A TEST OF THE IMAGINED CONTACT HYPOTHESIS: CREATING POSITIVE PERCEPTIONS OF INDIVDIUALS WITH AUTISM SPECTRUM DISORDER

by

SARAH CABAN

(Under the Direction of Analisa Arroyo)

ABSTRACT

The current study sought to investigate the effect of imagined contact (i.e., instructed contact where participants are prompted to imagine an interaction with an out-group member) on increasing positive perceptions of individuals with Autism Spectrum Disorder (ASD). Participants included 320 students that were randomly assigned to one of four conditions (positive/labeled, positive/unlabeled, negative/labeled, negative/unlabeled) and rate the perceptions of an imagined person's communication competence (i.e., appropriateness, effectiveness, and empathy). Results revealed that (a) imagining a positive interaction resulted in higher perceptions of communication competence, (b) having an ASD label assigned to the imagined person resulted in higher levels of perceived communication effectiveness (c) the interaction between labeling and valence did not effect participants' perceptions of communication competence. These results suggest that labeling individuals with ASD during initial interactions with others may be problematic but improving perceptions of these individuals is dependent on whether the interaction is positive or negative.

INDEX WORD: Autism Spectrum Disorder; contact hypothesis; perceptions; communication competence; intergroup communication

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BA, University of Georgia, 2016

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

MASTER OF ARTS

ATHENS, GEORGIA

2018

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May 2018

DEDICATION

To all the people that have felt “less than” others. I hope that one day we can look past the differences and understand that those differences are not what define us.

ACKNOWLEDGEMENTS

This thesis project would not have been possible without my advisor, Dr. Analisa Arroyo. Throughout the past four years that I have been your student, I have learned so much from you, both personally and professionally. I cannot thank you enough for all of the time and effort that you have put forward in helping me both complete this project and develop as a scholar. The advice that you have given me throughout my time here at the University of Georgia has been more valuable than you will ever know. You have inspired me in more ways than one and I don't think I will ever be able to express my gratitude to you!

I would also like to thank my committee members, Dr. Tina Harris and Dr. Jennifer Monahan. Dr. Harris, I honestly would not be here if it wasn't for your suggestion that I apply to this graduate program. Your confidence in me as an undergrad, and now a graduate student, is something that I will always be grateful for. Dr. Monahan, thank you for pushing me to be a better version of myself. Your guidance and support has been invaluable to me over the past two years. Both of you have done so much for me and I am so thankful to have you both on my committee!

I would like to thank my family. Mom and Papito, thank you for always being the voice of reason for me. Without your love and support, I know that I would not be where I am today. Matthew and Mitchell, thank you for reminding me of what life outside of graduate school is like (it was always nice to be reminded of the "real" world). I have enjoyed watching each of you grow and I cannot wait to see what your futures hold as I complete this chapter of my life and you both enter into your next big milestones. I am just so lucky to be a part of such a great and loving family!

Finally, thank you to all of my friends, both in and outside of this program for your support! Thank you to all of my friends outside of the department that have had to endure all of the grad school talk, complaining and listening to all of random research findings that I bring up all of the time. I know you all are probably just as excited that I am done! As for my friends within this department, I honestly never would've imagined that I would have met such amazing people during the past two years. Each of you have made such an impact on my life in such a short time and I am excited to see where your lives take you in the years to come.

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CHAPTER 1

RATIONALE

Introduction

Autism Spectrum Disorder (ASD) has become one of the fastest growing developmental disorders diagnosed in the United States (Autism Speaks, 2017), with on average 1 in 68 individuals being diagnosed (Christensen, 2012). Key components of ASD include deficits in reading and responding to the social environment around them (Baron-Cohen, 1989; Ozonoff & Miller, 1995; Wing, 1996), wherein two of the most common symptoms include: exhibiting intense fixed interests and a lack understanding of social reciprocity in their day-to-day interactions (Baron-Cohen, 1988). Although individuals with ASD were once thought to be highly dependent on caregivers for their entire lives due to their social communication disorder, a more recent study has shown that the rate of individuals diagnosed with ASD that go on to live independently has increased (Levy & Perry, 2011). In turn, attendance at post-secondary educational institutions and in the workforce has become more common for those with ASD, creating an increased likelihood that typically developing persons (a common term used to describe those without ASD) will come into contact with someone with ASD during their adulthood. Because forming and maintaining social relationships are difficult for individuals with ASD, their social differences often result in them being ostracized by their peers (Gantman, Kapp, Orenski, & Laugeson, 2011; Shtayermman, 2007; Swaim & Morgan, 2001). As the growth of the disorder continues to increase at a rapid pace, it is important to focus on expanding ASD research to better understand strategies that will assist in their integration into interpersonal settings with typically developing individuals.

Although societal perceptions of an ASD diagnosis appear to have improved, there are still many negative perceptions associated with individuals that are placed in this group (Gobbo & Shmusky, 2014; Payne & Wood, 2016; Wood & Freeth, 2016). One common area that individuals with ASD are evaluated poorly on is their ability to master communication skills (Wilkinson, 1998). Communicating with someone with ASD without knowledge of their diagnosis can be problematic because individuals base perceptions on the amount of information that is initially collected through interpersonal interactions. Because communication is a key component to having a functional interpersonal relationship, an individual's perceived level of communication skills is likely to change how favorable/unfavorable the individual is to their peers. Although communication skills for individuals with ASD can be improved through intervention practices (Magiati, Tay & Howlin, 2012), it is possible that many individuals with ASD will not be perceived to have the same level of communication competence as those of typically developing individuals and are likely to be penalized socially for their developmental disorder; however, by increasing awareness of and coming in contact with those who have and exhibit symptoms of ASD, typically developing individuals have the potential to minimize negative perceptions. In turn, this could result in benefits for not only the individuals with ASD, but also in helping family members better understand how to publicly cope with their child's diagnosis and assist in helping to integrate them in society, which consists mostly of typically developing individuals. Prior research on attitudes towards individuals with disabilities supports this claim, showing that using direct contact (e.g., having face-to-face contact) is a useful tactic in reducing negative perceptions (Anderson, Schleien, McAvoy, Lais, & Seligman, 1997). Therefore, this study utilizes a form of Allport's (1954) Contact Hypothesis as a way to improve perceptions of individuals with ASD.

High Functioning Autism Spectrum Disorder and Communication Competence

Since publication of the DSM-5 diagnostic manual, diagnoses that were previously known as "Autistic Disorder," "Childhood Disintegrative Disorder," "Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS)", and "Asperger Syndrome" became categorized as Autism Spectrum Disorder (National Institute of Neurological Disorders and Stroke, 2015). According to the DSM-5, individuals with an ASD diagnosis are characterized by persistent deficits in social communication and social interaction (American Psychiatric Association 2013). Some common symptoms include difficulties with reciprocating social-emotional responses, exhibiting unusual social approach, difficulty with having back-and-forth conversations, reduced sharing of interests or affect, and difficulty responding to social interactions. Although ASD is a developmental disorder, the overarching term allows for many different variations of how ASD's symptoms may manifest in different individuals. For example, individuals that are categorized as having "High-Functioning ASD" typically have normal to high IQs, but have difficulties with understanding social cues, whereas individuals that have "Low-Functioning ASD" typically have below average IQs, delayed verbal communicative skills, and/or deficiencies in social skill development (Autism Speaks, 2010). In an experiment that consisted of showing children and adolescence with ASD videos of typically developing children of the same age, children with ASD were unable to identify socially inappropriate behavior and often did not understand social cues that differentiate "the good" from "the bad" (Loveland, Pearson, Tunali- Kotoski, Ortegon, & Gibbs, 2001). Children with High-Functioning ASD (i.e., with no intellectual disability) ranging in age from 9-14 years old have been shown to not perform as well as typically developing children when instructed to label the emotion felt by others, in assuming the role and perspective of others, or in responding empathetically (Yirmiya, Sigman, Kasari & Mundy,

1992). Their study highlights the need to study the outcomes associated with ASD being a social communication disorder rather than an intellectual or mental health disorder. Although previous research concerning individuals with ASD and their communication has primarily focused on identifying common difficulties associated with the disorder and providing interventions to improve social skills for people with ASD (Loveland et al., 2001; Yirmiya et al., 1992), few studies have focused on the conversational receiver's perspective of the difficulties of ASD.

The current study focuses on symptoms characteristic of individuals with High-Functioning ASD because they often hold normal to high IQ levels, while also meeting the criteria for ASD (Baron-Cohen & Wheelwright, 2004). Given the appearance is indistinguishable from a typically developing individual, those with High-Functioning ASD are often perceived negatively because they are compared to the social expectations of those that are typically developing (Chambres, Auxiette, Vansingle & Gil, 2008); as a result, individuals with High-Functioning ASD are regarded as awkward, obsessive, introverted or withdrawn, as well as having difficult personality behaviors and poor social skills (Gobbo & Shmusky, 2014; Wood & Freeth, 2016). This is problematic for individuals with ASD because social skills are related to peer acceptance (Greco & Morris, 2005; Miller & Coll, 2007), as well as satisfaction and commitment levels within their relationships (Greco & Morris, 2005; Miller & Coll, 2007; Arroyo & Segrin, 2011). This is also exemplified in the findings of Sigman et al's (1999) research that found only 27% of children with ASD in their study identified having a best friend. Thus, the current study adds to the literature by examining whether perceptions of individuals with ASD's communication competence can be positively altered via imagined contact with individuals with ASD.

