounds, and physical touch, which one individual (A6) referred to as “sensory stressors.” While describing their characteristics related to ASD, two adults also highlighted the vulnerable nature of individuals with ASD:

Because of their vulnerability, that they would be an easier target for a predator. Sort of like a double-edged sword. (A5)

I want to go in the community, but something tells me it's not too safe to go out there right now, because I might get lost. Someone might notice and take advantage of me. (A6)
Recalling perceptions of actual and/or potential interactions with LEOs.

During interviews, half of the adults (A1, 3, 6) reported no prior interactions with LEOs while the other three adults (A2, 4, 5) reported encounters with LEOs in their past. In particular, two adults (A2, 5) interacted with law enforcement when LEOs were called to their prolonged engagement in aggression toward others (e.g., siblings, cousins, peers in a residential facility). When describing a previous time that he was aggressive to his sister, one young adult stated:

I got mad for some reason and choked my sister, but she's fine. We talked. We had serious talk and there was a couple times they had to call the police. I had to talk to them because I was mad, upset. (A5)

The same individual described another incident where a community member called LEOs after seeing him engage in inappropriate behavior with a female in a public park:

I was kind of being inappropriate and the...like at the park or something and the police talked to me about it. I just had a crush and they...it was inappropriate for me to talk to her like I did and they talked to me and it got handled. The policeman talked to me and gave me a lecture, I was a little bit nervous, but it was handled. (A5)

Lastly, another adult with ASD (A4) interacted with LEOs twice during separate incidents when his bicycle was stolen on two different college campuses. During both incidents, the young man with ASD relied on his parents to provide guidance and follow-up with the department regarding the stolen bicycle.

When describing hypothetical and real encounters, the majority of adults (A1, 2, 3, 5, 6) noted they would most likely feel anxious and/or overwhelmed while interacting with LEOs (e.g., “I'd probably be freaking out just a little. I might be shaking. I might not be vocalizing or I might be making odd noises” [A3] and “I think I would tense up,
become anxious, wouldn’t look very smooth, relaxed, I’d be moving, you know, just very rigid. I think I would probably find myself to be a little more scatterbrained” [A6]). As they continued to describe real and hypothetical encounters, adults with ASD noted the likelihood that they would experience difficulty (a) initiating conversations with LEOs (A1, 2, 3), (b) engaging in reciprocal conversations (A2, 3, 5, 6), (c) maintaining appropriate eye contact (A1, 3, 6), (d) controlling their repetitive behaviors such as motor and vocal tics (A2, 3, 5, 6), and (e) regulating their facial expressions (C1, 3, 6). Several adults with ASD (A1, 3, 6) also predicted that they may engage in excessive questioning if interacting by LEOs, and two young adults (A1, 3) noted that they may use blunt language during some interactions (e.g., “I can be very, very blunt. I’ve got a small filter for my words, but if someone really pressed me, I could get very rude, very fast” [A3]).

As a group, adults with ASD expressed a variety of perspectives regarding the likelihood that they would disclose their ASD diagnoses to LEOs. While four adults (A1, 2, 3, 6) believed it would be helpful for LEOs to have knowledge of their ASD diagnoses (e.g., “I would try my best to explain to them that I’m autistic” [A2]), one adult (A5) stated he would only tell LEOs about his ASD diagnosis if he needed medical support. Further, one adult with ASD (A4) noted he was hesitant to disclose his diagnosis to anyone, including LEOs:

I have my friend who's, like, kinda like... I have my friend who, when he was a kid, he was acting different. Sometimes he didn't want to confirm that he's autistic because he would probably get rejected. That’s like how I feel about telling people like police officers that I’m autistic. (A4)

In addition, the majority of adults with ASD (A2, 3, 5, 6) described their fears that LEOs may misinterpret their behaviors. One adult suggested that LEOs should avoid judging the communication abilities of people with ASD: “I hope they don’t judge people
like me or think we’re bad when we’re talking, you know, when we’re trying to express ourselves” (A2). Other individuals feared that their lack of eye contact and repetitive motor behaviors would lead LEOs and community members to believe they are suspicious: “…just because I don't meet your eyes and move like this *flapped arms repeatedly* doesn't mean I'm hiding something” (A3) and “… my mom told me to stop my rocking my body anyway…. she thinks people will call the police on me because I know it looks strange to people” (A5). Half of the adults with ASD (A1, 5, 6) feared that LEOs may believe they are under the influence of alcohol or illegal substances. For example, one adult with ASD stated that LEOs “need to learn about us so that we're not misperceived as being on drugs, because we have a big drug problem in…well, everywhere. You know, the whole country” (A6). Two individuals referenced the fact that their repetitive behaviors may lead others, including LEOs, to think that they’re “on drugs” (A1) or “high or drunk” (A5); however, one young man was hopeful that training for LEOs may decrease these potential misperceptions: “…that's why it's so important to have things where police can learn about me so they don’t think I’m just some person who is high or drunk” (A5).

**Identifying what they want from LEOs during interactions.** Adults with ASD shared what they believe may help increase positive interactions between LEOs and members of the autism community. Most adults (A1, 4, 5, 6) suggested it would be helpful for LEOs to be able to quickly recognize characteristics of ASD such as lack of eye contact, atypical gait, deficits in expressive language, difficulties navigating social interactions, and restricted, repetitive behaviors and interests. To help LEOs prepare for interactions, one adult (A2) noted that it may be helpful for law enforcement departments
to have files with important information for people with ASD in their communities.
Specifically, the young man stated that the file should contain a “list of my medications, 
information about me, and my family, who's my emergency contact in case it gets really 
bad and I need help” (A2).

In addition, several adults (A1, 2, 5, 6) referenced a variety of specific support 
strategies that they believed would lead to the most successful interactions such as (a) 
focus on de-escalation, (b) decrease use of weapons and physical force, (c) utilize 
effective communication skills (e.g., calm tone, simple phrases/directions), and (d) 
maintain personal space and limit number of LEOs who engage with person with ASD.
Half of adults with ASD described their desire for LEOs to remain patient (A1, 2, 6) as 
well as display compassion and empathy toward the autism community. For example, 
one young man with ASD (A2) noted that he hopes LEOs who received ASD-specific 
training will “better understand how we work and function” and learn “not to judge a 
book by its cover.” During interviews, four adults with ASD (A1, 2, 4, 6) identified their 
wishes that LEOs would get to know the unique characteristics and perspectives of all 
individuals with ASD, including those within their local communities. For example, one 
young woman stated “my world is a little different than how other people's world is. 
They need to get that… that's part of my condition. I look at the world in a unique way 
and they need to get to know me” (A1).

**Providing recommendations for ASD-specific training.** All adults with ASD 
offered a variety of recommendations regarding the format and content of ASD-specific 
training for LEOs. The majority of adults (A1, 2, 4, 5, 6) stated that the training should 
be mandatory for all LEOs. Further, one adult referenced the increasing prevalence rate
as a reason to ensure all LEOs have at minimum a basic understanding of ASD: “well, I think it should be more mandatory because, for the simple reason that the autism population is growing, and growing, and growing” (A6). Participants possessed varied opinions regarding who would serve as training facilitators; adults recommended the following individuals as effective training facilitators: (a) LEOs with ASD experiences, (b) professionals with specialization in ASD, (c) individuals with ASD, and (d) family members of individuals with ASD. Several adults (A1, 5, 6) suggested that collaboration between the aforementioned groups may lead to the most effective training. One young man also highlighted the unique nature of including members of the ASD community as training facilitators:

I actually would be happy to help with the training. I think it should be a person that has autism because they experience it first-hand. I would teach them the way that we work, especially, I know the most about it… a teacher that doesn’t have autism could leave out parts that she or he didn’t know. (A2)

When describing content that should be included, all adults with ASD noted that training programs should provide knowledge of ASD, including identifying (a) differences in social-communication abilities (A1, 2, 3, 5, 6), (b) restricted interests (A2, 3, 4, 6), (c) repetitive behaviors (A2, 3, 6), (d) difficulties understanding humor and sarcasm (A1, 3, 5), and (e) sensory sensitivities (A2, 3). In addition to describing common characteristics and behaviors associated with ASD, the majority of adults with ASD (A1, 2, 3, 4, 6) suggested that LEOs should learn about the heterogenous nature of ASD, with one adult stating that training programs should cover “the whole spectrum” since “there are no two people with autism alike” (A6). Most adults also recommended that the training content review differences between ASD and other disorders such as mental health concerns and other disabilities (A1, 2, 3, 5). For example, one adult stated:
Sometimes they all get bundled together with each other, so it might be up to you whether you'd teach them all together, but personally, I'd rather it was taught separately. It's a separate diagnosis. They should know the differences between them because they're all different. (A3)

While presenting information, all adults recommended that facilitators share information that prevents misperceptions and misinterpretations of the behaviors (e.g., lack of eye contact, atypical gait) of individuals with ASD. One adult (A4) hoped that LEOs would understand that people with ASD are “not all criminals” while several other participants (A2, 5, 6) believed LEOs may associate ASD-related characteristics with the behaviors seen in individuals under the influence of drugs. One young man with ASD elaborated on this belief with the following explanation: “it could look like I’m on drugs, but I’m not. I’ve never had a drug in my life. Sometimes police just don't know if they're dealing with someone who's on drugs or someone who just has autism or something” (A2).

Adults also emphasized the importance of teaching LEOs strategies to support people with ASD during interactions. The most common strategies that adults recommended should be covered during training include (a) calming/de-escalation strategies such as providing access to “a calm space” and “stress balls/fidget spinners” (A1, 2, 3, 4, 6) and (b) effective communication skills such as using a gentle tone of voice and asking direct questions (A2, 3, 4, 5, 6). As an example, one adult made the following suggestion:

Teach them to use just a gentler tone of voice for someone on the lower functioning end of the spectrum…but with me, since I’m high-functioning, you could probably be a bit less gentle but still don't go too hard with me. And definitely be specific when you ask questions. If it's not specific, I'm not gonna be able to answer (A3).
Half of the participants (A2, 4, 5) suggested that LEOs should learn effective strategies to use while interviewing individuals with ASD such as providing breaks, ensuring the individual with ASD remains “comfortable,” allowing family members to be present during interview, and asking questions at a “slow pace.” Further, several adults with ASD (A2, 3, 5) also believed that LEOs should contact and rely on caregivers and/or support staff during all calls involving individuals with ASD.

A few participants (A2, 5) also identified that helpfulness of training LEOs to recognize when they need to involve mental health agencies and hospitals to support individuals with ASD. When providing training recommendations, one young man stated:

Yeah, and just try to figure out what the problem is and seeing if they need more help than the police can give…like going to hospital or getting help from someone. They should know how to do that because it’s something they probably don’t know. (A5).

This same individual, who had reported several previous encounters with LEOs in three different cities within the United States, also mentioned the usefulness of an effective identification system that would allow law enforcement departments to keep a record of his information, including unique needs, medical history, and contact information. He suggested:

Police should keep like a record of my disorders. Just put it on file in case they need to know my medications if I go to the hospital…. Probably my family, who's my emergency contact in case it gets really bad and I need help” (A5).

In addition to recommending content and outcomes they hoped would be considered when developing ASD-specific training programs, all of the adults with ASD highlighted the importance of presenting information in an interactive nature. As a whole, participants provided the following recommendations regarding approaches that
would ensure the training is interactive: (a) interactions and discussions with people with ASD during training (A2, 3, 4, 5, 6), (b) case examples that discuss “famous people with autism” or “stories from the news” (A1, 3, 4, 5), (c) small- and whole-group discussions (A3, 5, 6), (d) inclusion of videos (A2, 4, 5), and (e) use of roleplay scenarios (A1, 3, 5). One participant (A3) identified a variety of scenarios that she believed would be helpful to include when training LEOs. In particular, she described the following calls where LEOs may interact with individuals with ASD: (a) a man with ASD is reading in public park and staring at children playing in park, (b) community member calling LEO after observing an individual with ASD engaging in hand-flapping, (c) a child with ASD has eloped from their home and parents call police, and (d) a young woman with ASD is “somewhere up high screaming or just sitting…and the officers need to talk them down.” Although a variety of strategies were recommended, all adults with ASD felt that it was important that the training is hands-on and involves active learning techniques.

**Highlighting importance of community interactions with LEOs.** Beyond learning about ASD through a training, several adults with ASD (A2, 5, 6) emphasized the importance of LEOs remaining engaged in their communities and interacting with the ASD community. One individual who recently moved to the area benefited from meeting LEOs at a local ‘meet and greet’ event in the community:

Because I didn't know any of the police in Kentucky until I met them… I know the police in Baltimore because I lived there for awhile, but no one knows me here except my close relatives and family. And I just thought I should go to the community event because it'll be easier to know the police here. (A5)

Further, the young man found the event to be so helpful that he expressed his wish to receive unique training, involving roleplays and repeated practice with LEOs, regarding how to interact successfully with LEOs in the future:
I want to learn like how to act appropriate with an officer and to be...to try to see how to correctly ask the right questions and find like the right words to… help the situation out the best. I want to practice that with an officer. (A5)

In addition to referencing ASD-specific community events involving LEOs, one adult with ASD (A6) suggested that active engagement in the community helps build others’ trust in law enforcement departments as a whole:

...because we're all familiar with the ‘shop with a cop’ event and, you know, especially all this stuff around the holidays that, luckily, we're getting to see more of that in the local news. It’s good to see them out there with all different people and these events kinda help to build community trust. (A6)

During all interviews, anytime that adults with ASD referenced LEOs engagement in their local communities, the stories and experiences were always shared within a positive framework and highlighted benefits for both law enforcement and the autism community.

