INDIVIDUAL AND RELATIONAL SOCIAL IMPAIRMENTS IN ADULTS WITH AUTISM SPECTRUM DISORDER

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Dedicated to all of the participants of this study. It has been a privilege to hear your stories, see your art, and witness your passions. I am grateful to have had the opportunity to work on this project together.

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INDIVIDUAL AND RELATIONAL SOCIAL IMPAIRMENTS

IN ADULTS WITH AUTISM SPECTRUM DISORDER

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Psychosocial interventions aimed at improving social interaction in adults with Autism Spectrum Disorder (ASD) have produced small effects and often fail to generalize to improvement outside the laboratory (Gates, Kang, & Lerner, 2017). These limitations may stem from an incomplete understanding of how adults with ASD interact with others in real-world settings, and how the dynamic interplay between social partners' behaviors, perceptions, and characteristics influence social outcomes. 125 ASD (n=67) and TD (n=58) adults were assigned to three different dyad types (ASD-TD n=25; ASD-ASD n=22; TD-TD n=23) and completed a five minute unstructured interaction with an unfamiliar peer. Afterwards, partners evaluated their perceptions of their partner and the interaction, and reported their metaperceptions of how they believed their partners would evaluate them. Participants also completed measures of social cognition and social motivation, and their social skills during the interaction were coded by trained raters. Using dyadic analytic techniques to quantify effects of actors, partners, and the interaction between the two, ASD adults were rated as more awkward, and less attractive and warm relative to TD adults by both TD and ASD and partners, with TD but not ASD partners reporting a lower

desire to interact with them. Although ASD adults performed worse on measures of social cognition, social motivation, and social skill, these abilities in TD partners, not in ASD partners, were most predictive of interaction outcomes. TD adults with better social cognitive skills in ASD-TD pairs rated the interaction as higher in quality, but these TD adults were rated as more awkward by their ASD peers. Results also revealed that, contrary to prediction, ASD adults were more accurate than TD adults at predicting others' desire to interact with them in the future, suggesting an awareness by autistic adults that TD individuals view them poorly. These findings suggest that while ASD adults are evaluated more unfavorably across many traits, few of their measured abilities in social cognition and social motivation predicted their social interaction outcomes, at least in the context assessed here, which raises questions about the ecological validity of some of these measures within ASD research In contrast, however, objectively measured social skill was predictive of ratings of awkwardness for both ASD and TD adults. In sum, findings replicate prior first impression work demonstrating less favorable evaluations of ASD adults relative to TD controls, and extend these findings to real-world interactions and to impressions formed by ASD raters. These results therefore support social interaction impairments in autistic adults under more ecologically valid conditions but attempts by this study to specify the mechanisms of these impairments demonstrated, at best, mixed success.

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INTRODUCTION

Autism Spectrum Disorder (ASD) is a developmental disorder characterized by deficits in social reciprocity and communication that are typically diagnosed in early childhood but persist into adulthood (DSM-V, APA, 2013; Howlin, Goode, Hutton, & Rutter, 2004; Howlin, Moss, Savage, & Rutter, 2013). These symptoms impact social interaction ability, which in adulthood contributes to poor employment and interpersonal outcomes, as well as reduced quality of life (Barneveld, Swaab, Fagel, van Engeland, & de Sonneville, 2014; Howlin et al., 2004; Seltzer, Shattuck, Abbeduto, & Greenberg, 2004). Although these outcomes have been well documented (for review see Levy & Perry, 2011), efforts to improve social ability in ASD by training social skills and improving social understanding have produced limited benefit, as treatment effects are generally small (Bishop-Fitzpatrick, Minshew, & Eack, 2014; Gates et al., 2017; Palmen, Didden, & Korzilius, 2010; White, Keonig, & Scahill, 2007) and fail to generalize to real-world outcomes (e.g., increased rates of employment, friendships; Rao, Beidel, & Murray, 2008; Turner-Brown, Perry, Dichter, Bodfish, & Penn, 2008).