Intergroup Contact Theory and the Contact Hypothesis

Tajfel (2010) explained that social groups are formed from emotional similarities within their individual identities, which are then evaluated to determine placement into a particular group (e.g., men, skinny, Republican, etc.). For example, emotional similarities for those with ASD may be the emotions that come from the stigmatizing disorder (i.e., emotions associated with being seen as "less than" their typically developing peers). These groups assist in defining a person's place in society by allowing comparisons to be made with other social groups (e.g., women, fat, Democrat, etc.), ultimately deciding where individuals fit in society based on similarities and differences (Tajfel, 2010). In characterizing social groups, individuals create in-groups (i.e., us) and out-groups (i.e., them) in effort to define their own group positively and to establish privileges over the members of out-groups (Tajfel, 2010; Turner, 1975). In terms of individuals with ASD, it is likely that typically developing persons perceive those with developmental disorders as an out-group, due their unusual communication behaviors being related to mental deficits.

Many disciplines have researched the effects of intergroup contact on reducing prejudice and biases associated with out-groups, specifically as it concerns racial and ethnic tensions (e.g., Allport, 1954; Brown, Jackson, Brown, Sellers, Keiper & Manuel, 2003; Sigelman & Welch, 1993). Many studies have supported Allport's (1954) Contact Hypothesis, which was originally tested to determine whether contact is an effective strategy for reducing negative race relationships. The Contact Hypothesis, also known as the Intergroup Contact Theory, has been utilized as a strategy to reduce intergroup biases (Allport, 1954; Gaertner, Rust, Dovidio, Bachman & Anastasio, 1994; Pettigrew, 1998). It ultimately posits that under certain conditions, intergroup contact has great potential to create harmony between different groups. According to

Allport (1954), the most ideal conditions for intergroup contact include: contact between groups that have cooperation, support from authorities, common goals and equal social status. These four conditions together have shown to foster lower hostility toward and more favorable opinions of the out-group. Each condition assists in improving the quality of the overall interaction and helps individuals process information about out-groups in a way that allows for a reduction in anxiety and minimization of ignorance about the out-group (Stephan & Stephan, 1985). Reducing anxiety has been shown to aid in creating favorable and more accurate impressions of the out-group members, as well as helping to refute any associated negative stereotypes (Berger & Calabrese, 1975; Islam & Hewstone, 1993). Thus, in order to allow for more positive perceptions of out-groups, anxieties toward that specific group need to be reduced by improving the overall quality of the interaction. Under unfavorable conditions, individuals are more likely to perpetuate more prejudice about the out-group, which may result in increased tensions between the two groups (Amir, 1976). Although there has been speculation on whether quality or quantity of the interaction is the driving force, multiple studies concluded that it was quality, not quantity, that was a determining factor for whether participants reported wanting to engage in future interaction with out-group members (e.g., Black individuals; Plant & Devine, 2003; individuals with intellectual disabilities; McManus, Feyes & Saucier, 2011). This supports the core tenet of the Contact Hypothesis, exemplifying the importance of the quality of the interaction in reducing negative attitudes towards out-groups.

Research findings supporting the Contact Hypothesis (Allport, 1954) are abundant, starting with research concerning the separation of racial groups. Much contact research conducted around improving relations between Black and White individuals during and after desegregation has examined the role that housing projects and interracial friendships have on

improving race relations overall (e.g., Powers & Ellison 1995; Smith 1994; Works, 1961). Each of these studies concluded that contact with individuals that were in close, prolonged relationships with the other race held less discriminatory beliefs and better overall attitudes. The contact literature has also found support for other racial and ethnically separated groups, such as Asian immigrants and Americans (Riordan, 1987), and German and Turkish children (Wagner, Hewstone, & Machleit, 1989). Although research has continued to focus on racial and ethnic relationships (e.g., Sigelman & Welch, 1993; Plant and Devine, 2003), the Contact Hypothesis has also found support when applied to other populations, including gay men (Riggle, Ellis, & Crawford, 1996), and more recently individuals diagnosed with stigmatized illnesses (Werth & Lord, 1992) and disabilities (McManus et al., 2011). All of which have utilized various methodological approaches, such as surveys (Sigelman & Welch 1993; McManus et al., 2011) and experimental designs (e.g., Riggle et al., 1996).

Although the Contact Hypothesis (Allport, 1954) is heavily supported, concerns have been raised about the practicality of face-to-face interactions (i.e., direct contact) between different groups (Crisp & Turner, 2009; Dixon, Durrheim & Tredoux, 2005). Some scholars have expressed concerns about the ability to facilitate direct contact between are largely racially, ethnically, culturally or geographically segregated groups (Crisp & Turner, 2009), and others have highlighted that certain factors (e.g., exposure to negative stereotypes) can also play a part in causing negative attitudes after contact with out-groups (Greenland & Brown, 1999; Harwood 2010; Paolini, Harwood, & Rubin, 2010). In other words, with direct contact, there is less control over whether an interaction is seen as positive or negative and is not always the most conducive when connecting different social groups. In order to combat these issues with direct contact,

researchers have implemented indirect contact strategies, such as the imagined contact, to move beyond face-to-face interactions.

The Imagined Contact Technique prompts individuals to envision an interaction with an out-group member, creating similar emotional responses to those that an individual is likely to experience in a face-to face interaction (Crisp & Turner, 2009; Dadds, Bovbjerg, Redd, & Cutmore, 1997; Harwood, Paolini, Joyce, Rubin & Arroyo, 2010; Stathi & Crisp, 2008; Turner & West, 2012). For example, studies have shown that that mental imagery holds the same neurological foundation as perception and enacts similar processes as memory and emotion (Kosslyn, Ganis & Thompson, 2001). According to Crisp and Turner (2009), there are two key elements that assist in the effectiveness of the imagined contact: the instructions for the simulated contact and a positive tone. They explain that the instructions (e.g., prompting participants to imagine a positive, initial interaction with a stranger) are important in helping to process mental scripts of that type of interaction. Positive tone (e.g., specifying the valence of the interaction in the study instruction) is crucial in controlling any predispositions that they may have to view interactions negatively.

Research indicates that imagined contact can have an effect on both implicit and explicit biases people hold and has yielded support for the role of imagined contact in creating more positive attitudes towards groups prone to biases (e.g., gender; indigenous persons (Mestizos), older adult stereotypes, mental health issues; Blair, Ma & Lenton, 2001; Turner, Crisp, & Lambert, 2007; Stathi & Crisp, 2008). Previous studies have also identified the usefulness of imagined contact in reducing biases associated with populations similar to those with ASD (Cameron, Rutland, Turner, Nicolas, and Powell, 2011; West, Holmes, & Hewstone, 2011). When testing the imagined contact among 10-year-old children, Cameron et al. (2011) found that

imagined contact aided in increasing positive perceptions of physically disabled children's level of competence, a common misconception associated with physical disabilities. In addition, research focusing on stigmatized out-groups with less visible identifying characteristics (e.g., schizophrenia; West et al., 2011) also suggested additional support for the Imagined Contact Hypothesis (Crisp & Turner, 2009). Although ASD is associated with many of the same stereotypes as those other physical disabilities and mental health disorders, it is also a disorder that varies considerably in the severity of its symptoms, all of which are seated within deficits in social behavior.

Given that there is more diversity (i.e., a spectrum of diagnoses, symptoms, criteria) in ASD than other developmental disorders (e.g., Down Syndrome, Tourret Syndrome), individuals with ASD may exhibit some, but not all, aspects of the disorder. Therefore, there is a need to look at ways to improve perceptions of individuals with ASD to ensure that they are not inaccurately perceived because of their broad diagnosis. Because of the ability to illicit responses similar to face-to-face interactions (Kosslyn et al., 2011), imagined contact is a realistic and attainable method that will likely mirror real-life experiences (Dadds et al., 1997). Since imagined contact allows researchers to create positive and negative experiences for participants, utilizing this technique will likely make communication skills associated with High-Functioning ASD more salient and identifiable to others in the interaction. More specifically, it is possible that the imagined contact can help reduce common uncertainties that may be present from the lack of direct exposure to those with ASD and help to create emotional connections with someone from this lesser-known out-group.

The Current Study

Because of the specific interpersonal difficulties experienced by individuals with high functioning ASD, the current study will focus on the role of communication competence in others' perceptions of the imagined person. More specifically, common symptoms of individuals with ASD can arguably be connected back to a perceived lack of appropriate and effective communication skills, as well as deficits in communicating empathy (Gobbo & Shmusky, 2014; Ozonoff & Miller, 1995). Although researchers have looked at a multitude of dimensions that make up communication competence (e.g., Canary & Spitzberg, 1987; Rubin & Martin, 1994; Weimann, 1977), a lack of appropriateness, effectiveness, and empathy are likely to be pivotal in the formation of negative perceptions about individuals with ASD's communication skills.