**Thematic Categories for Caregivers**

As a result of purposeful sampling to obtain a varied sample, the caregivers were diverse in many ways, which allowed for analysis of a variety of unique perspectives. Specifically, one father and four mothers participated, and caregivers represented both rural and suburban communities in the same state. Four caregivers discussed their sons with ASD, and one mother described her daughter with ASD. Two caregivers reported that their sons were nonverbal while the other three children with ASD ranged from speaking in three to four-word phrases to using full sentences to communicate.

Caregivers discussed their children’s background and characteristics associated with ASD as well as their fears regarding their children’s’ interactions in the community and with LEOs. Several caregivers had previously tried to build connections with their local law enforcement departments through a variety of ways (e.g., attempting to organize autism training, introducing son to police, attending citizen’s police academies). As a
whole, caregivers shared a variety of information that can inform future ASD-specific training. Main caregiver themes and representative quotes are described below.

Describing children’s characteristics and behaviors associated with ASD. All caregivers described their children in detail, including their characteristics and behaviors associated with ASD. For instance, all participants provided details about their children’s social-communication deficits, which is a core feature of an autism diagnosis. Two caregivers (C2, 3) noted that their sons would experience difficulty communicating with LEOs given that they are nonverbal. In addition, three participants (C1, 4, 5) noted that their children typically communicate in full sentences but may experience difficulty conversing with LEOs if they were overwhelmed during interactions. Specifically, one father (C5) identified two similar instances where his son, who typically communicates in “broken English with short phrases,” had difficulty describing his needs to the college police department when he lost his bicycle on campus. Caregivers also noted the following characteristics related to their children’s communication skills: (a) repetitive speech, (b) off-topic, tangential conversations, (c) difficulty regulating voice volume, (d) lack of awareness of nonverbal behavior such as their own facial expressions, (e) misuse of pronouns, and (f) difficulty with reciprocal conversations. Although the sample of children was heterogenous in nature, they all experienced common difficulties communicating with others in a variety of settings.

In addition, all five caregivers identified their child’s restricted, repetitive behaviors and interests, including those behaviors that LEOs and others may perceive as odd or inappropriate. Caregivers noted their children experience restricted interests such as books and fantasy fiction (C1); dinosaurs and YouTube videos (C2); limited interest in
science-fiction books (C4); and fascination with animation (C5). For example, one mother explained that LEOs may witness her daughter engage with her restricted interests if she was overwhelmed: “you may see her read her book, they are her barrier between her and the world, this is where she disappears to if stuff starts to get stressful” (C4). Caregivers (C1, 2, 3, 5) also expressed their fears that their children’s repetitive behaviors (e.g., body rocking, hand flapping, excessive questioning, jumping) may seem odd or inappropriate to LEOs and others. One mother explained:

He likes to see things, and you know, so he might ask, “Can I see your gun?” Or he might even ask, “How do you shock somebody?” like he’s not gonna think, of, you know, how that would sound to officers. (C1)

Three caregivers (C1, 3, 5) were concerned that their children may not realize that it is inappropriate to grab or reach for LEOs’ shiny badges. For example, one mother stated, “If he's standing there next to an officer, it's because that officer has something shiny, like a badge, that my son wants to play with or grab. I don’t think officers expect people to touch their uniforms like that” (C3).

Lastly, four caregivers (C 2, 3, 4, 5) described the difficulty their children experienced navigating the community and public spaces. Two of these children with ASD were young adults in their mid-twenties (C4, 5) while two children were nonverbal and below the age of 12 years old. The mothers of the younger children with ASD both expressed difficulty navigating community spaces like malls and grocery stores due to their children’s engagement in meltdowns and aggression in public. Both of those caregivers (C 2, 3) noted that their families tend to avoid community environments due to the stress these situations have caused in the past. The caregivers of the older children with ASD (C4, 5) both noted concerns that their children have difficulty during everyday
life circumstances, including doctors and dentist appointments, navigating public transportation systems, and walking around the community. As an example, one mother (C4) described a potentially-dangerous incident where her daughter was lost in her own world while reading a book as she crossed the road on her walk home from work.

**Expressing fears related to children with ASD.** During the interviews, all five caregivers highlighted a variety of fears they experience surrounding their children with ASD. Two mothers of sons who are nonverbal (C2, 3) emphasized the vulnerable nature of their children given their limited communication skills (e.g., they may not respond when others ask them to in public, they may have difficulty expressing their needs. One caregiver expressed concerns related to the fact that her son is “easily manipulated” or “too trusting” (C1) while three others identified similar fears related to their children’s vulnerability. One mother stated:

I know she’s vulnerable. She could certainly be taken advantage of and we worry about that all the time…. you know, somebody tried to get money from her, I think she could be fooled because she doesn’t get the social cues enough to know if someone’s…she's not gonna get that vibe that this person is legit or not (C4)

In addition to expressing fears over their children’s potential vulnerability, four caregivers described concerns that others may judge their children with ASD. For example, one parent noted that others may “think something is wrong with” her son if he speaks in a louder tone in public or asks too many questions (C1). Similarly, one mother described that people may have the following reactions to her daughter when she is engaging in tangential conversations related to her restricted interests: “they may be really disinterested, ignore her, or maybe even think, ‘Hey, she is a little odd’” (C4). Beyond expressing fear over hypothetical encounters, two caregivers described stories
within the last few months where they perceived judgment from others when their sons were engaging in tantrums in a local grocery store (C2) and mall (C3).

While reflecting on how LEOs may perceive their children’s behaviors, all five caregivers identified the potential for misinterpretation and/or misperceptions of behavior without proper training. Both caregivers of the nonverbal children with ASD expressed concern over how LEOs would interpret their children’s behavior (C2, 3): For instance, one stated,

I mean, my guess would probably be they'd think he's aggressive, because it just sounds like a growl when he’s angry, when he’s trying to express himself, and they'd be like, "This seven-year-old is about to attack me.” (C2)

Another caregiver feared that LEOs may misinterpret daughter’s lack of response as disrespectful: “I worry they would think she’s ignoring them and being disrespectful, when really, she is just in her own world, we call it GIRL’s world. She does it all the time with us, we really have to get her attention for her to respond” (C4). Interestingly, several caregivers specifically brought up the fact that LEOs may misinterpret certain behaviors (e.g., repeating phrases, odd gait) as similar to the behavioral effects of someone who is under the influence of drugs and/or alcohol.

Perhaps most concerning, several caregivers (C1, 2, 4) described their fears regarding potential negative outcomes if their children were to interact with LEOs who did not know how to support individuals with ASD. For instance, one participant (C4) feared that an interaction “could go south pretty quick” if LEOs were aggressive and confrontational in nature with her daughter. Further, one mother summarized perhaps some of caregivers’ greatest concerns regarding their children’s interactions with law enforcement:
I fear them not taking 30 seconds to evaluate the situation, someone shooting him, or someone trying to restrain him without like giving him cues that it's going to happen if, you know, he runs and they need to go find him and they are like, oh hey, we found him, we're gonna restrain him and put him in the back of the car. You know, those situations are not gonna end well. (C2)

**Identifying wishes and hopes for children with ASD.** Caregivers shared their hopes for their children with ASD related to both their overall functioning in the community as well as their interactions specifically with LEOs. All participants referenced their desires for their children with ASD to advocate for themselves and increase their independence. For example, several caregivers (C1, 2, 3, 4) described their hopes that their children will be able to utilize ASD identification cards with community members and LEOs to disclose their diagnosis to others. One caregiver identified goals of teaching her 28-year-old daughter with ASD to navigate public transportation as well as attend doctor and dentist appointments alone (C4) while another shared her desire for her son to be safe playing outside in their backyard without eloping (C2).

Caregivers highlighted the fact that their children would be able to use ASD identification cards, gain independence, and advocate for themselves if given appropriate training and repeated practice. Four caregivers (C2, 3, 4, 5) specifically emphasized the helpfulness of a training for their children with ASD to obtain skills that support successful interactions with LEOs. While one caregiver (C2) identified a time she taught her son to use a picture communication system with LEOs during a community ‘meet and greet’ event, another caregiver (C5) described taking his son with ASD to the local police department to introduce him to LEOs. One mother provided a unique approach to training for individuals with ASD:
I think a training would actually be really helpful. I may even mention that to the Aspie group that it'll be useful to get an officer to come in and train them. I would want them to learn how to stay safe and how to really view it as an interaction that’s designed to keep you safe. “The officers’ trying to help you” or “the officer’s trying to prevent something harmful that’s happening around you.” Just do what they tell you and this is why they’re asking you to do what they’re asking you to do.” (C4)

**Highlighting what they want from LEOs during interactions with children with ASD.** One major theme related to caregivers’ desire for LEOs to display compassion and a sense of humanity when interacting with their children with ASD. Four caregivers (C1, 2, 3, 5) identified their hopes that LEOs will understand the perspectives of others as well as take a general interest in their children with ASD and their families. For instance, one caregiver suggested:

> Just be understanding…the people you’re talking to are human, you know? They’re not all criminals and you don’t have to look at it as, “Well, since I don’t know who’s a criminal, everybody’s a criminal.” (C3).

When describing how LEOs can support individuals with ASD during interactions, several caregivers (C1, 2, 3, 4) emphasized their desire that LEOs keep their children safe as evidenced by one caregiver’s statement: “I want security and protection because my son is too trusting with people” (C2). Further, three caregivers (C1, 2, 5) specifically mentioned their hopes that LEOs remain patient and offer support to families during interactions. One caregiver (C1) described a real-life encounter when she was stopped for a speeding ticket, and the LEO allowed her time to help her son with ASD calm down after noticing he was having a tantrum in the backseat. She stated, “I was able to help my son because the state trooper didn’t interfere with what I was doing” (C1). Two caregivers (C1, 2) suggested LEOs would benefit from understanding caregivers’ perspectives and experiences; for example, one stated:
I think it's different because they look at parents as just these, "Oh, it's just another typical upset mom." But they don't understand what it's like, the fears that we have. Like, every parent has fears for their child, but you have your typical mainstream kid worries that you have on top of a completely different one, and I think that's what they don't understand. (C2)

Providing recommendations for LEO training related to ASD. Throughout the interviews, caregivers frequently provided training recommendations that can be utilized to inform future training initiatives. All five caregivers proposed that the training should be mandatory; however, caregivers provided a few reasons for this suggestion. Specifically, one caregiver (C2) noted that “autism is still a thing people don’t necessarily know about” while another referenced the increasing prevalence rate as a reason for LEOs to receive training:

I think they shouldn't be given a choice. They should absolutely have to participate in something like that. Because let's face the reality of it, they're going to come into contact with children who have autism, and adults who have autism. (C3)

Further, one father preferred that all LEOs possess at least some knowledge of ASD as opposed to only “a few autism specialists because you never know if your autism specialist is working on a different shift or at the other end of town” (C5). Rather than providing only one generic ASD training for law enforcement, two caregivers (C2, 5) suggested it may be helpful to design separate training programs to address the various roles (e.g., patrol, detective) that LEOs serve.

All caregivers identified various knowledge related to ASD that they hoped would be included in future training programs. Caregivers shared characteristics of ASD that LEOs may be able to identify during their interactions such as hand flapping, rocking, walking on tip-toes, odd gait, lack of nonverbal behavior, difficulty with expressive language, social skill deficits, lack of eye contact, sensory sensitivities. While the
previous list serves as examples of characteristics, four caregivers specifically suggested that LEOs learn about the heterogenous nature of ASD. For example, one caregiver (C3) stated, “You know every time they could work with a different person with ASD, you know, out in the environment, because they all act different.” Several caregivers (C2, 3, 4) emphasized the need to specifically highlight the unique aspects and needs of someone with ASD who is nonverbal. In addition to learning about ASD, two mothers (C1, 2) suggested that LEOs should be able to differentiate between ASD and other mental health concerns and disabilities such as Down Syndrome, Schizophrenia, and “other mental illnesses.”

In addition, all caregivers described similar response strategies to teach LEOs that would help support individuals with ASD. Specifically, caregivers provided the following suggestions: (a) de-escalation/relaxation techniques (all), (b) incorporate restricted interests/objects of individuals (all), (c) rely on caregivers for support and input (all), (d) use simple language with calm tone (C1, 2, 4, 5), (e) consider sensory sensitivities by decreasing use of lights/loud noises/physical touch (C1, 2, 3, 4), (f) provide processing time, (C1, 3, 4), (g) look for identification tags/badges/stickers/cards (C1, 2, 3), (h) utilize alternative communication strategies such as visual board/sign language (C2, 3), (i) offer personal space (C3, 5), and (j) prepare for transitions (C2). In addition to learning the aforementioned strategies, three caregivers (C2, 3, 4) noted that LEOs should obtain knowledge about elopement as it relates to ASD. When reflecting on the training format, all caregivers recommended the need for interactive training experiences for LEOs. Two caregivers (C1, 2) described the limitations of lecture-only and online training. Further, caregivers proposed the use of videos, case studies, small-
and large-group discussion, and role-play scenarios with feedback to ensure training programs are interactive. Several caregivers (C1, 2, 3, 4) emphasized the helpfulness of including individuals with ASD and their caregivers as training facilitators, “actors” in roleplay scenarios, or during events that provide structured time for LEOs to interact with members of the autism community.