The limited benefit of these treatments may stem in part from an incomplete understanding of the mechanisms contributing to social interaction impairments for adults with ASD. Although social interaction "by definition" involves more than one person (Sasson et al., 2017, p. 1), prior work in this area has focused almost exclusively on how the behavioral, cognitive, and neurological differences of individuals with ASD contribute to their social impairments. This research has been invaluable for characterizing specific phenotypic differences in autism that may be amenable to treatment or accommodated through external

supports. However, such a restrictive focus on individual impairments may overlook other significant contributors to social disability in ASD. Emerging research is beginning to illuminate how the perceptions, judgments, and behaviors of those who interact with adults with ASD influence the quantity and quality of their social experiences (Sasson et al., 2017; Stevanovic et al., 2017). This work, however, is still in its early stages, and it remains largely unknown how individual and relational factors contribute to social interaction quality for adults with ASD in real-world settings.

The current study aimed to address this oversight by examining how the individual social abilities of two unfamiliar conversation partners independently and interactively relate to perceptions and evaluations of each other. First, this study evaluated how adults with ASD and typically-developing (TD) adults perceived one another in a real-time interaction with an unfamiliar partner who is either TD or has a diagnosis of ASD. Second, the study examined how individual abilities (e.g., social cognition, social skills, and social motivation) of both interaction partners related to interaction outcomes. Lastly, the study examined how individuals believed their partners evaluated them, and then compared these beliefs with the partner's actual perceptions of the individual (i.e., meta-accuracy). This study is one of relatively few to date that has examined real-life social interaction, and is one of the first to study how both specific social abilities and specific partner pairings (e.g., ASD or TD partners) contribute to social interaction quality. In this way, this study aimed to extend beyond examining only individual characteristics that affect social challenges in ASD to a broader consideration of relational factors influencing social outcomes. Specifically, this study examined to what extent individual social competencies and the "fit" of the individual's characteristics with those of their social partner predicted social

interaction quality for adults with ASD. This more comprehensive understanding of social interaction for adults with ASD aimed to elucidate the mechanisms underlying their poor social outcomes, as well as highlight potentially novel treatment avenues.

1.1 Outcomes for Adults with ASD

Despite widespread supports and interventions for children with ASD, functional and interpersonal outcomes for adults with ASD are poor (Magiati, Tay, & Howlin, 2014; Seltzer et al., 2004). Many cannot live independently, are unemployed, have few friendships, and report low quality of life (Barneveld et al., 2014; Eaves & Ho, 2008; Howlin et al., 2004; Seltzer et al., 2004; Taylor, Henninger, & Mailick, 2015; for review see Levy & Perry, 2011). Poor interpersonal outcomes (e.g., low rates of romantic relationships and close friendships) are one significant predictor of low quality of life, as many adults with ASD desire relationships but lack the opportunities and skills needed to develop them (Bauminger & Kasari, 2000; Billstedt, Gillberg, & Gillberg, 2005; Howlin et al., 2004; Jennes-Coussens Magill-Evans, & Koning, 2006; Orsmond, Krauss, & Seltzer, 2004; Tobin, Drager, & Richardson, 2014). In fact, up to 50% of adults with ASD report having no close friends, and the individuals who do have friendships report having fewer friends and endorse less closeness to them than controls (Bauminger & Shulman, 2003; Bauminger et al., 2008; for review see Petrina, Carter, & Stephenson, 2014).

In an effort to improve interpersonal outcomes for individuals with ASD, treatments have been developed to improve social understanding (e.g., reading facial cues and interpreting the mental states of others) and social performance (e.g., increasing social competence in interactions with others; Lerner & Mikami, 2012) through group social skills training programs

(Laugeson, Frankel, Mogil, & Dillon, 2009; Lerner & Mikami, 2012; Kandalaft, Didehbani, Krawczyk, Allen, & Chapman, 2013; see Gates et al., 2017; Kaat & Lecavalier, 2014; Rao et al., 2008 for reviews). These interventions confer some benefit, with many demonstrating increases in individuals' theory of mind and emotion recognition abilities (Kandalaft et al., 2013; Ozonoff & Miller, 1995; Turner-Brown et al., 2008) and improved parent-reported social competence (Gantman, Kapp, Orenski, & Laugeson, 2012; Laugeson et al., 2009; Laugeson, Frankel, Gantman, Dillon, & Mogil, 2012).