This study conceptualizes interpersonal communication competence as a skill set that involves having behaviors that vary based on situational and personal contexts, having the ability to understand the appropriate behaviors for different social contexts, enacting those behaviors to achieve the desired goal, and being able to understand others' experiences and feelings (Adler & Towne, 2003; Rucker & Davis-Showell, 2010). The conceptualization for this study is in line with much of the literature on communication competence, identifying *appropriateness,* which is the ability to acquire and utilize encoding and decoding skills that are necessary to adhere to the situational and relational rules within a communicative context (Canary & Spitzberg, 1987; Monge, Bachman, Dillard & Eisenberg, 1982; Rucker & Davis-Showell, 2010) and *effectiveness,* which is an individual's ability to achieve a desired goal (Adler &Towne, 2003; Rucker & Davis-Showell, 2010; Westmyer, DiCioccio & Rubin, 1998) as two primary components. In addition, *empathy* is also an important factor of communication competence, which is conceptualized as the ability to understand and relate to the perceived experiences of others

(Singer & Lamm, 2009; Wiemann, 1977).

Toward that end, this study attempts to understand whether imagined contact can alter individuals' perceptions of the imagined person's communication by better understanding participants' perceptions of the imagined persons' levels of appropriateness, effectiveness and empathy present in the imagined interaction. Specifically, in utilizing the Imagined Contact Framework, the current study attempts to understand the role of (1) interaction valence (i.e., positive vs. negative interaction) and (2) labeling of the diagnosis (i.e., ASD diagnosis known vs. unknown diagnosis), and (3) the interaction between valance and labeling of the diagnosis in reducing the negative perceptions of the communication competence of individuals with ASD. The rationales for each of this study's hypotheses are below.

Valence: Positive versus Negative Contact. As previously noted, an important aspect associated with the success of interpersonal contact is the perceived quality of the interaction. When studying the quality in direct and indirect contact interactions, prior research has operationalized quality as the valence of the interaction experienced by the participants (i.e., positive or negative; Crisp, Stathi, Turner, & Husnu, 2009). With regards to disabilities more generally, research has supported the Contact Hypothesis, suggesting that having direct contact with students with disabilities will result in more positive attitudes towards those with disabilities compared to those that have not had direct contact with individuals with disabilities (McManus et al., 2011; Towfighy-Hooshyar & Zingle 1984). For example, Towfighy-Hooshyar and Zingle (1984) conducted a study that consisted of 2nd-6th grade typically developing students that were in different stages of integration with students with disabilities and found that having students with disabilities present in their classroom made the typically developing students more willing to be in contact with a student with a disability and more accepting of behavior that violated

social norms; however, in their study, it is unclear as to whether the perception changes of the out-group were a result of the quantity of the interactions (i.e., how often they interacted) rather than the quality of the interaction. In an attempt to test the differences between the effects of quality versus quantity on creating more favorable attitudes, McManus et al. (2011) and Plant and Devine (2003) found that quantity and greater knowledge had no effect on individuals' attitudes towards Black individuals and those with intellectual disabilities; instead, the valence of the interaction (e.g., the more positive the interaction) was associated with more positive attitudes. Because research indicates that positive interactions yield more positive perceptions of different out-groups (e.g., schizophrenia; West et al., 2011; older persons; Turner et al. 2007; different ethnic groups; Stathi & Crisp, 2008), it is also hypothesized the valence of the interaction will be related to either positive or negative perceptions of the out-group:

> H1: Individuals who imagine a positive contact interaction with a person with High-Functioning ASD will perceive the imagined person to have more communication competence than individuals who imagine a negative contact interaction.

Labeling the Diagnosis Versus Non-Labeling. Another potentially important component of the success of interpersonal contact is the extent to which concrete knowledge of another's out-group status is realized. For individuals with invisible mental illnesses and disabilities, labeling is a socially acceptable and common form of identifying these out-groups. Although scholars have argued about the positive and negative outcomes associated with labeling stigmatized identities, some research indicates that there are benefits to labeling an individual with ASD. For example, from a sociological perspective, labeling mental illnesses puts the individual in a "patient" role, thus creating a sense of responsibility on societal members for helping the

individual to comply with medical information (Parson, 1951). In turn, others within their social network are likely to be more involved in the lives of those labeled with stigmatizing diagnoses (Perry, 2011). Although there is speculation about whether labeling individuals with a stigmatized diagnosis creates an increase in social distance between themselves and others, research has highlighted that social distance comes from the deviant behavior that is exhibited by the individual, *not* the label itself (Lehman, Joy, Kreisman, & Simmens, 1976).

Although the theory was not tested in this study, Uncertainty Reduction Theory (URT) (Berger & Calabrese, 1975) may help to inform this hypothesis as well. URT (Berger & Calabrese, 1975) posits that, in encounters with strangers, individuals are primarily concerned with reducing their level of uncertainty and increasing the predictability about the conversational partners' behaviors. Findings from Stephan & Stephan (1985) corroborates the central argument of URT and suggests that labeling is a component that aids in reducing uncertainties related to unexpected behavior, which in turn improved perceptions. Research specific to ASD also suggested that labeling did not impact stigmatization of individuals with Asperger's Disorder (a disorder that would not be classified as High-Functioning ASD by the DSM-5 standards), demonstrating that labeling actually allows for others to associate more positive attributes to those with the diagnosis (Butler and Gillis, 2010). This research indicates that labeling the diagnosis helps to achieve more positive attitudes from others through creating more certainty about their conversational partner; therefore, it is hypothesized that:

> H2: Individuals who imagine an interaction in which the imagined person is labeled as having ASD will perceive him/her to have more communication competence than individuals who imagine interacting with someone without the ASD label.

Valence and Labeling. As previously stated, the valence of the interaction and the labeling of the diagnosis both play crucial roles in reducing negative perceptions. Although the Contact Hypothesis (Allport, 1954) posits that quality is the key factor in more positive perception changes, it is important to understand the interaction between labeling and quality. Labeling allows for the conversational partner of an individual with ASD to be given more information and gives the appearance that the conversational partner has more knowledge about the person with whom they are communicating with, which is likely to cause a change in expectation based on the perception of ASD qualities (Chambres et al., 2008; Perry 2011). However, Chambres et al.(2008) appears to be the only study that attempts to identify how the labeling of an individual with ASD and changing the quality of the interaction can alter how bystanders perceive the individual with ASD.

In their study, Chambres et al. (2008) instructed participants to watch four video clips of four different behaviors exhibited by a child with ASD and rate the behavior of the child in each video (i.e., aggressive, intelligent, rude, etc.). Their findings suggest that, in regard to the social (i.e., well- raised, aggressive, unruly, nice, well-behaved), cognitive (i.e. intelligent, quick-minded, alert), and emotional behaviors (i.e., anxiety-ridden, worried), adults in this study attributed significantly higher evaluation scores towards the 6-year-old child in the videos with non-problematic behavior when the child's ASD diagnosis was revealed compared to when they had no context for the child's behavior. In addition, Chambres et al. (2008) found that in the social dimension behaviors, labeling still had a significant effect in the problematic conditions (e.g., labeling resulted in higher evaluation scores), whereas in the emotional dimensions,

results suggest that labeling led to lower evaluation scores. Overall, Chambres et al.'s (2008) findings clearly highlight the significance that labeling has in more favorable situations, but their findings are inconsistent when it comes to how labeling affected evaluation scores in unfavorable situations.

As previously noted, according to the Contact Hypothesis (Allport, 1954), when experienced in unfavorable conditions (e.g., negative interactions), intergroup contact is more likely to create more tensions because the behaviors within the interaction are consistent with already negative beliefs (Amir, 1976). Since labeling serves as a way to categorize individuals into out-groups (Ashforth & Humphrey, 1995), labeling in negative interactions may be more harmful than labeling in the positive. Although labeling alone might help someone understand why an individual with ASD is communicating in a particular way, labeling in negative situations has the potential to also create negative stereotypes associated with the labeled group (i.e., poor interactions with someone with ASD → negative perceptions of all individuals with ASD; Greenland & Brown, 1999). Therefore, it is speculated that in order to have the most positive perceptions of an out-group, individuals must not only be labeled with the diagnosis, but the ingroup member must also have a positive experience with the out-group individual. Additionally, given that intergroup contact is often dependent on being labeled (i.e., in order to be an out-group member, individuals must be labeled as such), it is important to further observe how labeling effects each valence condition. Therefore, I hypothesize:

> H3: There is an interaction between valence and label on perceptions of communication competence, such that (a) regardless of labeling, imagined interactions will result in more positive perceptions of individuals when the

individual has imagined a positive interaction compared to a negative interaction, (b) specific to the positive condition, compared to unlabeled interaction, the labeled will result in more positive outcomes when the individual is labeled with ASD, and (c) in the negative interactions, the labeled interactions will have less positive outcomes than when the imagined individual is not labeled.