**Importance of community connection between LEOs and ASD community.**

As a whole, caregivers described their desire for LEOs to remain actively engaged in their communities. One event that all caregivers believed would benefit both the ASD and LEO communities are ‘meet and greet’ events in local schools and local communities. After attending one ‘meet and greet’ in their communities, two mothers (C2, 3) noted that the event provided a space for LEOs and members of the ASD to interact and communicate with one another in non-crisis encounters. These caregivers suggest that LEOs may experience these potential benefits after participating in ‘meet and greet’ events:

Seeing them in that element, I think, would help as well. I think that's great because how kids act at school and how they act at home, and how they act out of meet-and-greet or a place that they potentially never went to is completely different. So seeing them in a school that they've been at, you can see them more in their element, and you can see more typical behaviors that they would have. (C2)

I really just wanted them to see that the spectrum is so big, and I wanted them to see just the range of the people that they would interact with on a daily basis. It was obvious the police officers could see, “Wow, this is really different,” because nobody was acting the same. (C3)

The majority of caregivers (C1, 2, 3, 5) described hopes that LEOs would connect with children with ASD in their neighborhoods, sectors, and greater communities. Three caregivers (C1, 2, 3) noted that LEOs should become involved with local community
programs and agencies that support people with disabilities, including those with ASD.

One mother believed that LEOs’ community presence and relationships with the ASD community could both combat her fears related to her son with ASD as well as improve others’ trust in LEOs:

“That's why I think even in the community the officers, all police, should be talking to children with autism because there's so much bad stuff on TV. So, you know, if you can talk, if you see them in a restaurant, McDonalds, wherever, don't make it like you're the, you know, tough dude, you know, that you're there to help...If they could just be in the community, that would give me a sense of security, because my son is too trusting with people. That if, say, when he's a little older, if they see him, you know, they know a little bit of, you know, like, "Oh, let's help him because he can be vulnerable," you know. (C1)

In addition to wanting LEOs get to know children with ASD, one father (C5) suggested that caregivers could take measures to ensure that members of the community, including LEOs, are aware of their children’s ASD diagnoses and needs:

“One of the things is just to let people know that your kid has autism, let the community know. So as opposed to just hiding in your home, you know, at least the neighbors know that you have a child with autism. Some people even proactively say "Let the police department know." That’s what we did with my son at least. (C5)

**Discussion**

In the present study, seventeen participants, including six LEOs, six adults with ASD, and five caregivers, described their interactions with and perceptions of one another. All participants also offered recommendations related to ASD-specific training for law enforcement departments. In addition to within-group themes provided in Table 3.4, four themes emerged across participant groups, including the (a) potential for misinterpretations of the behavior of individuals with ASD; (b) helpfulness of a universal identification system/symbol and disclosure of ASD diagnosis prior to encounters; (c) need for interactive, mandatory training unique to LEOs’ needs and roles; and (d)
importance of building community connections between LEOs and people with ASD.

Table 3.5 highlights representative quotes associated with the four common themes across all three participant subgroups. Common themes are discussed below.

**Potential Misinterpretations of Behavior of Individuals with ASD**

Participants’ narratives suggest that they recognize the potential for LEOs to misinterpret or misperceive the behaviors of individuals with ASD, which may lead LEOs to conclusions that individuals are under the influence of alcohol/drugs, being violent/aggressive, or being disrespectful. Participants’ concerns fall in line with previous research that suggests that LEOs may misinterpret the lack of social or emotional reciprocity displayed by individuals with ASD as a sign of inference of lack of remorse (Mogavero, 2018). In addition, Dennis Debbaudt, a professional investigator and parent of a son with ASD who was the first person to address police-related ASD issues in the 1990s, noted that a variety of behaviors and characteristics associated with ASD (e.g., aloof body language, inappropriate laughter, loud tone of voice, failure to respond to commands) may be misperceived by untrained or uninformed LEOs (Debbaudt, 2004; Debbaudt & Rothman, 2001).

To avoid misconceptions about ASD and misperceptions of behavior, it is imperative that LEOs receive training to help them identify the wide range of characteristics associated with ASD. In one study, researchers found that an online training module was effective in teaching LEOs in Kentucky to differentiate between signs of alcohol intoxication and a traumatic brain injury (TBI; Shackelford & Nale, 2016). Researchers discuss the importance of this skill given the substantial overlap between the signs of TBI and intoxication such as slurred speech, impaired motor
coordination and balance, mood changes, nystagmus, anger outburst, and delayed verbal response and response to LEOs’ requests. To teach LEOs about these similar symptoms and signs, researchers designed and utilized a 30-minute online training that included topics such as (a) overview of TBI; (b) difficulties with motor movements, communication, cognitive skills, and emotions; (c) signs that someone has a TBI; (d) differentiating between alcohol intoxication and TBI; and (e) handling encounters with someone with a TBI (Shackelford & Nale, 2016). Similarly, LEOs would benefit from training that not only taught them how to identify and support someone with ASD, but also how to differentiate between signs of ASD and those associated with substance use.

In addition to increasing LEOs’ knowledge of ASD, they would benefit from learning how to effectively respond when interacting with individuals whose behavior may be easily misinterpreted. For example, when encountering an individual who is exhibiting potentially aggressive behavior or is unresponsive to LEOs’ commands, officers should remember that the individual may have ASD and could be frightened or overwhelmed. As an alternative to responding with restraint and risk escalating the situation, LEOs may consider providing a calm environment, extra personal space, or additional wait time to allow the individual to relax and process the situation. Similar to fears expressed by one caregiver in the study that her son may be shot, one adolescent with ASD, named Paul Childs, was shot and killed by LEOs after becoming agitating and pacing the room with a kitchen knife (Osborn, 2008). To prevent further negative outcomes and increase LEOs’ understanding of ASD, law enforcement departments should offer training that directly combats potential misinterpretations while also
reviewing more effective response strategies that LEOs can utilize to support individuals with ASD during interactions.

**Helpfulness of Universal System/Symbol and Disclosure of ASD Diagnosis**

Many participants in this study described the need for a universal system and symbol to alert LEOs and other first responders to the fact that someone they are encountering has an ASD diagnosis. One LEO (L1) identified his recent collaboration with the mother of a son with ASD to design a special needs incident report that would help identify individuals with ASD in the community and provide helpful information to law enforcement departments. Similarly, a caregiver (C2) in the study also described her attempts to keep track of the personal information of individuals with ASD in her small community, so that she could establish a database for her local police department. One system developed and utilized in Minnesota, named Vulnerable Individuals Technology Assisted Location Services (VITALS), serves the same purpose through a mobile application (VITALS, n.d.). The story of the app’s development, particularly the fact that it was developed through collaboration between the St. Paul Police Department, Aware Services, LLC, and the Autism Society of Minnesota, highlights how these identification databases and systems can be established through partnerships between law enforcement departments and the autism community.

The VITALS program enables individuals with ASD to voluntarily disclose their ASD diagnosis and other disabilities to first responders who come within a 30- to 50-foot radius of a small beacon that can be detected by the app on a first responder’s mobile phone. When the beacon is detected, information about the individual is automatically shared on the app. For example, individuals can share a photo and personal information...
including their name, age, height, weight, diagnosis, behavioral triggers (e.g., physical touch, loud sirens, flashing lights), caregiver contact information, and helpful de-escalation techniques. The VITALS app provides information about individuals’ prior history of encounters, behaviors (e.g., lack of eye contact, aggression toward others), medication, physical appearance (in the case that someone eloped or went missing), communication style (e.g., nonverbal, uses augmentative and alternative communication device), and restricted and repetitive interests/behaviors (e.g., stimming description, restrictive interest in dinosaurs). It is also critical for the system to provide information about helpful response techniques that may be most effective when supporting and interacting with the individual with ASD. Further research into the effectiveness and helpfulness of programs, such as VITALS, are essential in order to inform future development and universal implementation of these similar identification programs and systems.

In addition to describing the helpfulness of a universal identification system, many participants suggested that it is critical to LEOs to know that the person they are interacting with has ASD prior to arriving on the scene. A few ways that individuals with ASD may reveal their ASD diagnoses to LEOs include through the use of (a) visible identification symbols (e.g., ID bracelets, shoe tags, stickers, temporary tattoos, backpack labels) and/or (b) disclosure of their diagnosis through a variety of means such as the caregiver or individual with ASD communicating this information directly to LEOs or sharing “autism disclosure” cards with LEOs. On such program that allows for the direct sharing of critical information to 9-1-1 dispatchers is the Smart911 program, which also has a “Vulnerable Needs Registry” for individuals who wish to share their personal
information and any special needs with first responders. Through this system, information is shared directly with dispatchers and first responders whenever a call is made to 9-1-1 from the phone numbers listed in the users’ Smart911 Safety Profile. Although Smart911 is a nationwide service, it is not available in every municipality; however, all individuals in the United States can make a Smart911 profile through their website (https://smart911.com/). To continue to support the needs of individuals with and without ASD in every community, individuals should advocate for their first responder agencies to use programs like Smart911. Further, even if these programs are established in cities, efforts should be made to ensure awareness about the system is widespread so that all individuals have the option to share their information if they elect to do so.

Even if LEOs are not made aware of an ASD diagnosis prior to arriving on scene, several participants described their desire for a universal, visible symbol that first responders could immediately recognize. Although some individuals with ASD in the study stated that they would feel comfortable disclosing their diagnosis verbally to LEOs, this may not be the case for all individuals with ASD, especially those who are nonverbal. In his book, Debbaudt (2002) notes that it is critical for individuals with ASD, particularly those who are nonverbal or may have difficulty responding to police questioning about their identity, to wear some sort of identification. Depending on individuals’ preferences, they can opt to wear bracelets, necklaces, anklets, shoe or jacket tags, clothing labels, or permanently written onto clothing.

In addition to these options and/or carrying identification and “autism disclosure” cards, Virginia adopted JP’s Law in 2014, which allowed individuals to request that a
special code be listed on driver’s licenses and identification cards that would alert LEOs to the fact that they are interacting with someone who has ASD (J.P.’s Law, 2014; Virginia Code § 46.2-342). States should also take measures to ensure that first responders, particularly LEOs, are aware of this law and other similar statutes so that they know to check the codes when scanning individuals’ driver’s licenses and ID cards. In Kentucky, citizens can elect to use the Yellow Dot Program, which allows them to share health and personal information with first responders if they were involved in a car accident (The Yellow Dot Program, n.d.). To enroll in the program, individuals can complete information packets and store them in their car’s glove box along with placing a yellow dot sticker on their driver’s side rear car window. In the event of an accident, first responders can be prompted to check the car for the Yellow Dot packet that can provide information regarding how to best support individuals in the car, including those with special health needs.

Although peer-reviewed research does not seem to exist related to the usability and effectiveness of these systems, they are currently being use by law enforcement departments and individuals nationwide in various forms. This widespread utilization suggests that there are feasible ways to implement identification systems and symbols that many participants in the current study believe would be valuable. Just as LEOs in the present study identified incidences when they changed their response strategies after learning about individuals’ ASD diagnoses, it would be helpful to collect information regarding how these identification systems are not only helpful to the autism community, but also to law enforcement departments. In order for these systems to be most effective for the autism community, they must be accessible to all individuals, including those
from all socioeconomic backgrounds and diverse backgrounds. Keeping this goal in mind, cities may consider programs that allow members of the autism community to access these resources for free as well as ensuring the system is accessible to individuals who do not speak English. Implementing and providing access to identification systems would not only facilitate the sharing of helpful information, but it may also support the development of trust between community members, including individuals with ASD, and law enforcement.

Need for Interactive, Mandatory Training Unique to LEOs’ Needs and Roles

Participants across all three subgroups expressed their desire for LEOs to receive training regarding how to identify and appropriately respond to individuals with ASD; further, many participants believed this training should be mandatory for all LEOs and tailored to meet the needs of LEOs serving a variety of roles (e.g., detective, patrol officer, chief of police). Further exacerbating the need for LEOs to receive ASD-specific training, research on LEOs’ knowledge and experience with individuals with ASD is currently lacking; moreover, research that does exists notes that approximately half of LEOs in the United Kingdom self-reported that they were knowledgeable about ASD while 20% reported that they had limited knowledge of ASD (Crane et al., 2016). Results from studies conducted less recently also suggest that 50 to 80% of LEOs were unable to identify the main characteristics of ASD (Chown, 2009; Modell & Mak, 2008), and approximately 35% of LEOs in a sample of 124 LEOs simply listed “Rain Man,” referring to the 1988 film, as summarizing their knowledge of ASD. Based on Autism Knowledge Survey-Revised (AKS-R; Swiezy, 2013) survey data from 400 criminal justice students, researchers categorized participants’ knowledge of ASD as “lacking” to
“moderate” with individuals more frequently scoring higher on the AKS-R who had a personal connection to ASD (Mogavero, 2018). In the current study, participants highlighted the need for LEOs, including those currently studying criminal justice in school, to obtain more information about ASD, such as review of common ASD characteristics, examples of real case studies, direct interactions with people with ASD during training, and review of potential misinterpretations that may arise. It may be unrealistic for LEOs to be able to learn everything there is to know about ASD and other disabilities; nonetheless, having awareness of ASD and other disorders, particularly as they relate to police work, as well as general suggestions regarding how to support individuals during encounters would be helpful.

Although some states, including Florida (Glenn, 2017), New Jersey (Kelly & Hassett-Walker, 2016), and Pennsylvania (Act 25, 2015) require LEOs to receive ASD-specific training, it is currently unclear whether all departments abide by the mandated guidelines as well as whether or not statutes offer a standard for the content, length, and/or credentials of the person administering the training. Despite the fact that some states and agencies are implementing training without mandated statutes (e.g., Autism Risk & Safety Management run by Dennis Debbaudt, first responder training across Kentucky through a partnership between the Police-Autism Community Training and the Kentucky Autism Training Center, Experience Autism! Run by a mother-son team, Emily and Tom Iland, out of California), only two peer-reviewed studies have empirically investigated the effects of law enforcement training related to ASD (Murphy et al., 2017; Teagardin et al., 2012). A recently published dissertation (Medina Del Rio, 2018) found that a privately-owned ASD law enforcement training program was effective
in increasing LEOs’ knowledge of core ASD symptoms, improving perceived confidence in interacting with individuals with ASD, and increasing perceived ability to provide accommodations to people with ASD in a sample of 195 LEOs from two departments in Southern California. While the aforementioned studies provide promising results, the scarce amount of research on the topic, along with concerns raised by participants in the current study, continues to highlight the need for more empirical evidence to establish effective ASD-specific training protocols and approaches for law enforcement departments.