However, these interventions overwhelmingly have small to moderate effects, and improvements are generally specific to social understanding, having only modest impact on improving social performance and functioning (Bishop-Fitzpatrick et al., 2014; Gates et al., 2017; McMahon, Lerner, & Britton, 2013). These effects also are limited in generalizability to real-world outcomes. Although parent-reports of peer contact and social skills suggest treatments are efficacious, many studies find these outcome measures do not align with teacher-reports or real-world behavioral observations (Gates et al., 2017; Herbrecht et al., 2009; Laugeson et al., 2009; McMahon et al., 2013) suggesting either that parent reports are not sensitive to detect intervention effects, or that intervention effects do not generalize to real-world settings.

The nature of this lack of consensus in measures has been difficult to determine as few ecologically valid behavioral outcome measures exist to evaluate interventions, especially for adults with ASD (Bishop-Fitzpatrick et al., 2014; Gates et al., 2017; McMahon et al., 2013; Palmen et al., 2010; Rao et al., 2008; White et al., 2007). Some work has evaluated intervention effects in real-world contexts by observing peer contact in school (Owens, Granader, Humphrey, & Baron-Cohen, 2008); however, because adults with ASD are no longer in school, and the

nature and variety of their interactions may differ considerably relative to school-age children, the ability to observe outcomes within real-world settings has been limited for this population. For these reasons, researchers have assessed behavior for ASD adults in pseudo-naturalistic contexts, such as within intervention group meetings or role-plays with a confederate. These studies find benefits such as increased contributions to treatment group conversations after the intervention (Hillier, Fish, Cloppert, & Beversdorf, 2007) and more appropriate conversational topics with a confederate in a role-play (Howlin & Yates, 1999). However, other studies show no significant improvement in overall social skill ability in an interaction with a confederate (Kandalaft et al., 2013; Turner-Brown et al., 2008). Thus, although many interventions have been developed for individuals with ASD, to date the impact and efficacy of these interventions has been limited and difficult to determine due to the paucity of ecologically valid outcome measures for adults. Moreover, the interventions that do exist have small effects on social understanding, with few showing gains in social performance and interpersonal outcomes.

1.2 Limitations of Prior Work Examining Social Interaction in ASD

It is currently unclear why psychosocial interventions for adults with ASD have been so limited in their effectiveness. One possible reason is that these interventions by and large treat social interaction impairments in ASD through an exclusive focus on the individual with ASD. Whereas social cognition and social behavior in ASD have been heavily studied, social interaction (i.e., the dynamic interchange by two or more people) has been called a "surprising blind spot" in the ASD literature (De Jaegher, 2013, p. 14). Very few studies have examined actual, real-world social interaction for individuals with ASD, and those that have are limited in a number of important ways.

First, a majority of research examining the processes of social interaction focuses on the behaviors and abilities of children and adolescents with ASD with already established peers and friends (Bauminger et al., 2008; Macintosh & Dissanayake, 2006). Although these studies have provided increased insight into the frequency of contact, types of activities engaged in with friends, and perceptions of what friendships mean to individuals with ASD (Carrington, Templeton, & Papinczak, 2003; Kuo, Orsmond, Cohn, & Coster, 2013), these studies only inform how individuals with ASD interact with people they already know and cannot inform how these relationships were formed or how ASD individuals interact with unfamiliar others who may become friends or acquaintances. Moreover, these studies only describe the subset of the ASD population who have established friendships (Billstedt et al., 2005; Howlin et al., 2004); therefore, it is unknown if these same behaviors and abilities characterize individuals with ASD who have not been successful in establishing relationships. Additionally, findings from these studies may only generalize to children with ASD, and social interactions common to adulthood but not childhood (e.g., establishing adult friendships, pursuing romantic partners, interacting with co-workers or employers, etc.) may require different knowledge and skills than those suggested from studies examining children in school settings.