CHAPTER 2

METHODS

Participants

Participants for this study were recruited using convenience sampling; however, this was an effective means of sampling college students, which was our target population. College-aged students are of interest in this study because the ratio of ASD diagnosis is higher in this cohort (Christensen, 2012), making it more likely that individuals in this cohort have come into contact with someone who has been diagnosed with ASD. Therefore, participants (N = 362) were recruited from the undergraduate research pool through the Communication Studies department at a large Southeastern University. All participants were enrolled in a Communication Studies course and received course credit for participating in the study. Forty-two participants were removed from the final analyses, with 28 of the removed participants coming from the negative/unlabeled condition; thus, the final analyses consisted of 320 participants. Participants were randomly assigned to one of the four conditions (i.e., positive/labeled, positive/unlabeled, negative/labeled, negative/unlabeled). Of the 320 participants, 76 participants were in the positive/labeled condition, 83 participants were in the positive/unlabeled condition, 67 were in the negative/labeled condition, and 94 students were in the negative/unlabeled condition. Students were asked to participate in an online study via Qualtrics. To be eligible for the study, participants had to be 18 years of age or older. In order to participate, students signed up through the department website to attend a lab session. Once students were present at their selected lab

session, they were sent a link to the study. The mean age of participants was 19.50 years old and age ranged from 18 to 26 years old. One hundred and forty-six participants (45.6%) were female, 172 (53.8%) were male, and 2 participants did not identify their sex (0.6%). The majority of participants identified as White/Caucasian/European (*n* = 241; 75.3%). The other races represented in the study consisted of Asian/ Pacific Islander (*n* = 35; 10.9%), African American/Black/African (n = 21; 6.6%), Hispanic/Latino (*n* = 14; 4.4%), multiracial (*n* = 7; 2.2%), and other (*n* = 2; 0.6%).

Design and Procedures

Following a similar research design implemented in the Harwood et al. (2011) study, this experiment consisted of a 2 (Valence: positive imagined contact vs. negative imagined contact) X 2 (Label: labeled vs. unlabeled) factorial design, with conditions being completely crossed. First, participants were asked a series of questions regarding their own demographics. Next, respondents were randomly assigned to one of four imagined interaction scenarios in a between-subject design. Participants were asked to imagine one of the following scenarios: (1) a positive interaction with an unfamiliar individual with ASD and exhibited behaviors characteristic of someone with ASD, (2) a positive interaction with a non-labeled individual that exhibited behaviors characteristic of someone with ASD, (3) a negative interaction with a labeled individual with ASD and exhibited behaviors characteristic of someone with ASD, or (4) a negative interaction with an non-labeled individual that exhibited behaviors characteristic of someone with ASD.

For example, the positive labeled conditions read as follows:

Now, please imagine a really *POSITIVE* conversation with an individual with *Autism Spectrum Disorder*. During this conversation, imagine that this person has difficulties:

> making eye contact, showing he/she is involved in the conversation (e.g. facing away from you), understanding your gestures (e.g. pointing, waving, nodding/shaking head) or using gestures properly his/herself, adjusting the volume, pitch, or speed of his/her speech, expressing his/her emotions and understanding your emotions (e.g., they show limited or exaggerated facial expressions, difficulty interpreting your nonverbal expressions). This person must be a stranger – someone you're imagining meeting for the first time. Try to think of some specific details about the conversation – where it occurs, what the person is wearing, how you feel while talking to them. Please try to build a vivid picture of the *POSITIVE* interaction in your head." Once you have the picture in your head of a really *POSITIVE* conversation with an individual with *Autism Spectrum Disorder* engaging in the behaviors listed above, please click "continue" to move on to the next page and answer the questions to the best of your ability."

Depending on the valence and labeling condition the participants were assigned to, participants were first asked to imagine an interaction with a stranger that was either positive or negative. In addition, participants were told whether or not to imagine a stranger (with no diagnoses specified) or a stranger with Autism Spectrum Disorder. The participants then were told that the imagined character exhibits communication behaviors that the DSM-V outlines as common characteristics to an ASD diagnostics. They were instructed to try and think about specific details, such as where the interaction occurred, what the person was wearing, and how they felt talking to them. Before moving on to the next page of the survey, the participants were reminded about the valance (i.e., positive or negative) and labeling status (i.e., stranger or stranger with ASD) of the imaged interaction.

Because Husnu and Crisp (2010) have shown that elaborating on imagined events is an effective strategy for enhancing the effects of imagined contact, a series of prompts were then asked to help the participants elaborate on their experience; the prompts consisted of open-ended questions asking about the imagined person's appearance, race, age, and specific details about the interaction. After the imagined interaction, participants answered a series of measures assessing their perceptions of the imagined person, including perceptions of their communication competency (i.e., appropriateness, effectiveness, and empathy). Lastly, participants were debriefed and thanked for their participation, as well as given the researcher's contact information for any additional questions.

Measures

Appropriateness was measured using 4 items from Canary and Spitzberg's (1987) General Appropriateness Subscale. Each scale was rated on a 7-point Likert scale, ranging from *(1) strongly disagree* to *(7) strongly agree*. Items were averaged to compute the variables, with higher scores signifying higher levels of appropriateness. Sample items included: "[NAME] said several things that seemed out of place" and "Everything [NAME] said was appropriate." Goodboy, Martin and Bolkan (2009) found Canary and Spitzberg's (1987) overall Conversational Appropriateness Scale to be positively related to student communication satisfaction, exemplifying that the scale has satisfactory predictive validity. Multiple studies have utilized the scale over various contexts (e.g., conflict strategies; Canary & Spitzberg, 1987; computer mediated disclosures, Tidwell & Walther, 2002; uncertainty reduction in interactions; Boucher & Jacobson, 2012). The General Appropriateness Subscale has generally maintained satisfactory reliability (α = .73 to .91; Canary & Spitzberg, 1987; Tidwell & Walther, 2002;

Boucher & Jacobson, 2012). In the current study, this scale was also reliable (α = .81, M = 3.55, SD = 1.29).

Effectiveness was assessed using Canary and Spitzberg's (1987) 11-item Effectiveness Subscale. This scale measured the extent to which the imagined person achieved his/her perceived goal. It was rated on a 7-point Likert scale ranging from *(1) strongly disagree* to *(7) strongly agree*, with high scores exemplified higher levels of effectiveness. Sample items included: "For [NAME], it was a useless conversation" and "[NAME] got what he/she wanted out of the conversation." Miczo, Averbeck, & Mariani (2009) found that effectiveness and affiliative humor (i.e., humor that serves to enhance positive feelings and solidify relational bonds) to be positively related when using Canary and Spitzberg's (1987) Effectiveness Subscale, exemplifying that the scale has satisfactory predictive validity. Multiple studies have utilized the scale in various communication contexts (e.g., conflict strategies; Canary & Spitzberg, 1987; social-sexual communication, Frisby, Dillow, Gaughan & Nordlund, 2011; aggressive humor; Miczo, Averbeck, & Mariani, 2009). The Effectiveness Subscale has generally maintained satisfactory reliability *(*α = .79 to .93; Canary & Spitzberg, 1987; Frisby, Dillow, Gaughan & Nordlund , 2011; Miczo, Averbeck, & Mariani, 2009). In the current study, this scale was also reliable (α = .91, M = 4.46, SD = 1.13).

Empathy was measured using 7 adapted items from Weimann's (1977) Empathy Subscale of the Communication Competence Scale (CCS). The original Weimann (1977) items ask participants to rate another's empathy towards others in general, whereas this study adapted the items to ask participants to focus on the imagined persons' empathy toward the participants. This combined scale was rated on a 7-point Likert scale, ranging from *(1) strongly disagree* to *(7) strongly agree*. Sample items included: "[NAME] let me know he/she understood me," and

"[NAME] easily put his/herself in my shoes." Because Weimann's (1977) Empathy Subscale is often combined with the other subscales of the Communication Competence Scale, there is no evidence of validity for the Empathy Subscale alone; however, psychometric analyses reveal that Weimann's (1977) overall scale has satisfactory convergent and construct validity (Cupach and Spitzberg, 1983; Street, Jr., Mulac, & Wiemann, 1988). Empathy Subscale specifically has previously had satisfactory reliability (i.e., $\alpha = .79$; Jones & Brunner, 1984). In the current study, this scale was reliable ($\alpha = .89$, $M = 4.19$, $SD = 1.25$).

Manipulation Check

Labeling. To check the labeling manipulation, participants were asked: "Please select the answer that best applies to your imagined interaction based on your knowledge." Participants were asked to select one of the following options: "[NAME] has depression," "[NAME] has Autism Spectrum Disorder," or "I was not told whether [NAME] was diagnosed with anything." Fourteen participants were dropped from further analyses for not correctly identifying their imagined persons' label.

Valence. To check the valence manipulation, participants were asked to rate the level of pleasantness and enjoyableness of the interaction on a 7-point likert scale, ranging from *(1) strongly disagree* to *(7) strongly agree*. Twenty-eight participants were dropped from further analyses for not correctly identifying the valence of the imagined interaction.