In addition to describing content that they hoped would be included in training programs for LEOs, participants consistently referenced strategies that facilitators could utilize to ensure the training programs were interactive in nature (e.g., roleplaying, discussions with members of the ASD community, use of media). The emphasis on active engagement in learning is aligned with best practices in the andragogical approach to education as well as Dunst and Trivette’s (2009) Participatory Adult Learning Strategy (PALS) model. Further, the PALS adult training model serves as a useful framework to inform ASD-specific law enforcement training, meaning that facilitators can incorporate characteristics that researchers found to be most effective in a meta-analysis on the PALS model (Dunst et al., 2010). Although future research should continue to investigate the active ingredients that contribute to effective ASD-specific training for LEOs, the PALS model suggests that training should include (a) the identification of participants’ personalized training goals, (b) a self-assessment of participants’ strengths and weaknesses, (c) direct application of concepts to “real-life” scenarios, (d) varied role-play
scenarios that mimic real situations, and (e) completion of a competency-based assessment.

Considering research on best learning practices and participants’ recommendations in the current study, ASD-specific training should include (a) examples of how knowledge of ASD is relevant to police work, (b) small- and large-groups discussions regarding ASD and policing, (c) panels and facilitated discussions between members of the ASD community and LEOs, (d) video and film media examples, (e) role-play scenarios of situations where LEOs may be likely to encounter someone with ASD (e.g., elopement, self-injurious behavior, domestic disputes, socially inappropriate behavior in community), (f) specific, behavioral feedback from relevant observers upon completion of roleplaying activities, and (g) a self-assessment and reflection on their newly-acquired knowledge (Cotton & Coleman, 2010; Silverstone et al., 2013; Vermette et al., 2005). Findings from the present study, along with other relevant literature, can be utilized to inform the development of ASD-specific training materials currently being developed and implemented in communities in the United States and internationally. Ideally, training programs should include an overview of methods for identification of ASD and techniques LEOs can utilize to effectively and empathetically respond to individuals with ASD with the ultimate goal of fostering trust and increasing positive interactions between LEOs and the ASD communities.

**Importance of Building Community Connections between LEOs and Individuals with ASD**

Participants in the current study described the need for mutually-beneficial partnerships and connections between LEOs and the ASD community. Although participants recognized that it is not feasible for LEOs to know every individual in their
community, they identified how community interactions can help LEOs (a) increase their knowledge and empathy toward individuals with ASD and their families, (b) change negative community perceptions of law enforcement, and (c) form relationships with members of the ASD community. In fact, one study found that criminal justice students who had personal connections to someone with ASD consistently scored higher on an ASD knowledge measure, which suggests that interactions with individuals with ASD are essential to fully understanding the complexities of the disorder (Mogavero, 2018).

Similar to participants’ narratives in the current study, Debbaudt (2006) recommends that individuals with ASD and their families develop partnerships with law enforcement and emergency responder agencies. In fact, Debbaudt suggests that it may take the efforts of many people working together, including members of the ASD community, LEOs, investigators, firefighters, emergency medical technicians, 911 dispatchers, lawyers, judges, and other criminal justice professionals, to ensure all appropriate agencies are participating in the effort of raising autism awareness and acceptance in communities. When many groups of people, agencies, and departments collaborate together, it is more likely that mutually beneficial partnerships can be established to meet the communities’ needs. One well-known model, referred to as the Crisis Intervention Training (CIT) program, emphasizes collaboration across agencies and with a variety of community stakeholders (Watson & Fulambarker, 2012).

Specifically, departments implementing CIT form partnerships with emergency receiving facilities (e.g., psychiatric emergency rooms, crisis centers), and other social service agencies so that LEOs can form allies and assist individuals in crisis by diverting them from the criminal justice system to the mental health facilities. Not only does the CIT
model promote partnerships between law enforcement departments and advocacy groups and community agencies, but the program also offers structured opportunities for LEOs undergoing CIT to interact with families and individuals with mental illness. Advocates of the CIT model suggest that forming these relationships is essential to (a) increasing understanding of mental illness, (b) forming community working partnerships, and (c) reducing the stigma and misconceptions about mental health disorders.

Several participants also noted that it may be beneficial for individuals with ASD to practice interactions with LEOs during community events and/or joint training programs, which is the approach adopted by a few programs currently being implemented. Through ‘Spectrum Shield,’ a project spearheaded by a speech-pathologist and co-run with a retired police officer, LEOs in Los Angeles, California participate in a weekend-long program alongside approximately 12 young adults with ASD who also engage in training on how to safely interact with law enforcement (Sentinel News Service, 2017). For example, people with ASD in stimulated pat downs and traffic stops, which allow individuals to practice their reactions with LEOs as actors. Further, this intensive program offers time for LEOs to form connections with members of their ASD community as well as receive training that incorporates guided instruction, video modeling, and role-playing exercise to teach LEOs to safely identify and support individuals with ASD. Other groups, such as the ‘Police-Autism Community Training’ (PACT) program, take a more informal approach to building community connections (Police Autism Community Training, 2018). Specifically, LEOs who have completed their in-person training are invited to a planned community ‘meet and greet’ event where members of their local ASD community are present. Just as ‘Spectrum Shield’s’ training
programs are mutually-beneficial to both law enforcement and ASD communities, PACT’s events provide individuals with ASD a chance to practice interacting with LEOs, caregivers an opportunity to engage in conversations with LEOs, and both parties with free safety resources (Watson, Compton, & Draine, 2017). Although community connections may take a variety of forms, it is imperative for members of law enforcement and ASD communities to become comfortable with one another as well as to understand others’ varying perspectives.

**Strengths and Limitations**

Although the investigation is preliminary in nature, the study addresses a gap in the current literature related to understanding interactions between individuals with ASD and LEOs as well as exploring recommendations for training from the perspective of multiple stakeholders. Specifically, findings may serve as a useful starting point to guide further development of ASD-specific training curriculum for law enforcement departments. Further strengths of the study include the use of broad recruitment criteria, inclusion of multiple participant sub-groups, and utilization of semi-structured interviews with open-ended questions to capture a more complete picture of the nature of interactions between LEOs and individuals with ASD as well as LEOs’ training needs. In addition, the perspectives of six individuals with ASD were included in this analysis, which insured that the voices of the group under discussion were heard. To support the participation of individuals with ASD, the interview protocol and format was modified as needed to meet individuals’ unique needs. Finally, the data were analyzed by two researchers rather than only one investigator, which increases the likelihood that a variety of themes, subthemes, and categories were generated and decreases bias in the study.
Despite several strengths, findings and interpretations should be understood within the scope of the study’s limitations. First, results from qualitative research are not generalizable. Second, the study relied on self-report, qualitative data only to understand participants’ perceptions, which does not allow for a more direct measurement of experiences and perspectives. In addition, the small sample size of self-selecting participants indicates that potential selection bias may have affected the study’s results. Two caregivers in the sample participated in ‘meet and greet’ events in their own communities, which might account for themes related to community relationships that emerged during analysis. In particular, participants with a unique interest and passion for this subject may have been more likely to elect to discuss their experiences, which may have limited the ability to capture the full range of experiences related to the topic. Participants were comprised of a small convenience sample of mostly White participants from a medium-sized Southeastern city. Overall, this study was exploratory in nature and should not be used to draw firm conclusions; however, the current study begins a line of research that has been neglected in the literature thus far and should be further extended through future research.

**Future Directions**

Given the exploratory nature of the current study, several avenues for future research have been identified. More research is needed to better understand the nature of interactions between LEOs and the ASD community as well as LEOs’ training needs. Since the study relied on self-report, qualitative data, future studies should use standardized measures to achieve a wider understanding of experiences and perceptions. Additional quantitative studies on this topic are needed to further refine findings in the
current study. For example, it would be useful to incorporate quantitative measures designed to (a) identify LEOs’ prior ASD and disability-related training experiences and (b) investigate the nature of encounters between LEOs and individuals with ASD (e.g., antecedents to interactions, strategies utilized by LEOs, behavior displayed by person with ASD). In addition, more quantitative research is warranted to examine the perspectives and attitudes LEOs and individuals with ASD report about one another.

Future research should investigate the development of a data collection system that allows law enforcement departments to collect information regarding the nature, quantity, and outcomes of interactions with community members with ASD. An analysis of data collected over time would allow for better understanding of interactions while also serving a practical use as a planning and evaluation tool for agencies. Specifically, law enforcement departments could utilize the system to track (a) what resources are currently being used, (b) what future resources are needed, (c) how the department is meeting the needs of their local ASD community, and (d) what changes in policies or training should be made to support future positive interactions. Finally, results of the current study indicate that both law enforcement and ASD communities believe LEOs should receive mandatory, interactive ASD-specific training. Thus, continued research should investigate how ASD-specific training can (a) increase LEOs’ knowledge of ASD, (b) improve LEOs’ attitudes toward the ASD community, and (c) directly change LEOs’ behaviors as measured by behavioral outcomes (e.g., supervisor feedback regarding LEOs’ behaviors, number of calls where LEOs identify presence of ASD). Future research should also examine which training programs’ components, characteristics, and
modalities are most effective in randomized, controlled studies with LEOs serving a variety of roles.

**Conclusion**

Recent research suggests that adolescents and adults with ASD are more likely to use emergency services than the general population (Lunsky, Paquette-Smith, Weiss, & Lee, 2015), and researchers also have found that approximately 20% of young adults with ASD will be questioned or stopped by LEOs at least one time by the time they reach 21-years of age (Rava et al., 2017). These findings, along with the increase prevalence rate of ASD, suggest that LEOs are likely to encounter someone with ASD while serving the community in the role as LEOs. In the current study, caregivers, LEOs, and individuals with ASD described real and hypothetical encounters between members of the ASD community and LEOs. As a whole, participants raised concerns that LEOs may be likely to misinterpret the behaviors of individuals with ASD as well as to possess misconceptions about ASD given their lack of knowledge and experiences with people on the spectrum. Participants recommended that law enforcement departments offer mandatory, interactive training related to ASD to professionals fulfilling a wide variety of roles within their agencies. In addition, participants emphasized the importance of developing connections and partnerships between the law enforcement and ASD communities.

The current study provided better insight into interactions among individuals with ASD and LEOs as well as LEOs’ training needs by gathering the perspectives of several stakeholders, including caregivers, LEOs, and adults with ASD. Findings add valuable information to the growing body of literature related to ASD and law enforcement, and
the study has an educational and social value as well given that results can be shared with criminal justice agencies and policy makers. In order to better serve community members with ASD, it is imperative that LEOs are knowledgeable and informed regarding how to identify and interact with individuals with ASD. Ultimately, training and increased community interactions between LEOs and members of the ASD community should promote positive interactions as well as decrease misinterpretations of behavior and negative outcomes of LEOs encounters with individuals with ASD. Further, efforts to increase LEOs’ understanding and acceptance of ASD will serve to build trust between community members and law enforcement while also aligning with the COPS model of policing, which focuses on prevention and partnerships with community members and agencies.
Table 3.1  
*Review of ASD-related Training and Response Programs*