Second, measurement of social interaction in previous studies of individuals with ASD has focused heavily on quantity but not quality of social encounters. Social interaction has been measured predominately in terms of frequency counts - either the number of interactions individuals with ASD have during a specific time (Howlin et al., 2004; Billstedt et al., 2005) or a count of the number of friendships an individual has (Kuo et al., 2013). Additionally, many of these measures are self- or informant-report questionnaires examining the social interactions of

the individual with ASD. The friends or peers they interact with are often not evaluated for how they perceive the relationship. Thus, these studies have identified rates of social interaction, but not the quality of the interactions or the processes underlying them.

1.3 Studying Social Interaction in Context

"By definition", social interaction involves more than one person (Sasson et al., 2017, p. 1); it is the dynamic process of partners coordinating their behaviors together to produce a desired outcome (e.g., building a friendship; De Jaegher, 2013; Hehman, Sutherland, Flake, & Slepian, 2017). Although past research on ASD has largely only examined social interaction from the perspective of a single individual, research in social and personality psychology has developed theories, statistical techniques, and interaction paradigms to study interpersonal dynamics. This work suggests the outcome of an interaction is not only predicated upon each partner's individual characteristics, behaviors, and perceptions, but also upon the interaction between them (Carlson, Vazire, & Furr, 2011; Darley & Fazio, 1980; Hehman et al., 2017; John & Robins, 1993). While individual impairments in social cognition and social skills have been extensively studied in ASD literature, little work has examined *relational* impairments, or the process by which social interaction quality is derived from both partners' perceptions of, and responses to, each other.

Taking both a relational and individual approach to social interaction acknowledges that social difficulty for individuals with ASD occurs as a result of both their own social challenges and the social context that they experience, an idea emphasized in the social model of disability (Oliver, 1999). This model states that disability arises from a lack of fit between an individual's skills and abilities with his or her social environment, and that social disability can be best

treated by focusing not only on strengthening an individual's own social abilities but also by modifying the social environment to be more accommodating of his or her differences. Applied to understanding social interactions for adults with ASD, this framework suggests social interaction challenges are driven both by social deficits of adults with ASD and by the reduced ability and motivation of TD adults to correctly understand and respond to ASD adults in social encounters (Edey et al., 2016; Schilbach, 2015; Sheppard, Pillai, Wong, Ropar, & Mitchell, 2016). Thus, understanding the role of the social partner within the context of social interactions may help inform social interaction deficits experienced by adults with ASD. The current study was a first step towards better understanding the contribution of both individual and relational factors to social interaction impairments for adults with ASD by examining social interaction from a dyadic perspective. In this way, the current project aimed to determine how individual characteristics, both of the adult with ASD and of his or her social partner, independently and dynamically predicted social interaction quality.

1.4 Individual Social Deficits Contributing to Social Interaction Challenges

Research until now has overwhelmingly focused on identifying the characteristics of ASD that contribute to social dysfunction, including extensive investigation into the neurological, behavioral, and cognitive features that are associated with the disorder. Importantly, although language and general intellectual abilities enable engagement with the social world, they are generally not predictive of social outcomes in adults with ASD (Howlin et al., 2004; Magiati et al., 2014; Selzter et al., 2004). In contrast, social cognition, social behavior, and social motivation have all been well characterized in ASD and are often theorized to be individual predictors of social ability (Sasson, Pinkham, Carpenter, & Belger, 2011; Pelphrey,

Adolphs, & Morris, 2004; Chevallier, Kohls, Troiani, Brodkin, & Schultz, 2012a), with some limited empirical support (Klin, Jones, Schultz, & Volkmar, 2002; Orsmond et al., 2004).

1.4.1 Social cognition

Social cognition refers to the abilities used to perceive and interpret different kinds of social information (Brothers, 1990). Social cognition can be viewed as encompassing three primary sub-domains: social perception (i.e., the ability to detect social information), emotion recognition, and theory of mind (i.e., understanding the thoughts, emotions, and intentions of other people; Baron-Cohen, 1991; Happé, 1994; Mathersul, McDonald, & Rushby, 2013). Adults with ASD show deficits across all three subdomains, demonstrating difficulties recognizing faces (Klin et al., 1999; Joseph & Tanaka, 2003), identifying others' emotions based on facial expressions and scenes (Golan, Baron-Cohen, Hill, & Rutherford, 2007; Sasson, Pinkham, Weittenhiller, Faso, & Simpson, 2015; Uljarevic & Hamilton, 2013), and inferring the intentions and mental states of others (Mathersul et al., 2013; Spek, Scholte, & Van Berckelaer-Onnes, 2010).