CHAPTER 3

RESULTS

Before hypothesis testing, descriptive statistics were run for each condition. Means and standard deviations in the four conditions (positive/labeled, positive/unlabeled, negative/labeled and negative/unlabeled) are presented in Table 1.

Table 1

Mean and Standard Deviation of Partner's Communication Competence

	Positive Conditions				**Negative Conditions**			
	Labeled		*Unlabeled*		*Labeled*		*Unlabeled*	
	M	SD	M	SD	M	SD	M	SD
Effectiveness	5.24^{ab}	.59	4.88^{ab}	.76	3.66^{ab}	.77	3.31^{ab}	.83
Appropriate	4.05^{a}	1.05	4.51^{ab}	1.20	2.91^{a}	1.0	2.74^{b}	.92
Empathy	4.61^{a}	.69	4.83^{b}	.81	3.40^{a}	.97	2.92^{ab}	.87

Note. Shared superscript denotes means are significantly different with each dependent variable ($p < .05$).

H1: Valence

In order to test H1, which predicted that individuals in the positive conditions would report more positive perceptions of his/her imagined persons' communication competence compared to the negative conditions, a series of independent samples *t*-tests were conducted to compare the means between the positive and negative conditions. A total of three tests were conducted where each of the competence measures were the dependent variables in separate

tests. As indicated by the means in Table 1, results determined that individuals in the positive conditions reported that their partner had higher levels of perceived effectiveness ($t(311.63) = -18.69$, $p < .001$, Cohen's $d = 2.09$), appropriateness ($t(305.67) = -12.51$, $p < .001$, Cohen's $d = 1.40$), and empathy ($t(306.07) = -16.73$, $p < .001$, Cohen's $d = 1.87$), compared to individuals in the negative conditions. That is, individuals who imagined a positive interaction with another person perceived that that their partner had higher levels of communication competence than individuals who imagined negative interactions. Thus, H1 was supported.

H2: Labeling

In order to test H2, which predicted that individuals in the labeled conditions would report more positive perceptions of his/her conversational partners' communication competence compared to the unlabeled conditions, a series of independent samples *t*-tests were conducted to compare the means between the labeled and unlabeled conditions. A total of three tests were conducted where each of the competence measures were the dependent variables in separate tests. As indicated by the means in Table 1, the results revealed that those in the labeled conditions reported that their partner had higher levels of effectiveness ($t(318) = -3.68$, $p < .001$, Cohen's $d = .42$) compared to those in the non-labeled conditions, thus the label of ASD significantly affects others' perceptions of effectiveness. However, there were no significant differences between the labeling and non-labeling conditions on the perceptions of appropriateness ($t(317.12) = .39$, $p = .70$, Cohen's $d = .04$) and empathy ($t(318) = -1.75$, $p < .08$, Cohen's $d = .20$). Therefore, H2 was partially supported.

H3: Valence X Labeling

An interaction between valence and labeling was proposed in H3 and was tested by conducting a series of 2x2 univariate ANOVAs. Significant interactions were decomposed by

plotting the slopes at -1/+1 standard deviation (Aiken & West, 1991). In addition, differences in mean scores between each condition were tested by isolating each valences condition and conducting independent samples *t*-tests for labeling and isolating the labeling conditions and conducting a series of independent samples *t*-test for valence.

First, for *effectiveness*, the main effects were significant for both valence ($F(1,316) = 350.15$, $p < .001$, $\eta^2 = .53$) and label ($F(1,316) = 17.36$, $p < .001$, $\eta^2 = .05$), but the interaction between valence and label on perceived level of effectiveness was not significant ($F(1,316) = .000$, *ns*, $\eta^2 < .01$). In other words, for *effectiveness*, positive conditions resulted in more positive perceptions of the imagined persons' level of effectiveness; however, imagined persons that were unlabeled were perceived to be more effective in their communication compared to those that were labeled, ultimately providing partial support for H3a and H3c.

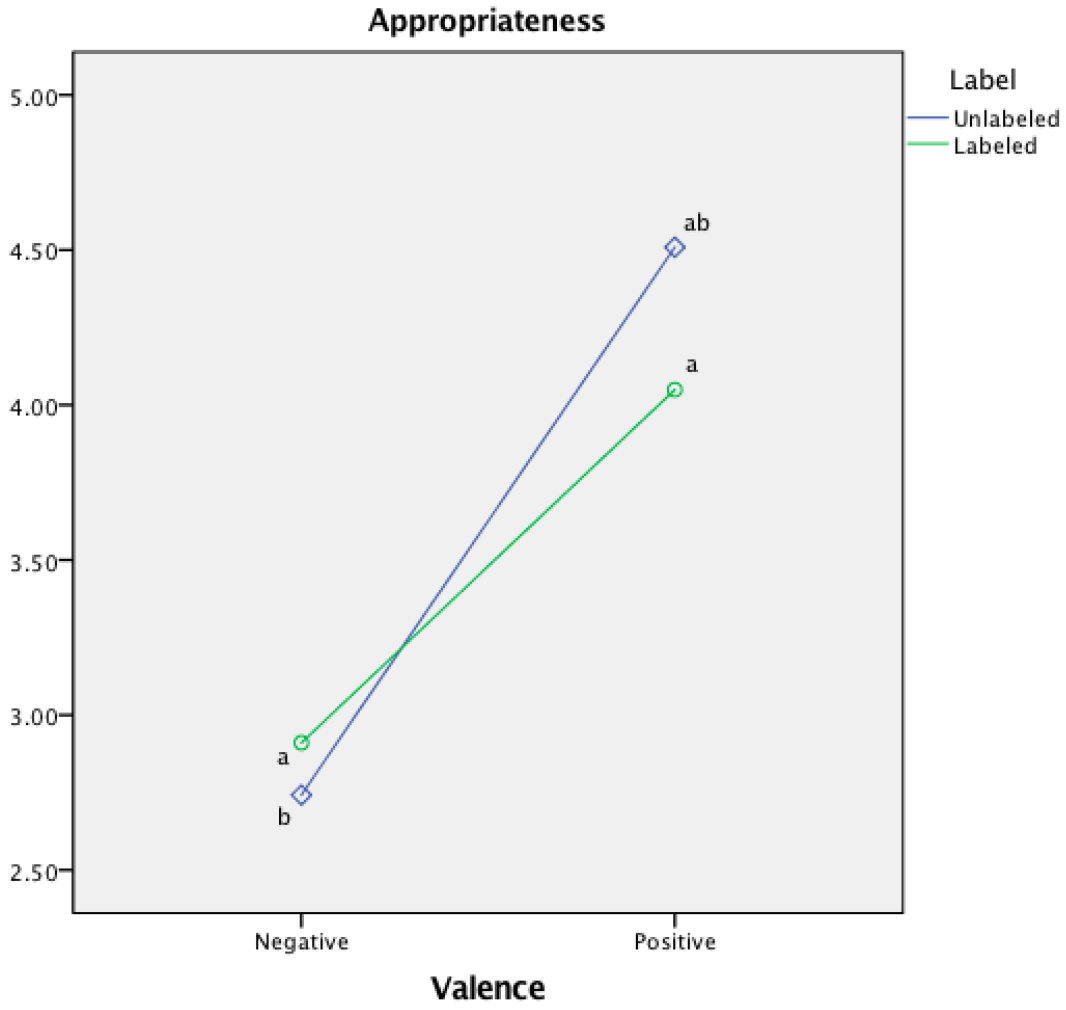
Analyses for *appropriateness* revealed a main effect for valence ($F(1,316) = 152.64$, $p < .001$, $\eta^2 = .33$) such that participants' perception of the imagined persons' appropriateness was higher for positive conditions ($M = 4.30$, SE = .08) than for negative conditions ($M = 2.83$, SE = . 08). As shown in Figure 1, this overall effect for valence was significant even when examined within each of the labeling conditions. When an imagined interaction was labeled, the positive condition was significantly higher than the negative condition, $t(141) = -6.62$, $p < .001$. Similarly, when there was no label, the positive condition was significantly higher than negative condition, $t(152.80) = -10.91$, $p < .001$.

However, this was qualified by the valance X labeling interaction effect, $F(1,316)= 7.13$, $p = .008$, , $\eta^2 = .02$. As shown in Figure 1, there was a significant interaction effect because the unlabeled group resultd in higher amounts of perceived appropriateness in the positive condition, compared to the labeled group; however, in the negative condition, it was the labeled group that

has higher levels of perceived appropriateness compared to unlabeled group. As shown in Figure 1, when the imagined interaction was negative, people in the unlabeled condition were not significantly different from those in the labeled condition, $t(159) = -1.11$, $p = .269$. When the imagined interaction was positive, people in the unlabeled condition reported higher levels of perceived appropriateness than those in the labeled condition, $t(157) = 2.56$, $p = .01$.