<table>
<thead>
<tr>
<th>Training/Program Name</th>
<th>Development Information</th>
<th>Overview of Training/Program &amp; Relevant Research</th>
<th>Reference</th>
</tr>
</thead>
</table>
| Autism Risk & Safety Management | Developed in Florida by Dennis DeBbaudt | - Groundbreaking work first developed by DeBbaudt in his 1994 report Avoiding Unfortunate Situations and also referenced in DeBbaudt & Rothman (2001)  
- DeBbaudt now provides ASD training and resources individualized for LEOs, emergency first responders, educators, and the ASD community  
- Sessions are designed to identify issues of risk and provide strategies to help manage risk to individuals with ASD at home, school, and in the community  
- DeBbaudt Legacy Productions also has a variety of videos related to ASD and the criminal justice system, including a 17-minute video entitled Autism Fire Rescue Emergency & Medical Service Video (http://www.debbautdlegacy.com/) | DeBbaudt & Rothman (2001)  
Contact DeBbaudt for training at http://www.autisriskmanagement.com/ |
| Autism Response Team (ART) | Proposed by DeBbaudt & Brown (2006) | - Goal of ART is to train group of volunteers of ‘first responder’ personnel from various departments  
- ART would be called in during encounters involving individuals with ASD  
- Suggests that ideal ART members have personal connection to ASD | DeBbaudt & Brown (2006) |
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| Autism Safety Education & Training (ASET) | Training developed in 2012 by Matthew Brown, a probation officer with 24 years of experience in law enforcement and parent of a child with ASD | - Brown worked with Autism Society of Maine to develop a program approved by Maine Criminal Justice Academy, which made it mandatory for all LEOs in the state  
- 2.5 hour training tailored to meet individual needs of first responders → uses lecture and video/audio clips to present information  
- Training has also been incorporated into Crisis Intervention Training that LEOs frequently receive | Autism Safety Education & Training, LLC. (n.d)  
Contact http://aset911.com/ to schedule a training |
| Autism Alliance for Local Emergency Responder Training | Training developed by non-profit organization (Autism Alert, Inc) in Wisconsin | - Training led by Chris Lacey, mother of a child with ASD & LEO  
- Organization aims to a) educate first responders and health care professionals on how to interact with people with ASD, b) train caregivers how to prepare for emergency situations, and c) develop and promote community partnerships  
- Website states they have trained over 5,000 individuals since 2007 inception using specialized training for: law enforcement officers, first responders, healthcare professionals, teachers, and caregivers  
- Trainers use combination of strategies: hands-on activities, lecture and PowerPoint, anecdotes, videos, and visits from individuals and families affected by ASD | Autism Alert, Inc. (n.d.)  
Contact Chris Lacey at http://www.autismalert.org/ for training information |
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</table>
| Autism and Law Enforcement Coalition (ALEC) | Collaborative effort between The Arc of South Norfolk Family Autism Center and Norfolk County District Attorney’s Office in 2003 | - Goal of training is to foster deeper understanding of ASD among public safety and law enforcement personnel  
- Training led by first responders with direct knowledge of ASD through family members  
- Training participants earn 3 hours of continuing education units  
- ALEC provides training throughout Massachusetts and nationally  
- ALEC reports to have trained 24,188 first responders in MA and 10,859 in entire United States | The Arc of South Norfolk (n.d.)  
http://www.arcsouthnorfolk.org/alec-first-responder-training.html                                                                 |
<table>
<thead>
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</table>
| Video Training: Law Enforcement: Your Piece to the Autism Puzzle* | Developed by Sahara Cares Foundation (Sahara Cares, 2007) | - Video is approximately 13 minutes long and covers the following topics: definition of ASD, how to recognize persons with ASD, and how to respond to people with ASD  
- Teagardin and colleagues (2012) conducted randomized, waitlist-controlled study to investigate effectiveness of video training with 82 LEOs at the Ventura County Law Enforcement Department  
- Results suggested that participants showed improvements in knowledge of ASD and level of confidence in identifying and interacting with people with ASD after viewing the training video  
- Researchers mention post-test results are still lower than they would need to be in order to suggest mastery of content → may be due to brevity of training | (Teagardin, Dixon, Smith & Granpeesheh, 2012) |
| Local Training in New Jersey | Provided by former county prosecutor Theodore Romankow in Union County, New Jersey | - Training provided to officers from approximately 100 police departments and 17 prosecutor’s offices  
- Took place over course of one day  
- Dennis Debbaudt also presented information at this training | Haydon (2013) |
Table 3.1 (continued)

<table>
<thead>
<tr>
<th>Training/Program Name</th>
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| Local Training in San Diego   | Provided by Ralph Carrasquillo, Jr., a paramedic and instructor for the San Diego First-Rescue Dept | - Article highlights program where presenter trained more than 1000 emergency service personnel in San Diego County  
- Lessons were modeled after Debbaudt’s training and intended to improve interactions with people with ASD                                                                                                                                  | Olejnik (2004)              |
| Local Training in Washington  | Training by an auditor at Memorial Physicians in Yakima, Washington                     | - 2-day training by an auditor after receiving grant to train local LEOs on how to interact with persons with ASD  
- Trained 25 officers by reviewing tips for recognizing signs of ASD and de-escalating situations involving people with ASD  
- Training utilized both lecture and short videos examples                                                                                                                          | Rosbach (2015, June)       |
| Local Training in Illinois    | Leslie Werries, a mother of a 14-year-old son with ASD arranged session with local fire station | - Training session was held for 50 emergency responders at a local fire station in Jacksonville, Illinois  
- In addition to raising awareness of ASD, the training helped prepare responders to use CareTrak, which is a system that provides people with small transmitters to be easily tracked by search team if lost                                                                 | Olson (2013, April)        |
| Local Training in North Carolina | Training led by Kim Taylor, mother of 20-year-old son with ASD and wife of a Sheriff Deputy | - Training held in Iredell County, North Carolina at sheriff’s office  
- Deputy sheriff helped plan training, including setting up role-plays to video record and show LEOs during training to improve their interactions with persons with ASD                                                                 | Swicegood (2009, July)     |

Note: * = program or response strategy has been formally researched
<table>
<thead>
<tr>
<th>Participant Characteristics</th>
<th>Adults with ASD</th>
<th>Caregivers</th>
<th>LEOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N)</td>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Age</td>
<td>(M = 28.3) years, Range = 19 – 52 years</td>
<td>(M = 44.2) years, Range = 31 – 63 years</td>
<td>(M = 37.5) years, Range = 24 – 52 years</td>
</tr>
<tr>
<td>Gender</td>
<td>Female = 2 (33.3%) Male = 4 (66.7%)</td>
<td>Female = 4 (80%) Male = 1 (20%)</td>
<td>Female = 1 (16.7%) Male = 5 (83.3%)</td>
</tr>
<tr>
<td>Identified Ethnicity</td>
<td>White = 5 (83.3%) Two or more races = 1 (16.7%)</td>
<td>White = 4 (80%) Two or more races = 1 (20%)</td>
<td>White = 6 (100%)</td>
</tr>
<tr>
<td>Highest level of schooling</td>
<td>High school diploma = 1 (16.7%) Some high school = 1 (16.7%) Some college = 2 (33.3%) Bachelor’s degree = 1 (16.7%) Master’s degree = 1 (16.7%)</td>
<td>High school diploma = 1 (20%) Bachelor’s degree = 2 (40%) Master’s degree = 1 (20%) Professional degree = 1 (20%)</td>
<td>Bachelor’s degree = 6 (100%)</td>
</tr>
<tr>
<td>Total Household Income (per year)</td>
<td>(&lt; 10,000 = 4 (66.7%) 10 – 19,000 = 1 (16.7%) 20 – 29,000 = 1 (16.7%))</td>
<td>(50 – 59,000 = 1 (20%) 60 – 69,000 = 3 (60%) 150 – 249,000 = 1 (20%))</td>
<td>(40 – 49,000 = 2 (33.3%) 60 – 69,000 = 1 (16.7%) 70 – 79,000 = 1 (16.7%) 90 – 99,000 = 2 (33.3%))</td>
</tr>
</tbody>
</table>
Table 3.2 (continued)

<table>
<thead>
<tr>
<th>Participant Characteristics</th>
<th>Adults with ASD</th>
<th>Caregivers</th>
<th>LEOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living accommodations</td>
<td>College dorm = 2 (33.3%) Residential living community = 1 (16.7%) Rents own apartment = 2 (33.3%) Caregivers’ home = 1 (16.7%)</td>
<td><em>Children’s Living Accommodations:</em> Parent’s home = 4 (80%) College dorm = 1 (20%)</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td><strong>SCQ scores of children (cutoff = 15):</strong> 16 – 20 = 1 (20%) 21 – 25 = 1 (20%) 26 – 30 = 3 (60%)</td>
<td><strong>SCQ scores of children (cutoff = 15):</strong> 16 – 20 = 1 (20%) 21 – 25 = 1 (20%) 26 – 30 = 3 (60%)</td>
<td>----</td>
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<tr>
<td>Step</td>
<td>Description</td>
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<td>----------------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>1. Identify research problem, research questions, and data collection method</td>
<td>Formalize initial research ideas. Develop specific research questions and methods.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Begin data collection</td>
<td>While collecting, consider: What's happening here? Be intentional about following the data if divergences from initial research ideas present themselves.</td>
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<tr>
<td>3. Create initial codes</td>
<td>Do a close transcript reading; name each word, line, or segment of data (e.g., line-by-line coding), comparing codes through the process for similarities and distinctions.</td>
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<tr>
<td>4. Write initial memos</td>
<td>Record initial impressions of the data; describe developing codes, considering content and process.</td>
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<td>5. Develop focused codes</td>
<td>Build on initial codes to determine the most salient categories across data. Focused codes are specific and conceptually driven.</td>
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<tr>
<td>6. Develop thematic categories and write advanced memos</td>
<td>Describe connections between codes and compare data points (within interviews, between interviews). Begin thinking about codes as conceptual categories. Evaluate categories and describe relationships between them for developing an analytic framework. Refine category definitions.</td>
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<tr>
<td>7. Engage in theoretical sampling</td>
<td>Collect additional data to develop categories needing more information until data saturation is reached.</td>
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<tr>
<td>8. Write theoretical memos</td>
<td>Connect categories to theoretical concepts and previous literature; use language that is more abstract.</td>
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Table 3.3 (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>9. Theoretical sorting of memos</td>
<td>Refine links between theoretical concepts; sort memos by title, compare categories, and consider the impact of order on reflecting the studied experience and the logic of the categories.</td>
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<tr>
<td>10. Integrating memos</td>
<td>Determine the best way to describe the relationships between categories, usually by ordering to depict a process.</td>
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<tr>
<td>11. Diagram concepts</td>
<td>Create a visual representation of categories and relationships.</td>
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<tr>
<td>12. Begin writing manuscript</td>
<td>If possible, begin to articulate theory suggested by analysis. This theory can be driven by a constructivist approach (e.g., viewing data as co-constructed realities) or objectivist approach (e.g., viewing data as true reality without attending to processes impacting data production). Make connections between the literature and findings and clearly articulate why the findings matter.</td>
</tr>
</tbody>
</table>

*Note.* Data collection continues throughout the analysis process and new data is compared to earlier data. Steps are revisited as needed throughout the analysis process.
<table>
<thead>
<tr>
<th>Participants</th>
<th>Thematic Categories</th>
<th>Focused Codes</th>
</tr>
</thead>
</table>
| Law Enforcement Officers \((N = 6)\) | A. Identifying Prior Knowledge and Training Related to ASD | A1. Knowledge through personal connections  
A2. Knowledge through textbook-type sources  
A3. Knowledge through media sources  
A4. Knowledge obtained through prior training |
| | B. Recalling “On the Job” Experiences Involving Individuals with ASD | B1. Perception of individuals with ASD  
B2. Perceptions of caregivers  
B3. Perceptions of interactions between individuals with ASD and others  
B4. Limitations of system to notify responders about ASD diagnosis |
| | C. Describing ASD-specific Training Recommendations | C1. Provide knowledge of ASD  
C2. Make training mandatory and compensated  
C3. Emphasize interactive nature of training  
C4. Offer empathy training  
C5. Describe effective strategies to use during encounters  
C6. Importance of interactions with ASD community |
| | D. Suggesting Need to Identify ASD Prior to Encounter | D1. Importance of disclosing ASD diagnosis prior to encounter  
D2. Need for identification badges/stickers for people with ASD  
D3. Helpfulness of special incident report form for LEOs to use |
Table 3.4 (continued)

<table>
<thead>
<tr>
<th>Caregivers</th>
<th>A. Describing Children’s Characteristics and Behaviors Associated with ASD</th>
<th>B. Expressing Fears Related to Children with ASD</th>
<th>C. Identifying Wishes/Hopes for Children with ASD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A2. Restricted, repetitive behaviors and interests</td>
<td>B2. Judgment from others due to child’s ASD diagnosis</td>
<td>C2. Develop skills to be independent from others</td>
</tr>
<tr>
<td></td>
<td>A3. Odd/inappropriate Behaviors</td>
<td>B3. Misinterpretations and/or misperceptions of behavior</td>
<td>C3. Know how to use ASD identification cards and disclose diagnosis</td>
</tr>
<tr>
<td></td>
<td>A4. Difficulty negotiating community and public outings</td>
<td>B4. Negative outcomes of encounters with LEOs</td>
<td>C4. Receive training related to best approaches during interactions with LEOs</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>B. Expressing Fears Related to Children with ASD</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>C. Identifying Wishes/Hopes for Children with ASD</td>
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<td></td>
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<td></td>
<td>D. Highlighting What They Want from LEOs During Interactions with Children with ASD</td>
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<td></td>
<td>E. Providing Recommendations for LEO Training Related to ASD</td>
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<tr>
<td></td>
<td>F. Importance of Community Connection Between LEOs and ASD Community</td>
<td></td>
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</tbody>
</table>

- A1. Social-communication deficits
- A2. Restricted, repetitive behaviors and interests
- A3. Odd/inappropriate Behaviors
- A4. Difficulty negotiating community and public outings
- B1. Vulnerability associated with characteristics of ASD
- B2. Judgment from others due to child’s ASD diagnosis
- B3. Misinterpretations and/or misperceptions of behavior
- B4. Negative outcomes of encounters with LEOs
- C1. Advocate for self
- C2. Develop skills to be independent from others
- C3. Know how to use ASD identification cards and disclose diagnosis
- C4. Receive training related to best approaches during interactions with LEOs
- D1. Display compassion and sense of humanity
- D2. Provide protection
- D3. Remain patient during interactions
- D4. Offer support for family
- D5. Refrain from using ASD diagnosis as an “excuse”
- E1. Mandatory nature of training
- E2. Separate training to address various LEO roles (e.g., patrol, detective)
- E3. Provide knowledge of ASD
- E4. Teach variety of response strategies to support people with ASD
- E5. Raise awareness of potential danger due to elopement
- E6. Need for interactive training experience
- F1. Effectiveness of ‘meet and greet’ events in schools and community
- F2. Hoping LEOs connect with children in their neighborhoods/sectors
| Adults with ASD (N = 6) | A. Describing Personal ASD Characteristics | A1. Restricted, repetitive behaviors and interests  
A2. Experiencing communication deficits and barriers  
A3. Existing in their own world and feeling withdrawn  
A4. Difficulties with social interactions  
A5. Experiencing sensory sensitivities |
|------------------------|------------------------------------------|-----------------------------------------------|
|                        | B. Recalling Perceptions of Actual and/or Potential Interactions with LEOs | B1. Reporting history of previous encounters with LEOs  
B2. Feeling anxious and/or overwhelmed during encounters  
B3. Difficulty communicating with LEOs  
B4. Difficulty maintaining appropriate eye contact  
B5. Expressing viewpoints regarding disclosure of ASD diagnosis  
B6. Fearing misinterpretation of behaviors |
|                        | C. Identifying What They Want from LEOs | C1. Utilize effective support strategies  
C2. Remain patient during interactions  
C3. Recognize characteristics of ASD  
C4. Display compassion and empathy  
C5. Focus on personalization |
|                        | D. Providing Recommendations for ASD-specific Training | D1. Provide knowledge about ASD  
D2. Teach strategies to support people with ASD  
D3. Establish effective training leaders  
D4. Focus on prevention of misperceptions and/or misunderstandings  
D5. Provide interactive training experience  
D6. Make training mandatory |
|                        | E. Highlighting Importance of Interactions with LEOs | E1. Importance of interacting with LEOS during community events  
E2. Training needed for people with ASD regarding interactions with LEOs |
Table 3.5
*Major Themes Across and Between Participants*