In other words, H3a was supported for this dimension, suggesting that imagined individuals in positive interactions were perceived as more appropriate. Although there was a significant interaction, within the positive conditions, the unlabeled group was perceived to have higher perceptions of appropriateness compared to the labeled group; therefore, H2b was not supported. In addition, in the negative conditions, the labeled groups had higher perceived appropriateness than the unlabeled group; thus, H2c was not supported for this dimension.

Figure 1



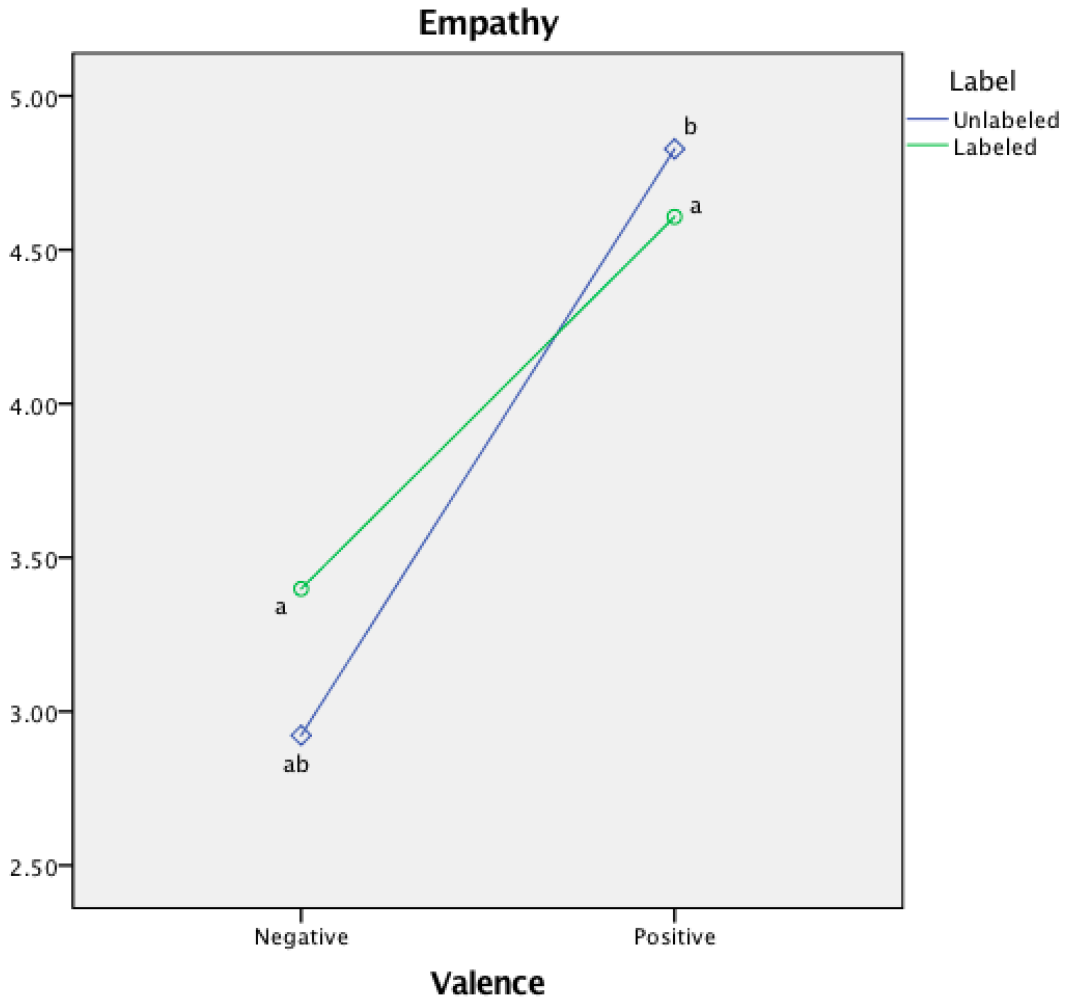
Note. Shared superscript denotes means are significantly different using Independent Samples *t*-test ($p < .05$).

Lastly, analyses for *empathy* reveals there was a main effect for valence ($F(1,316) = 270.74$, $p < .001$, $\eta^2 = .46$) such that participants' perceptions of the imagined persons' empathy was higher for the positive conditions ($M = 4.72$, SE = .07) than for negative conditions ($M = 3.16$, SE = . 07). As shown in Figure 2, this overall effect for valence was significant even when examined within each of the labeling conditions. When an imagined interaction was labeled, the positive condition was significantly higher than negative condition, $t(117) = -8.45$, $p < .001$. Similarly, when there was no label, the positive condition was significantly higher than the negative condition, $t(175) = -15.01$, $p < .001$.

However, this was also qualified by the valance X labeling interaction effect, $F(1, 316)= 13.56$, $p < .001$, , $\eta^2 = .04$. As shown in Figure 2, there was a significant interaction effect because the unlabeled group results in higher amounts of perceived empathy in the positive condition, compared to the labeled group; however, in the negative condition, it was the labeled group that has higher levels of perceived empathy compared to unlabeled group. As shown in Figure 2, when the imagined interaction was negative, participants in the unlabeled condition reported less empathy than those in the labeled condition, $t(159) = -3.25$, $p = .001$. When the imagined interaction was positive, participants in the unlabeled condition reported results that were not significantly different than those in the labeled condition, $t(157) = 1.84$, $p = .07$.

In other words, H3a was supported for this dimension, suggesting that imagined individuals in positive interactions were perceived as more empathetic. Although there was a significant interaction, within the positive conditions, the unlabeled group was perceived to have higher perceptions of empathy compared to the labeled group; therefore, H2b was not supported. In addition, in the negative conditions, the labeled groups had higher perceived empathy than the unlabeled group; thus, H2c was not supported for this dimension.

Figure 2



Note. Shared superscript denotes means are significantly different using independent samples *t*-test ($p < .05$).

Although 2 of the 3 dependent variables yielded significant interaction results, they were directionally opposite of what was hypothesized, particularly as it relates to labeling. H3a was supported in all dimensions. However, H3b and H3c were generally not supported. Thus, H3 overall was generally not supported.

CHAPTER 4

DISCUSSION

In an application of the Contact Hypothesis (Allport, 1954), this study examined the potential communication outcomes (i.e., perceptions of effectiveness, appropriateness, and empathy) of imagining an interaction with an individual with ASD. The results of this study found support for the Imagined Contact Hypothesis, such that participants in the positive interaction conditions reported more positive views of the imagined persons' communication competence than those in the negative conditions. In addition, this study attempted to examine the role that labeling plays in fostering positive perceptions of individuals exhibiting symptoms characteristic to ASD. Results indicated that labeling only had an effect on increasing perceptions of the imagined persons' effective communication skills (but not appropriateness or empathy) compared to those that were not labeled. Lastly, when evaluating the interaction between valence and label, results indicated that it is not the interaction between labeling and valence or labeling alone that results in high levels of positive perceptions, but rather valence that accounts for the majority of perceptual differences concerning conversational partners' communication competence, improving perceptions in all dimensions (i.e., positive interaction lead to more positive perceptions). Although the proposed labeling X valance interaction was not supported, it is important to note that labeling appeared to significantly improve perceptions of empathy but only in the negative interaction condition, not in the positive interaction condition. Although it was not present in all perceptions of the communication competence dimensions, the findings suggest that there may be instances where labeling in negative interactions may be

useful for perceptual improvements. In what follows, I will explain how these findings yield support for the Imagined Contact Hypothesis (Crisp & Turner, 2009), the effect that labeling has on forming positive perceptions, and possible explanations for why labeling resulted in different findings for perceptions of effectiveness, appropriateness, and empathy. In addition, I will speculate on how these findings can be utilized in more applied settings, the associated limitations, and directions for future research.

Imagined Contact Hypothesis

This study focused on ASD as the out-group because symptoms that are characteristic of this disorder primarily manifest in communication behaviors. Unlike other invisible disabilities (e.g., ADHD; Schizophrenia), individuals with ASD are diagnosed solely based in their social communication deficits, (e.g., lack of eye contact, regulating the intonation of their speech, expressing emotions; American Psychological Association, 2013), which make this a unique population from a communication perspective. Because individuals with ASD often communicate with lower social skills than typically developing individuals, they may experience reduced peer acceptance and satisfaction within their relationships (Arroyo & Segrin, 2011; Greco & Morris, 2005; Miller & Coll, 2007); yet, they are likely to be judged more negatively than individuals with more visible disabilities and typically developing individuals because of their seemingly "normal" outer appearance (Chambres, et al., 2008; Osterholm, Nash, & Kritsonis 2007; Hinshaw & Stier, 2008). There is a need to find tactics to better integrate individuals with ASD into society (e.g., school, jobs, etc.) because individuals with High-Functioning ASD are becoming increasingly more responsible for having jobs, attending general education classrooms, and living independently (Levy & Perry, 2011, U.S. Department of Education, 2015); therefore, this study aimed to identify the effectiveness of the imagined

contact on mitigating social obstacles (i.e, improving perceptions) for those with ASD in an attempt to assist typically developing individuals in becoming more accepting of those diagnosed with the disorder.