<table>
<thead>
<tr>
<th>Participant Sub-group</th>
<th>Potential for Misinterpretations and Misperceptions of Behavior of Individuals with ASD</th>
<th>Helpfulness of a Universal Identification System/Symbol and Disclosure of ASD Diagnosis Prior to Encounters</th>
<th>Need for Interactive, Mandatory Training Unique to LEOs’ Needs and Roles</th>
<th>Importance of Building Community Connections Between LEOs and Individuals with ASD</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEOs</td>
<td>1) I mean I would think he looks like he is on drugs if he is doing that with his hands. (L1)</td>
<td>1) In this form it was basically just all the questions. Like, you know, it was a picture of the kid or whoever ran off or wandered, all their information, where they went, what things they like that...what we're going to try to use it as, is something we could take, report wise, and then dispatch could pull it up. Like, &quot;Oh, Timmy is, you know, this old. He looks like this. He likes the color red and he likes Mickey Mouse songs. (L1)</td>
<td>1) We all need the training, just to have a basic understanding of what it's about and what it is, even something separate for a patrol officer or detective like a training for each of them. (L2)</td>
<td>1) I would say that the more agencies, especially ours, over the years, has turned this towards this, you know, being directly involved and committed to your community and this isn't just police, but these are our community. We're a part of it. (L3)</td>
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<td></td>
<td>2) To tell you the truth, it would be tough for me to say, &quot;I could tell you if that person had autism or not.&quot; I may not understand their behavior. (L5)</td>
<td></td>
<td>2) I think there should always be relevance to police work in the autism trainings. It certainly gets people's attention. (L3)</td>
<td>2) I think any time you have interaction or develop interpersonal skills with someone that may be afraid of the police, it is always a key...and for things to change you have to develop relationships. (L4)</td>
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<td></td>
<td>3) I think that's one of the biggest fears for most parents, too, is that what if my son gets approached by the police and doesn't know how to respond to it? What's gonna happen to my son? What will police think about him? (L6)</td>
<td></td>
<td>3) I would say probably for the most part...it's maybe a stereotype but I think most officers like hands on training...Scenarios are a big thing. So yeah, that's always important with a topic like autism. (L5)</td>
<td></td>
</tr>
<tr>
<td>Participant Sub-group</td>
<td>Potential for Misinterpretations and Misperceptions of Behavior of Individuals with ASD</td>
<td>Helpfulness of a Universal Identification System/Symbol and Disclosure of ASD Diagnosis Prior to Encounters</td>
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<td>LEOs</td>
<td>2) I would try to find a universal symbol. There we go, a universal symbol that would be…considered that would… help identify a person with autism, whether it…they're a child or an adult…that police and fire and EMS would immediately recognize. (L4) 3) If they didn't notify you and there's an adult that lives with them that has autism and he, kind of, yeah. It could be a bad situation. (L5)</td>
<td></td>
<td>3) I think it’s pretty good that you can learn if you don't know how to recognize the signs or you've never been actually put into a situation with somebody like that. It's a very fast learning curve that I feel like it's a crash course and you're gonna learn really fast if you're interacting with autistic people in the community. (L6)</td>
<td></td>
</tr>
<tr>
<td>Participant Sub-group</td>
<td>Potential for Misinterpretations and Misperceptions of Behavior of Individuals with ASD</td>
<td>Helpfulness of a Universal Identification System/Symbol and Disclosure of ASD Diagnosis Prior to Encounters</td>
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<td>Importance of Building Community Connections Between LEOs and Individuals with ASD</td>
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| Caregivers            | 1) My son may do the flapping around. And of course, someone can see that and think, well, they're on drugs, they're, you know, drunk, and then it can get ugly. (C1)  
2) When my son is uncomfortable or he gets very stimulated, he does this like really low in the throat, deep based type, grunting and yelling and you have no idea like is he overstimulated? Is he just trying to say something to you? Is he getting overwhelmed? As a parent, If I can't tell what it is, then I do not think an officer's going to know what it is? No, they'll just think my son is being violent and aggressive...I mean at that point, depending on how old he is, he'd probably get shot. (C2) | 1) Basically it was just a regular sheet of paper, in the corner, we were gonna put the individual’s picture, and every...if they were in school, every...when they got their pictures taken, we were gonna make a profile of their needs and update it...and each year when we update it, we would ask the parents, or we would call them, or I would call them if that was the case, and say, hey, is there anything new? This is what we have. Has anything changed? And each officer there would be a database in the computer. (C2)  
2) So, what I tell police officers is definitely where you need to look for, medical alerts, because a lot of them think, well, just wrist and neck, you know? But no, that's not the case, it's wrist, neck, ankles, shoes, and belt loops. You need to look for some identification that they have autism. (C3) | 1) I think for the best hands-on experience, I would bring in a higher-functioning, like, consenting adult, and then I would bring someone like my son that's very dependent, and so they would see just how broad the spectrum could be. And then give them a scenario, and you're like, "Okay, you have these two adults, same scenario, how do you handle it? (C2)  
2) I feel like it's really, really important for police officers, firefighter, EMS. Anytime...any person who's gonna be a first responder to know what to look for and to...not just to know what to look for, but to have some exposure to autism and what it would look like for them if they're, say, on the job helping someone with autism. (C3) | 1) You're not gonna know everyone with autism, but if you all get out there, you're gonna know them and see them. (C1)  
2) I think officers should definitely know kind of what autism looks like. If they have an opportunity to do a meet and greet, absolutely you take part in that. I noticed not all of the officers in the area have taken part. I think the meet and greets are definitely appropriate to give the exposure to officers. (C3) |
<table>
<thead>
<tr>
<th>Participant Sub-group</th>
<th>Potential for Misinterpretations and Misperceptions of Behavior of Individuals with ASD</th>
<th>Helpfulness of a Universal Identification System/Symbol and Disclosure of ASD Diagnosis Prior to Encounters</th>
<th>Need for Interactive, Mandatory Training Unique to LEOs’ Needs and Roles</th>
<th>Importance of Building Community Connections Between LEOs and Individuals with ASD</th>
</tr>
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<tr>
<td>Caregivers</td>
<td>3) So I can see where if you came upon her and she was behaving like that in public, kind of talking to herself, you might think she was crazy. They would think there’s probably something wrong with her…Then, if she wasn’t responding to them, I assume they would think she’s ignoring them and being disrespectful. (C4)</td>
<td>3) One of the things that…one of them is just to let people know that your kid has autism. So as opposed to just hiding in your home, you know, at least the neighbors know that you have a child with autism. Some people even proactively say &quot;Let the police department know&quot; so they can keep it on file and help your child in the future. (C5)</td>
<td>3) I think some minimum autism training should be mandatory…I think at least one day of an interactive class would be better because the...I mean, even parents of people of autism kids, for lack of a better term, say &quot;There is no typical autistic.&quot; So that way they can see the whole spectrum. (C5)</td>
<td>3) You know, what would be really useful is if autistic kids, in particular the aspie, were given training on how to deal with officers. So the other way around so that they knew, like if I can't be with my daughter, at least she can remember Mom said be calm. If you're talking to a police officer, it's okay to ask for ID. You now, this is how you should behave, keep your hands where they can see them. It's just a question of safety. I think it would actually be really helpful. I may even mention that to the support group in town that it'll be useful to have officers come in to train the group. (C4)</td>
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</table>
Figure 3.1. Components of PALS model from Dunst and Trivette (2009)’s article
### Focused Codes | Initial Codes | Quotes/page #s
---|---|---
Prior Knowledge and personal experience with ppl with ASD/advocates for disability and mental health | Prior knowledge due to connection w/mom | p. 2 – “my mom did stuff like this. She's a social worker and stuff so, I mean, I grew up around people. Like if I went to work with her there were people who were just kind of, like...as a kid I had no idea what was wrong with them, but they were just different.”
| Another personal connection increased knowledge of ASD | p. 4 – “I think having a wife getting a counseling master’s helps”
| Recalling where he learned about ASD-specific strategies | p. 7 “Basically just interactions, yeah, and then just...well because most of my autism training, I've been focused on wandering.
| Recalling first exposure to ASD | p. 26 – “Probably sometime in elementary school because we had a kid in my grade that had autism.”
| Pinpointing knowledge came from mother’s connection/knowledge | p. 26 – “Any legitimate knowledge was probably just through my parents because, like, my mom does a lot of disability stuff in Ohio”
| Recalling prior interactions with people with ASD and families at meet and greet events | p. 28 – “Like I said, met his family at the meet and greet and then kind of talked to them. They brought the daughter because mom and dad both have stuff. Bipolar or schizophrenia. I know mom's got schizophrenia and bipolar. Dad might have it too and then daughter's autistic.”
| Describing tragic outcome of one of the LEO’s personal connection to a young man with ASD | p. 28 – “Their son actually ended up somehow getting hit by a car and was killed wandering in the street.”
| Perceiving more encounters with mental health concerns than ASD | p. 34 – “Mostly it's just...we see more...I'd say we see more drug induced psychosis or schizophrenia, bipolar than we do autism”
| Recalling more interactions with people with ASD on second than third shift | p. 34 – “I moved to third shift, I mean, a lot of them are asleep. Second shift was all those experiences happened on...except for the dude that...I can't remember his name. He's a funny little guy. The guy that collects the katanas.”
| Prior collaboration with caregiver regarding identification/incident report form for “individuals with special needs” | p.37-41

### Focused Codes | Initial Codes | Quotes/Page #s
---|---|---
Hoping training teaches LEOs knowledge of ASD and strategies on how to respond to people with ASD | Wanting LEOs to help stay calm | p. 8 – “I would like to hope that they could help me to be more calm
| Wanting LEOs to offer help | p. 9 – “I need to, you know, help with, you know, calming myself down. Okay, well, you know, do wish to comply with why you're here, why you're interacting with me, and to find out, you know, can I be of help to you? Can I be of, you know…? Can I answer a question? Yes, you're gonna ask me a question, like if I had seen this person or something like that.”
| Hoping LEOs provide clarification | p. 9 – “don't think it would be a reason for changing how they want to question in questioning me. I don't think that's necessary. I think as long as the questions were clear, and if they weren't clear, you know, I could say, you know, something like, "Please clarify."
| Hoping LEOs demonstrate patience | p. 9 – “Yes. Patience is always a good thing.”
| Wanting LEOs to ask people with ASD if they need help | p. 18 – “Maybe think to ask, "Is there anything I can help you with?"
| Believing LEOs would benefit from ASD identification stickers | p. 21 – “I'd like to think of that being constructive. I think construct…let's say constructive for law enforcement.”
| Wanting LEOs to know preference for 1-on-1 interactions | p. 27 – “I think one thing that definitely needs to be trained to law enforcement officials is that people on the spectrum, if they can communicate, we feel much more comfortable communicating with one person at a time. Not only that, to feel crowded by a bunch of other people at one time is very anxiety provoking. if they want to interact with us, we prefer, especially if we're vocal, especially if we're high-functioning, one person at one time. And for those who are nonverbal, I think the same thing. I think one person is just required just to make them feel anywhere more comfortable. Just one. Just one person. Not a whole mob.”

**Figure 3.2.** Example code maps. Beginning at the top of the page, examples are representative of excerpts from perspectives of LEO, and adults with ASD, respectively.
CHAPTER 4
CONCLUDING REMARKS

Given the fact that law enforcement officers (LEOs) play important roles in keeping society and communities safe, it is essential that they are well-equipped to support the needs of all community members, including individuals with autism spectrum disorder (ASD). Although ASD is relatively common (Baio et al., 2018) and LEOs frequently come into contact with individuals with ASD (Rava et al., 2017), LEOs may not always identify ASD and/or employ effective strategies to support individuals with ASD (Chown, 2009; Crane et al., 2016; Modell & Mak, 2008). Further, many behaviors displayed by individuals with ASD can be misinterpreted by LEOs as challenging or disrespectful, which may result in negative outcomes of encounters (Coppenhaver & Tewksbury, 2018). Thus, it is critical to further explore LEOs’ previous training experiences, interactions with members of the ASD community, and future training needs.

In order to better understand LEOs’ training experiences and needs as well as the nature of interactions between LEOs and the ASD community, a two-paper option was chosen for the current dissertation. In order to thoroughly summarize the empirical research related to ASD-specific law enforcement training, the first study involved a comprehensive systematic review of the literature. Adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) for Protocols (2015), a search of 13 professional databases and 28 journals was conducted using search terms related to both ASD and law enforcement training. From the 724 articles identified during the initial search, only two articles met inclusion criteria, which suggests that limited research exists that explores ASD and law enforcement training.
Although both studies were conducted within the last decade in two different countries (Ireland and the United States), the sample sizes of both studies were relatively small, ranging from 11 (Murphy et al., 2017) to 82 (Teagardin et al., 2012) participants. In addition, Teagardin and colleagues (2012) were the only researchers to conduct an experimental randomized, waitlist-controlled design; instead, Murphy and colleagues (2017) did not include a control group in their quasi-experimental pretest-posttest design. While the training programs utilized different formats (e.g., 13-minute video versus a 90-minute in-person training), Murphy and colleagues’ (2017) training content and format was not provided outside of the details that the training was conducted by a consultant Psychiatrist with experience in diagnosis and treatment. Both sets of researchers developed outcome measures to reflect information obtained during their respective training programs; however, both studies evaluated the effect of ASD-specific training on knowledge of ASD and confidence in identifying and supporting individuals with ASD. Although both studies provide promising results (Murphy et al., 2017; Teagardin et al., 2012), these findings illustrate the need for more empirical evidence to establish effective training protocols for teaching LEOs to support people with ASD. Findings from study one serve as a stepping stone to understanding available literature and act as a catalyst for further research in this area.

In addition to exploring the empirical research related to ASD-specific law enforcement training, it is also important to consider the input of multiple stakeholders when developing training programs. Thus, in the second paper, qualitative data was collected through semi-structured interviews with six LEOs, six adults with ASD, and five caregivers. The goals of the research centered around (a) characterizing LEOs’
knowledge of and attitudes related to ASD, (b) understanding the nature of real and hypothetical interactions between LEOs individuals with ASD, and (c) identifying training needs to best prepare LEOs for interactions with individuals with ASD. All semi-structured interviews were audio recorded, transcribed, thematically coded, and summarized by researchers according to CGT. Common themes among participants included the (a) potential for misinterpretations of behavior of individuals with ASD, (b) helpfulness of a universal identification system/symbol for ASD, (c) need for interactive, mandatory training unique to LEOs’ needs and roles, and (d) importance of building community connections between LEOs and individuals with ASD. In addition to identifying common themes across participant groups, all major within-group thematic categories and focused codes are presented in Table 3.4.

Taken together, findings from both studies add valuable information to the growing body of literature related to ASD and law enforcement. Given that results can be shared with criminal justice agencies and policy makers, the studies have an educational and social value as well. To develop effective training protocols and better serve community members with ASD, it is imperative that LEOs are knowledgeable and informed regarding how to identify and interact with individuals with ASD. Thus, findings from this dissertation can be utilized to inform the development and implementation of ASD-specific training currently being created and utilized in communities nationwide. Ultimately, training and increased community interactions between LEOs and members of the ASD community will promote positive interactions as well as decrease misinterpretations of behavior and negative outcomes of LEOs encounters with individuals with ASD.
Recommendations

Based on the findings of the present studies, several recommendations are offered for (a) the law enforcement community, (b) the autism community, and (c) future research directions.

Recommendations for the law enforcement community. It is strongly recommended that law enforcement departments, agencies, and communities consider the following recommendations, which were based on findings from the present studies.

1. Law enforcement training curriculum should include courses and training related to working with special populations, including individuals with ASD, intellectual disability, and other developmental and communication disorders. It is strongly recommended that training be mandatory for LEOs. Adhering to best practices in adult learning, these training programs should be interactive in nature and, ideally, include members of the ASD community. Training programs should consider the specific roles that LEOs perform (e.g., patrol officer, detectives) and tailor content to the intended audience. In addition, training programs should discuss how to identify ASD and employ strategies to support individuals with ASD. Further, training should address misconceptions related to ASD, potential misinterpretations of the behavior of individuals with ASD, and the differences between ASD and other disabilities.

2. LEOs should increase their knowledge of the methods through which people with ASD may identify themselves and their diagnoses (e.g., verbal disclosure, autism disclosure cards, ID cards, clothing tags, shoe tags, bracelets, car stickers) given
that individuals with ASD may have difficulties responding to questions related to their identities.

3. LEOs should collaborate with members of the ASD community to implement special needs tracking and identification systems in their local areas if they are not previously established. These systems will help law enforcement departments keep track of critical information that individuals with ASD, or their caregivers, wish to share with LEOs, including individuals’ prior history of encounters, behaviors (e.g., lack of eye contact, aggression toward others), medication, physical appearance (in the case that someone eloped or went missing), communication style (e.g., nonverbal, uses augmentative and alternative communication device), and restricted and repetitive interests/behaviors (e.g., stimming description, restrictive interest in dinosaurs). It is also critical for the system to provide information about helpful response techniques that may be most effective when supporting and interacting with the individual with ASD.

4. All LEOs should increase their contact and communication with the ASD community. These relationships can be built through volunteering, direct work, or personal connections with the ASD community. LEOs would benefit from attending community ‘meet and greet’ events where they can get to know members of their local autism community. Members of law enforcement communities should consider advocating for the ASD community to directly combat negative stereotypes and misconceptions associated with ASD.

5. Law enforcement departments and agencies should consider developing partnerships with local ASD-related support groups and organizations as well as...
members of the ASD community. It may be helpful to facilitate regular meetings with advocacy organizations and members of the ASD community to discuss the roles and mission of law enforcement, offer safety advice, engage in conversations with community members, and share information regarding ways that people with ASD can better interact with LEOs.

**Recommendations for the autism community.** The following recommendations are based on findings from the present study and intended for members of the autism community, including individuals with ASD, caregivers, family members, and advocates.

1. Individuals with ASD would benefit from increasing familiarity with LEOs in their local communities; however, these relationships can be established through a variety of ways. For example, families may consider hosting community ‘meet and greet’ events with their local law enforcement departments similar to those conducted through the Police-Autism Community Training (PACT; see [https://www.pactautism.com/community-lp](https://www.pactautism.com/community-lp) for more information). If ‘meet and greet’ events are not an option for families, then it may be possible for members of the ASD communities to participate in ASD-related training that is being implemented in their local agencies or to contact local departments to gauge opportunities for individuals with ASD to meet local LEOs.

2. Individuals with ASD and/ or their caregivers should consider providing key personal information to LEOs through identification systems such as SMART911, VITALS (VITALS, n.d.), or a department-specific system. In addition, caregivers could develop handouts with information about their child with ASD, their
children’s behaviors, a current photograph, and emergency contact information; then, they can easily share this information with LEOs if they were experiencing a crisis situation. If an identification system is not currently being utilized in a certain area, then families should consider advocating for the use of this type of system in their communities. The use of identification systems is associated with a variety of benefits, such providing helpful information during elopement encounters and preventing misunderstanding or misinterpretations of individuals’ behaviors in the future.

3. It is essential that individuals with ASD are prepared for interactions with LEOs in the same way that LEOs should be prepared for encounters with members of the ASD community. To this end, individuals with ASD would benefit from participating in training that incorporates interactive activities such as mock interviews with LEOs, roleplays, and/or discussions with LEOs. The goal of these training programs should be for people with ASD to learn skills such as disclosing their diagnosis to LEOs (if they feel comfortable doing so), appropriate help-seeking behavior, and communicating and responding successfully to LEOs.

4. Individuals with ASD should strongly consider carrying identification through a variety of means such as an ID card, shoe tag, bracelet, or clothing tag, as a few examples. It may also be beneficial for people with ASD to carry autism disclosure cards or handouts with information about ASD, their own personal and medical information, explanations of behaviors that LEOs may misinterpret, response strategies that may be most effective, and contact information for caregivers and/or other advocates (e.g., case managers, therapists). Then, this
information can be easily disclosed to LEOs in a potential crisis situation where it may be difficult or not possible to verbally share this information.

5. It would be beneficial for members of the ASD community to participate in ASD-related training for LEOs that are currently being implemented in their communities. If training programs are not currently being facilitated in their sectors, then members of the ASD community should advocate that ASD-related training be provided to all law enforcement departments on the local, state, and national level.

**Directions for future research.** Given the exploratory nature of both studies, several avenues for future research have been identified. Findings of both studies highlight the need for more research related to ASD-specific training for law enforcement departments. First, it is important to identify the quantity and type of ASD-related training that LEOs have participated in previously through quantitative research and examination of current training curricula. In addition, research can further explore what components, including content and format, make training most effective. For example, studies can explore the impact of duration, modality (e.g., online, in-person), background of facilitators, and specific training content on effectiveness of training. Empirical studies that explore effectiveness of ASD-specific training programs should consider the use of randomized, waitlist-controlled designs with large samples. Future research should also explore the development of reliable, valid outcome measures to examine how training improves LEOs’ knowledge of ASD and confidence in supporting people with ASD. Further, outcome measures should also include direct behavioral outcomes in addition to investigating self-reported changes in knowledge, attitudes, and/or intentions.
More research is warranted to better understand the nature of interactions between LEOs and the ASD community. For example, additional qualitative and quantitative studies could further examine the nature of interactions between LEOs and the ASD community. Given that law enforcement agencies may operate differently across various countries, it is essential that research on this topic be conducted both in the United States and internationally. Finally, future research should investigate the development of a data collection system that allows law enforcement departments to collect information regarding the nature, quantity, and outcomes of interactions with community members with ASD. An analysis of data collected over time would allow for better understanding of interactions while also serving a practical use as a planning and evaluation tool for agencies. Specifically, law enforcement departments could utilize the system to track (a) what resources are currently being used, (b) what future resources are needed, (c) how the department is meeting the needs of their local ASD community, and (d) what changes in policies or training should be made to support future positive interactions.
## Critical Review Form for Quantitative Studies

<table>
<thead>
<tr>
<th><strong>Study Purpose:</strong></th>
<th>Outline the purpose of the study. How does the study apply to the research question?</th>
</tr>
</thead>
</table>
| Was the purpose clearly stated? | □ Yes  
  □ No |

<table>
<thead>
<tr>
<th><strong>Literature:</strong></th>
<th>Describe the justification of the need for this study.</th>
</tr>
</thead>
</table>
| Was relevant background literature reviewed? | □ Yes  
  □ No |

| **Design:** | Describe the study design. Was the design appropriate for the study question (e.g., for knowledge level about the issue, outcomes, ethical issues, etc.)  
Specify any biases that may have been operating and the direction of their influence on the results. |
|-------------|---------------------------------------------------------------------------------------------------|
| □ Randomized (RCT)  
□ Cohort  
□ Single case design  
□ before and after case-control  
□ cross-sectional  
□ case study | |

| **Sample:** | Sampling (who; characteristics; how many; how was sampling done?) If more than one group, was there similarity between the groups? Describe.  
Describe ethics procedures. Was informed consent obtained? |
|-------------|-----------------------------------------------------------------|
| N = | □ Yes  
  □ No |
| Was the sample described in detail? | □ Yes  
  □ No |
| Was the sample size justified? | □ Yes  
  □ No |

| **Outcomes:** | Specify the frequency of the outcome measurement (i.e., pre, post, follow-up timeline)  
List outcome areas and measures used to assess those outcomes. |
|-------------|-----------------------------------------------------------------|
| Were the outcome measures reliable? | □ Yes  
  □ No  
  □ Not addressed |
| Were the outcome measures valid? | ☐ Yes  
☐ No  
☐ Not addressed |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention:</strong></td>
<td>Provide a short description of the intervention (focus, who delivered it, how often, setting). Could the intervention be replicated?</td>
</tr>
</tbody>
</table>
| Intervention described in detail? | ☐ Yes  
☐ No  
☐ Not addressed |
| Contamination was avoided? | ☐ Yes  
☐ No  
☐ Not addressed  
☐ N/A |
| Results: | ☐ Yes  
☐ No  
☐ Not addressed  
☐ N/A |
| Results were reported in terms of statistical significance? | ☐ Yes  
☐ No  
☐ Not addressed |
| Were the analysis method(s) appropriate? | ☐ Yes  
☐ No  
☐ Not addressed |
| Clinical importance was reported? | ☐ Yes  
☐ No  
☐ Not addressed |
| Were ‘drop-outs’ of the study reported? | ☐ Yes  
☐ No |
| Conclusions and Implications: | What did the study conclude? What are the implications of these results? |
| Conclusions were appropriate given study methods and results: | ☐ Yes  
☐ No |
<p>| Did any participants drop out from the study? Why? Were reasons given and were drop-outs handled appropriately? | |</p>
<table>
<thead>
<tr>
<th>☐ No</th>
<th>What were the main limitations or biases in the study?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Yes</td>
<td></td>
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<tr>
<td>☐ No</td>
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</tbody>
</table>
Appendix B
UCSD Brief Assessment of Capacity to Consent (UBACC)
*Adapted for Use for Police-Autism Interaction and Training Needs Study*

Instructions: After reviewing the informed consent document, the researcher will explain that he/she is going to ask a few brief questions about the study. Participants should be allowed to refer to the Informed Consent Form when answering the questions, but should be encouraged to respond in their own words. If a participant has trouble understanding one of the questions on the UBACC, then the researcher will rephrase the question. Rate the participant’s responses on a scale of 0-2 with “0” being *little to no understanding of the aspect of the study*, “1” being *some understanding of the aspect of the study*, and “2” being *clear understanding of the aspect of the study*. A score of 15 or higher is needed for inclusion in the study. If participants score higher than 15, they will be eligible for study participation and sign the consent form, if they still express interest in the study. If a potential participant scores lower than a 15, then the participant will be deemed ineligible for the study. All results of participant assessments should be saved in research records for the study.