Not only does this study provide support for Crisp and Turner's (2009) Imagined Contact Hypothesis in that positive imagined interactions were shown to increase positive perceptions of communication competence, a novel contribution to the literature was the inclusion of the effects of labeling. Prior research across various disciplines is inconsistent concerning the effect of labeling on perceptions of individuals with mental health disorders, suggesting that labeling can have both positive and negative effects on perceptions of these individuals (Parson, 1951; Hinshaw & Stier, 2008; Butler and Gillis, 2010; Perry, 2011; DeLustro, 2013); however, the results from this study provide support for the negative outcomes associated with labeling. One explanation for these findings may be because the act of labeling automatically categorizes the individual as an out-group member (Ashforth & Humphrey, 1995). In turn, individuals with ASD are often perceived as dangerous and being unable to control one's behaviors (Hinshaw & Stier, 2008). By being labeled, these individuals are likely recipients of discrimination based on these negative stereotypes (Hinshaw & Stier, 2008; Jussim, Nelson, Manis, & Soffin, 1995). Because of the increased diagnostic rate of ASD (Christensen, 2012), participants were more likely to be predisposed to stereotypes about individuals with ASD and labeling creates an association between the imagined persons and negative stereotypes, hindering the participant's ability to see the imagined individuals' in a positive light.

Perceptions of Communication Competence

Although there were no differences in the findings for dimensions of communication competence in regard to valence, labeling an individual with ASD only had significant effects on

perceptions of effectiveness. These findings may be best explained by unpacking the conceptualization of each dimension. Effective communication centers around a communicators' ability to accomplish the goals concerning the interaction (Spitzberg & Cupach, 1984; Canary & Spitzberg, 1987), whereas appropriateness and empathy is dependent on the situational rules based on the context surrounding the interaction (Canary & Spitzberg, 1987; Wiemann 1977). In other words, the perception of the imagined persons' effective communication was contingent on what the research participant imagined the goal of the interaction to be and whether the imagined person met the expectation placed on them. Appropriateness is contingent on whether the imagined character enacted behaviors that met what was expected in the specific conversation, and empathy was contingent on whether the imagined person exhibited normative verbal and nonverbal communication to convey understanding of participants' point of view. Although all three dimensions are core components of communication competence, only effectiveness is heavily determined and evaluated based on the conversational partners' perceptions and expectations; that is, in the imagined interaction scenario, accomplishing a goal is at the discretion of conversational partner because he/she decides whether the imagined persons' behaviors were sufficient towards the intended goal. On the other hand, even though individuals communicating with those with ASD are likely to change their expectations of their conversational partner (Rohmer, Sahlani, & Louvet, 2000; Chambres et al., 2008), views of appropriateness and empathy are not likely to change because these are evaluated based on normative social cues and expectations, and are not determined by the individual but rather societal or cultural expectations.

In addition, in regard to the valence X labeling interaction, this study suggests that the perceived level of effectiveness was effected by labeling in the positive condition. As shown in

Table 1, the means of the level of effectiveness is significantly higher in the labeled group compared to the unlabeled group; whereas the means for the level of appropriateness and empathy in the positive conditions are higher for the unlabeled group. In the negative condition, labeling led to more positive perceptions for all dimensions as well. Therefore, the imagined individuals' level of effectiveness is positively effected by labeling, but only in the positive condition.

One explanation for this difference likely comes from common perceptions associated with ASD. For example, individuals with ASD are seen as having difficult personality behaviors and poor social skills (Gobbo & Shmusky, 2014; Wood & Freeth, 2016). If these characteristics are believed to be true by the receiver, it may hinder their ability to look past the stereotypes in a situation that is positive and create a less positive perception of the labeled individual compared to the unlabeled individuals; however, these stereotypes do not necessarily relate to achieving instrumental tasks. Therefore, while "having a difficult personality" may be a factor effecting their perceived level of appropriateness in a certain situation or an individual with ASD's ability to communicate empathy, the idea that they may be "difficult" may be a factor that helps them to achieve instrumental, or task oriented, goals. On the other hand, the higher levels of each dimension of communication competence in the negative groups may be largely explained through the logic of Expectancy Violations Theory (Burgoon, 1976), which suggests that when behaviors deviate from the social expectation the receiver either appraises the social expectation deviation as positive or negative. It likely that when the participants are imagining a negative interaction, there are violations of the interaction occurring to make the interaction be viewed as negative; however, although violations are likely to still be present, when individuals are labeled

with ASD, the violations may not be as severe as one would expect because participants hold individuals with ASD to a different standard than typically developing persons.

Practical Implications

The results of this study give evidence for easy strategies that may be useful in integrating individuals with ASD into interactions with those that are typically developing. In 2013, over 50% of students with ASD in primary and secondary schools were reported to spend 40% or more of their day in general education classrooms (U.S. Department of Education, 2015) yet, teachers within mainstream schools report that they do not have necessary training to adequately provide support for individuals with ASD in a general education classroom setting (Robertson, Chamberlain & Kasari, 2003). One easy implementation for classrooms and interactions between those with ASD and typically developing individuals is to increase positive perceptions by focusing on the positive attributes of the interaction. Teachers, parents, and/or school officials may be able to reshape typically developing students' overall view of individuals with ASD by bringing attention to positive attributes within the conversation and to minimize overt recognition of negative interactions. Applied Behavior Analysis (ABA), a common intervention used to help individuals with ASD and their families mitigate unfavorable behavior, uses variations of these techniques (e.g., positive reinforcement) to encourage positive behavior (Cooper, Heron, & Heward, 2007). For example, giving the individuals attention or social praise when the communication behaviors are favorable, rather than removing the child or withdrawing responsibility from the situational demands when behaviors are unfavorable, has been shown to help those with ASD learn acceptable behaviors in a natural setting (Erba, 2000). In turn, our findings would suggest that social praise and attention may not only help the individual with managing ASD symptoms but also bring others attention to positive communication behaviors

that the individual has the ability to enact. ABA has primarily been focused on caregiver/teacher-child interactions to help with day-to-day coping and is not widely advertised as an intervention strategy to help with classroom or peer inclusion. This study illustrates the need for these positive framing strategies to help with peer acceptance, as well as to help with behavior.

This study also highlights the ineffectiveness of labeling on promoting positive perception of individuals with ASD. As previously mentioned, the label of ASD is often associated with stereotypes that cause individuals to be seen as less valuable members of society (Chambres et al., 2008). This is problematic when we are trying to perpetuate the positive perceptions of individuals with ASD. Parents and individuals working on creating inclusion between those with ASD and typically developing individuals should not only be mindful of how they are framing (i.e., positive or negative) the interaction, but also being mindful not to associate behaviors with the label. In other words, it is not just that the interaction is framed as positive, but that the positive behaviors within the interaction are highly and frequently emphasized while labeling is minimized. Doing so would assist with the attempt to minimize grouping individuals with ASD into a stigmatized group.

Limitations and Future Research

There are several limitations to this study that should be noted. First, the participant demographics were largely homogenous. Majority of participants in this study identified as White, ranged between 18-26 years old, and were all actively enrolled in courses at a collegiate institution. Although the aim of this study was designed to examine the role that imagined contact could have in increasing positive perceptions of individuals in college, future research should examine imagine contacts' effect on different generations and varying cultures. For example, because ASD has doubled over the past 20 years (Christensen, 2012), there is likely

more accurate understandings of the disorder and, in turn, more positive perception concerning characteristics of ASD in the population sample for this study compared to older generations; therefore, there may be different obstacles to reducing negative stereotypes among groups with different demographics.

Second, this study did not control for participants that already had a close relationship with a person with ASD. Because this study did not account for participants that may already have regular contact with individuals with ASD, there is a potential that the results may be skewed to either yield more positive or negative results. Future research should make sure to control for these participants better account for initial interactions. In addition, identifying individuals with close friends or family members with ASD may allow for more understanding about the similarities and differences in perceptions based on the level of the relationships.

Third, because of the unique communication behaviors characteristic of individuals with ASD, this study was solely measuring perceptions towards individuals with ASD. This means that the findings from this study should not be generalized to other disabilities or mental health issues, as they are likely to hold symptoms and stereotypes that are different from those with ASD (DeLustro, 2013; Schizophrenia). However, future research should examine the similarities associated with other "invisible" disorders, such as depression, anxiety or dyslexia. Although they hold different diagnostic criteria for than those with ASD, it may be likely that they face similar negative perceptions because of their communication practices.

Fourth, the purpose of this study attempted to use a method of contact that would likely be the most accessible form of indirect contact, which is why this study utilized imagined contact over other forms of indirect contact (parasocial contact; Schiappa, Gregg, & Hewes, 2005; extended contact; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). Extended contact research

suggests that if an individual has a close in-group member that has a relationship with an out-group member, then their perceptions of the out-group member can improve one's own attitudes towards the out-group (Turner, Hewstone, Voci, & Vonofakou, 2008). In addition, the parasocial contact has been found to be an adequate alternative to direct contact as well. Perse and Rubin (1989) concluded that parasocial contact allows viewers to create impressions of television characters to reduce uncertainty about unknown groups' behaviors; therefore, future research should examine the effects of other indirect forms of contact in increasing positive perceptions.