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is the purpose of the study that was just described to you?</td>
<td>2</td>
</tr>
<tr>
<td>Response: (2 = increase understanding of interactions between officers and individuals with autism as well as identify recommendations for ASD-specific law enforcement training)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>2. What makes you want to consider participating in this study?</td>
<td>2</td>
</tr>
<tr>
<td>Response: (2 = increase officer understanding of autism, share my perceptions about what individuals with autism may think about officers, inform future ASD-specific training by providing recommendations)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>3. Do you believe this is primarily research or treatment?</td>
<td>2</td>
</tr>
<tr>
<td>Response: (2 = research)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>4. Do you believe you have to be in this study if you do not want to participate?</td>
<td>2</td>
</tr>
<tr>
<td>Response: (2 = No)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>5. If you withdraw from this study, will you be punished in anyway?</td>
<td>2</td>
</tr>
<tr>
<td>Response: (2 = No)</td>
<td></td>
</tr>
</tbody>
</table>
6. If you participate in this study, what are some of the things you will be asked to do?  
Response: (2 = answer interview questions, receive email with transcript and list of themes, respond to follow-up interview if needed)  

7. Please describe some of the risks or discomforts that people may experience if they participate in this study.  
Response: (2 = may feel uncomfortable or upset answering some of the questions, no other risks)  

8. Please describe some of the possible benefits of this study.  
Response (2 = might help improve officer training and interactions with individuals with autism)  

9. Is it possible that this study will not have any benefit to you?  
Response: (2 = yes)  

10. Who do you contact if you have any concerns as a direct result of participating in this study?  
Response: (2 = the primary investigator [Kirsten Railey], the research director [Jonathan Campbell], or the Organization of Research Integrity [ORI] at the University of Kentucky)  

TOTAL SCORE: 

Note: Cutoff for eligibility in study is 15 or higher.
Appendix C
Semi-structured Interview Schedules

Law Enforcement Interview Schedule (LEIS)
Thank you for taking the time to participate in the study. Your participation is completely voluntary and your responses will be kept entirely confidential, as reviewed in the consent form. The interview should last approximately 1 hour. Do you have any questions before we begin?

I am interested in learning more about what officers know about autism. Particularly, I hope to better understand interactions between officers and someone believed to have autism as well as officer training needs. The first set of questions is related to your personal and professional experiences related to the topic of autism.

- Have you ever heard of autism?
- Please describe what you know about autism.
  - Can you recall when you first heard about autism?
  - Where does your knowledge about autism come from?
  - Continue to explore where officers first heard about ASD, identify sources of knowledge, and level of knowledge
- Now think about your experiences in your role as an officer. How would an officer know that someone they come into contact with on the job has autism?
- Now talk to me about a recent encounter that you had on the job with someone you suspected may have autism.
  - What signs did you notice, where did it occur, what was individual doing, did caregiver call you about their child/you run into individual with autism in community/individual with autism approach you, what was challenging/easy to manage
- Describe what went well during that interaction.
- Describe how that interaction could be improved if you were to be in the situation again.

Now I want to move from your personal and professional experiences to your opinion about law enforcement autism-related training needs.

- Do you feel that it’s important for officers to have an autism specific training?
- As an officer, what training did you receive related to autism?
  - If they have training experience,
    - What did you like about the training?
    - What could have improved about the training?
  - If no ASD-specific training,
    - What training have you received regarding people with disabilities in general? What did you like/not like about the training?
- What do you think the ASD-specific training should look like for officers?
  - Mandatory/voluntary, What types of information should be included?, When should LEOs receive this training?, Who should develop the training?, Who should facilitate the training?
What knowledge and skills do you think officers need in order to best serve people with autism?

How should information be presented during the training to ensure that officers leave feeling best equipped to serve members of the autism community?

- Should members of the ASD community be involved in training development and implementation? Duration and frequency of training (i.e., one time versus multiple), Format (e.g., lecture, PowerPoint, group discussion, role-plays with actors/individuals with ASD, modeling/feedback)

Caregiver Interview Schedule (CIS)

Thank you for taking the time to participate in the study. Your participation is completely voluntary and your responses will be kept entirely confidential, as reviewed in the consent form. The interview should last approximately 1 hour. Do you have any questions before we begin?

I am interested in understanding perceptions existing in the autism community about interactions with law enforcement. I am also interested in your suggestions regarding training that officers receive related to autism. The first set of questions is about your child and any interactions that he/she may have had with law enforcement.

- Tell me about your child with autism. When were they first diagnosed with autism?
- Has your child with autism ever had an interaction with a LEO? Tell me about the most recent interaction.
  - IF YES
    - Describe what the officer did well to support your child during that interaction. Describe what the office could have done to better support our child.
    - Where did it occur? What was the individual doing? What was the outcome of the interaction (i.e., arrest, ticket, de-escalation strategies used, etc.)? Were you present for the interaction? Was anyone else present? (If no, how did you find out about encounter?) Did you feel your child was treated fairly during the interaction- why or why not?
  - IF NO:
    - If younger - Have you ever thought about what might happen if your child came into contact with a law enforcement officer and you weren’t around?
    - If older - As he/she gets older, have you thought about how he/she might interact?
- How do you think officers would be able to tell your child had autism when they first come into contact with him/her?
- How do you think that law enforcement officers would respond to your child?

This next set of questions relates to suggestions for ASD-specific training for officers.

- Do you think it’s important for officers to have training specific to autism?
  - Why or why not?
Should the training be separate from training on mental illness and other disabilities? Why or why not?

If you were talking to officers about your child, what would you want them to know?

How would you want that information presented to LEOs?

Adult Interview Schedule (AIS)
Thank you for taking the time to participate in the study. Your participation is completely voluntary and your responses will be kept entirely confidential, as reviewed in the consent form. The interview should last approximately 1 hour. Do you have any questions before we begin?

I am interested in understanding perceptions existing in the autism community about interactions with law enforcement. I am also interested in your suggestions regarding training that officers receive related to autism. The first set of questions is about you and any interactions that you may have had with officers.

Tell me about yourself. Can you remember when you first learned you had autism?

I’m interested in how police officers and people with autism get along/interact. Have you ever had an interaction with a police officer?

If YES,

- Tell me more about that. Describe what the officer did well to support you. Describe what the officer could have done to better support you.

If NO,

- Have you ever thought about what might happen if you came into contact with an officer.
- Do you think an officer would be able to notice that you that autism? If yes, how would an officer be able to tell that you have autism? If not, tell me more about that.
- Have you ever wanted to talk to a police officer? What would you want to say to him/her?

This next set of questions relates to suggestions for ASD-specific training for officers.

Do you think it’s important for officers to have training specific to autism?

- Why or why not?
- Should the training be separate from training on other disabilities? Why or why not?

What do you think that they should teach police officers about people with autism?

- Who do you think would be the best teacher for them? How do you think they should present?

What could the people leading the training do to help teach police officers?

General probes to be used throughout interview suggested by Harrell and Bradley (2009):

- For Clarity/Specificity
- Can you be more specific? Can you tell me more about that? What do you think? Which answer comes closest to how you feel/think? What makes you think that?

- *For completeness:*
  - Anything else? Tell me more.

- *Other probing techniques*
  - Repeat the question; echo their answer; pause for a few seconds
Appendix D  
Participant Phone Screening Questions

During the initial phone call, I plan to use the screening questions to determine if participants are eligible for participation before scheduling the interview. The screening questions will be dependent on the participant type.

Screening questions for **LEOs** are as follows:
1. Are you over the age of 18?
2. Are you currently serving as an officer in a law enforcement department (i.e., not an officer in training)?
3. Do you speak fluently in English?
4. Have you had a previous experience with someone you believed to have autism?

Screening questions for **adults with ASD** are as follows:
1. Are you over the age of 18?
2. Do you have a formal “autism” diagnosis?
3. Are you able to communicate during a one-on-one interview with a researcher? Tell me more about your preferred mode of communication.
4. What types of supports and accommodations do you want and/or need during the interview?

Screening questions for **caregivers** are as follows:
1. Are you over the age of 18?
2. Do you speak fluently in English?
3. Do you have a child who is 5 years or older?
4. Has that child received a formal autism diagnosis?
Appendix E
Memo After Interview with A2

Throughout the interview, A2 emphasized the importance of officers understanding how he “works” and “functions.” At times, A2 would talk in repetitive circles, become distracted by external stimuli, and engage in scripting. At one point, A2 even dozed off. Since he requested a support staff member be present, he often asked her to answer questions, particularly about one interaction with officers for which she was present. The staff member appeared to know A2 well, and she provided insight into how officers can best support A2. During the interview, A2 was quite distractible and affected by loud noises and people around the study room. These reactions gave me insight into how A2 may present behaviorally in interactions with officers. I often had to repeat or rephrase questions, which makes me think about the importance of ensuring officers do the same thing. I plan to ask officers specifically about how they would alter their communication to support people with autism? I also found it to be challenging to keep A2 engaged the entire time, and his staff members reported that he typically gets too tired after about 30 minutes of interaction. This again made me think about how his fatigue and disengagement would be perceived by officers, particularly if he didn’t have support staff present.

After talking to A2’s case worker on the phone prior to the interview, I understood that A2 had limited expressive language unless directly asked questions. Again, this was reflected in the interviewing and the way I had to alter my questions. However, I was led to think about how officers may have to ask questions and change their wording. I found this difficult to do at times, even with training in this area, so it reiterated the importance of training officers to simplify and rephrase questions and statements for people with autism, as needed. Of note, when asked to reflect on past interactions with officers, A2’s nonverbal behavior suggested that he was overwhelmed and anxious thinking about it. So, he asked his support staff to explain the story, and he did not become anxious as she discussed the story. Thus, this made me reflect on how real-life interactions with officers can be incredibly traumatic and stressful for people with autism, given that A2 became overwhelmed just thinking about stories that happened a year or more ago. It was helpful to see A2 work with his support staff to convey information and to see how much he trusted her and relied on her. I can only imagine how much better encounters between A2 and officers would go if his support staff member was present – my guess is that it would make a world of difference!
References


Council of State Governments Justice Center.


VITA
Kirsten S. Railey, M.S., BCBA

EDUCATION

2014-2018  Board Certified Behavior Analyst (BCBA) Certification
            University of Kentucky; Lexington, KY
            Certification Number: 1-18-30906

2013-2014  Master of Science in School Psychology
            University of Kentucky; Lexington, KY

2009-2013  Bachelor of Science in Psychology
            Furman University; Greenville, SC

PROFESSIONAL EXPERIENCE

2018-2019  Adjunct Instructor
            College of Education, Georgetown College

2018      Adjunct Instructor
            Academic Preparation Program, University of Kentucky

2017-2019  Teaching Assistant, Academic Coaching Program
            Transformative Learning, University of Kentucky

2017-2019  Adjunct Instructor
            College of Education, University of Kentucky

2017-2019  SPERO Autism Clinic, Lexington, KY
            Graduate Student Assistant

2017-2019  Academic Coaching Research Team Member

2017-2018  Morton Middle and Cassidy Elementary Schools, Lexington, KY
            Pre-doctoral School Psychology Intern

2016-present  Police-Autism Community Training (PACT) Researcher & Facilitator

2015-2018  Applied Behavior Analysis Research Team Member

2015-2017  Teaching Assistant
            College of Education, University of Kentucky

2013-2019  Autism Spectrum Disorder Research Team Member

2012-2013 Furman Advantage Research Fellow for the Child Development Laboratory

2011-2013 Undergraduate Teaching Assistant
*Psychology Department, Furman University*

### SCHOLASTIC AND PROFESSIONAL HONORS

#### 2018
Co-investigator on grant funded by Kentucky Statewide Advisory Council on Autism Spectrum Disorder for project titled *Promoting Positive Interactions among First Responders and Individuals with Autism Spectrum Disorder.* ($20,000)

#### 2017
Dissertation grant funded by the Autism Society of the Bluegrass for the projected titled *An Exploration of Law Enforcement Officers’ Training Needs and Interactions with Individuals with Autism Spectrum Disorder.* ($503)

Co-investigator on grant funded by the Student Activities Board at the University of Kentucky to support weeklong campaign titled *The R-Word is Not Our Word.* ($1,500).

#### 2018 & 2019
Philanthropic Educational Organization (PEO) National Scholar Award Nominee

#### 2017
Conference Funding Award, University of Kentucky College of Education ($650)

#### 2016-2018
Elected Member of Kentucky’s Statewide Racial Justice Committee for *Kentuckians for the Commonwealth*

Elected Member of Kentucky’s Statewide Economic Justice Committee for *Kentuckians for the Commonwealth*

#### 2015
Research Activity Award, University of Kentucky College of Education ($250)

#### 2014-2015
Kentucky Opportunity Fellowship at the University of Kentucky ($16,000)

#### 2014
Research Activity Award, University of Kentucky College of Education ($250)

Conference Funding Award, University of Kentucky College of Education ($400)

#### 2013
Charles L. Brewer Award, given to the ‘most outstanding Psychology student at Furman University ($1,500)

Recipient of the Psi Chi Regional Research Award at the Southeastern Psychological Association Conference in Atlanta, GA

Inducted into *Phi Beta Kappa* Honor Society

2013 Inducted into *Phi Kappa Phi* Honor Society

2012 Inducted into *Psi Chi Psychology* Honor Society
2012  Furman Advantage Research Fellowship Recipient ($3,000)
2011  Furman Advantage Internship Fellowship Recipient ($3,000)
2010  Inducted into Phi Eta Sigma Honor Society
2009-2013 Furman University Academic Achievement Scholarship ($25,000/year)

PUBLICATIONS AND CONFERENCE PRESENTATIONS

Accepted Publications

Book Chapters

Invited Refereed Presentations
Refereed Presentations