Finally, because this was a cross-sectional experiment, it cannot speak to the lasting effects of imagined contact. Giacobbe et al. (2013) speculated that the indirect nature of imagined contact might result in only temporary effects. This may suggest that moving forward, research should examine whether the long-term effects of imagined contact are comparable to direct contact.

Conclusion

The Contact Hypothesis has been utilized in many disciplines to minimize negative attitudes and beliefs about multiple out-groups. This study is the first to explore the role that an indirect form of contact (i.e., imagined contact) can have in serving as a helpful tool in reducing negative perceptions of individuals with ASD. In addition, this study also incorporated labeling to better understand the role that it plays in reducing perceptions through imagined contact. While labeling has some effect on perceptions, it was the valence of the imagined interaction that was the driving force in creating positive perceptions of the imagined person' communication competence. Therefore, the results of this study continue to provide support for Allport's (1954) Contact Hypothesis and the utilization of indirect forms of contact, such as imagined contact. Although this research brings us forward in understanding how improve the perceptions of

individuals with ASD, it does not minimize the need for future research on contact and the role of labeling on perceptions of those individuals. Therefore, it is important to continue to understand effective tactics for promoting inclusion of individuals with ASD.

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APPENDIX A

POSITIVE/LABELED EXPERIMENT PROMPT

Now, please imagine a really **POSITIVE** conversation with an individual with **Autism Spectrum Disorder**. During this conversation, imagine that this person has difficulties:

- making eye contact
- showing he/she is involved in the conversation (e.g. facing away from you)
- understanding your gestures (e.g. pointing, waving, nodding/shaking head) or using gestures properly his/herself
- adjusting the volume, pitch, or speed of his/her speech
- expressing his/her emotions and understanding your emotions (e.g., they show limited or exaggerated facial expressions, difficulty interpreting your nonverbal expressions)

This person must be a stranger – someone you're imagining meeting for the first time. Try to think of some specific details about the conversation – where it occurs, what the person is wearing, how you feel while talking to them. Please try to build a vivid picture of the **POSITIVE** interaction in your head.

Once you have the picture in your head of a really **POSITIVE** conversation with an individual with **Autism Spectrum Disorder** engaging in the behaviors listed above, please click "continue" to move on to the next page and answer the questions to the best of your ability.

APPENDIX B

POSITIVE/UNLABELED EXPERIMENT PROMPT

Now, please imagine a really **POSITIVE** conversation with an individual. During this conversation, imagine that this person has difficulties:

- making eye contact
- showing he/she is involved in the conversation (e.g. facing away from you)
- understanding your gestures (e.g. pointing, waving, nodding/shaking head) or using gestures properly his/herself
- adjusting the volume, pitch, or speed of his/her speech
- expressing his/her emotions and understanding your emotions (e.g., they show limited or exaggerated facial expressions, difficulty interpreting your nonverbal expressions)

This person must be a stranger – someone you're imagining meeting for the first time. Try to think of some specific details about the conversation – where it occurs, what the person is wearing, how you feel while talking to them. Please try to build a vivid picture of the **POSITIVE** interaction in your head.

Once you have the picture in your head of a really **POSITIVE** conversation with an individual engaging in the behaviors listed above, please click "continue" to move on to the next page and answer the questions to the best of your ability.

APPENDIX C

NEGATIVE/LABELED EXPERIMENT PROMPT

Now, please imagine a really **NEGATIVE** conversation with an individual. During this conversation, imagine that this person has difficulties:

- making eye contact
- showing he/she is involved in the conversation (e.g. facing away from you)
- understanding your gestures (e.g. pointing, waving, nodding/shaking head) or using gestures properly his/herself
- adjusting the volume, pitch, or speed of his/her speech
- expressing his/her emotions and understanding your emotions (e.g., they show limited or exaggerated facial expressions, difficulty interpreting your nonverbal expressions)

This person must be a stranger – someone you're imagining meeting for the first time. Try to think of some specific details about the conversation – where it occurs, what the person is wearing, how you feel while talking to them. Please try to build a vivid picture of the **NEGATIVE** interaction in your head.

Once you have the picture in your head of a really **NEGATIVE** conversation with an individual engaging in the behaviors listed above, please click "continue" to move on to the next page and answer the questions to the best of your ability.

APPENDIX D

NEGATIVE/UNLABELED EXPERIMENT PROMPT

Now, please imagine a really **NEGATIVE** conversation with an individual with **Autism Spectrum Disorder**. During this conversation, imagine that this person has difficulties:

- making eye contact
- showing he/she is involved in the conversation (e.g. facing away from you)
- understanding your gestures (e.g. pointing, waving, nodding/shaking head) or using gestures properly his/herself
- adjusting the volume, pitch, or speed of his/her speech
- expressing his/her emotions and understanding your emotions (e.g., they show limited or exaggerated facial expressions, difficulty interpreting your nonverbal expressions)

This person must be a stranger – someone you're imagining meeting for the first time. Try to think of some specific details about the conversation – where it occurs, what the person is wearing, how you feel while talking to them. Please try to build a vivid picture of the **NEGATIVE** interaction in your head.

Once you have the picture in your head of a really **NEGATIVE** conversation with an individual with **Autism Spectrum Disorder** engaging in the behaviors listed above, please click "continue" to move on to the next page and answer the questions to the best of your ability.

APPENDIX E

SCALE MEASURES

DEMOGRAPHICS

- What is your Sex?
    - Male
    - Female
- What is your age?
    - Key in age
- What is your race/ethnicity?
    - White/Caucasian/European
    - Asian/ Pacific Islander
    - African American/Black/African
    - Hispanic/Latino
    - Multiracial
    - other

Elaboration of Imagined Contact Scene: (Adapted from Harwood et al., 2010)

Short Answer Questions:

1. What was the individual's name?

[A brief reminder of the prompt was present here.]

2. Approximately how old was [NAME]?
3. What is the sex of [NAME]?
4. What is [NAME]'s race/ethnicity?

5. What did [NAME] look like?

[A brief reminder of the prompt was present here.]

6. Conversation valence
    a. ***Positive Scenario:*** What specific things happened in the imagined conversation to make you feel positive about it?
    b. ***Negative Scenario:*** What specific things happened in the imagined conversation to make you feel negative about it?
7. Please tell us where you imagined that this conversation happened?
8. Please think of one specific thing that [NAME] might have said in the conversation, and how you might have responded. Please write the exact words.
    a. The other person:
    b. You:
9. Please think of one specific thing that [NAME] said or did during the conversation that made you feel either calm or anxious about him/her.
10. Please think of one specific thing that you might have discovered about [NAME] in the course of the conversation- something that you would only know through talking to the person.

Communication Competence

Please rate the following statements based on your imagined interaction.

7-point likert: Strongly Disagree→ Strongly Agree

- *Appropriateness- General (Canary & Spitzberg, 1987)-4 items*
    - [NAME] said several things that seemed out of place
    - [Name] was a smooth conversationalist

- Everything [Name] said was appropriate
- [NAME]'s communication was very proper

- *Effectiveness (Canary & Spitzberg, 1987)- 11 items*
  - [NAME] achieved what he/she apparently wanted to achieve in the conversation
  - For [NAME], it was a useless conversation
  - [NAME] was effective
  - Our conversation was very *un*successful
  - [NAME] got what he/she wanted out of the conversation
  - The conversation was unprofitable for [NAME]
  - [NAME] obtained his/her goal in the conversation
  - [NAME] was an ineffective conversationalist
  - [NAME] was rewarded by the conversation
  - [NAME] found the conversation to be very useful and helpful
  - [NAME] found the conversation to be very *un*rewarding
- *Empathy (Weimann, 1977)-7 items*
  - [NAME] didn't argue with me just to prove his/her point
  - [NAME] ignored my feelings.
  - [NAME] generally knew how I felt
  - [NAME] let me know he/she understood me
  - [NAME] understood me
  - [NAME] listened to what I had to say to him/her
  - [NAME] easily put his/herself in my shoes

Manipulation Check:

- Please choose the best answer.
    - Please select the answer that best applies to your imagined interaction based on your knowledge
        - diagnosed with Autism Spectrum Disorder
        - an individual with Depression
        - did not have either characteristic
    - The interaction with the imagined character was…
        - 7-point likert: Strongly Disagree→ Strongly Agree
        - Pleasant
        - Unpleasant

DEBREIFING:

Thank you for participating in our study. The study you just engaged in asked you to imagine something. For some of you, it asked you to imagine a negative conversation with a member from another group. We want to remind you that one conversation (particularly an imagined one!) does not tell you anything about a group as a whole. All groups in society have members who can behave well and behave badly and you shouldn't allow the one person you imagined to influence your feelings. Please don't talk about this study to your friends for the next several weeks; we are still collecting data and it can hurt the study if people discuss their responses. Please don't hesitate to let me know if you have any questions about the study and thank you again for participating. Sarah Caban (sarah.caban25@uga.edu)