All three sub-domains are hypothesized to predict functional outcomes in ASD, but these relationships have not been explicitly tested. However, insights gained from work in schizophrenia, a disorder characterized by similar social dysfunction as is found in ASD (Morrison et al., 2017; see Sasson et al., 2011 for review), has explicitly demonstrated social cognitive domains predict social competence and social functioning (Couture, Granholm, & Fish, 2011; Liberman et al., 1986). Work in this field also shows efficacy of psychosocial interventions for adults with schizophrenia in improving social knowledge (e.g., improved emotion recognition and less biased attribution styles) and social functioning (e.g., increased

number of social relationships and decreased aggression; Penn, Roberts, Combs, & Sterne, 2007; Couture, Penn, & Roberts, 2006; Penn et al., 2005; Combs et al., 2007). Similar treatment protocols have been developed for adolescents and adults with ASD, improving social understanding but not social skills (Bishop-Fitzpatrick et al., 2014; Howlin et al., 2004; Turner-Brown et al., 2008). Therefore, although theoretical models from schizophrenia show some applicability to ASD, the relationship between social cognition and social functioning and interaction outcomes for adults with ASD has yet to be extensively investigated.

1.4.2 Social skills ability

Social skills are the behaviors used to successfully navigate the social world, and include discrete skills such as appropriate use of eye gaze as well as more complex skills such as negotiation ability (Mueser & Bellack, 1998; Nangle, Grover, Holleb, Cassano, & Fales, 2010). Recent work has examined social skills presentation in adult populations by using live interaction paradigms in which the individual with ASD interacts with a confederate. In these interactions, adolescents and adults with ASD show poor reciprocal interaction skills, including reduced involvement in the conversation and fewer questions directed to their conversation partners (Morrison et al., 2017; Ratto, Turner-Brown, Rupp, Mesibov, & Penn, 2011). Overall, they are reliably rated as having low overall social skills (Verhoeven, Smeekens, & Didden, 2013). Not all social skills are equally impaired in ASD, however. Whereas most are poor relative to TD adults, some social skills for intellectually-able adults are mostly intact, including verbal clarity and fluency (Morrison et al., 2017; Verhoeven et al., 2013).

Social skills ability affects social competence, or the ability to successfully navigate the social environment, such as interacting in positive ways with potential friends, romantic partners,

and employers (Liberman et al., 1986). The social skill impairments that characterize adults with ASD are associated with poor functional outcomes such as reduced quality of life (Howlin et al., 2004; Orsmond et al., 2004), and poor adaptive functioning and social outcomes (Macintosh & Dissanayake, 2006; Matson & Wilkins, 2007, Palmen et al., 2010). However, although social skills abilities are highly related to interpersonal outcomes, treating adults' social skills has had limited effectiveness and generalizability (Palmen et al., 2010). Whether this is due to the efficacy of these interventions or the limitations in detecting effects with current outcome measures is unknown. Although social skills ability is linked to functional outcomes, the nuance of this relationship and role of context and other social abilities in improving social outcomes is yet to be determined.

1.4.3 Social motivation

The *social motivation hypothesis* of autism proposes that individuals with ASD have diminished motivational processes for engaging with social information. Indeed, young children with ASD show reduced attention and reward responses for social information from very early in life (Chevallier et al., 2012a; Klin et al., 2002; Moriuchi, Klin, & Jones, 2016; Pelphrey et al., 2002; Baranek, 1999). This early bias away from social stimuli has been theorized to have cascading effects for the development of social neural networks, resulting in impaired social cognitive abilities and social competence relative to same age peers (Chevallier et al., 2012a; Dawson et al., 2005). Although some work suggests diminished social motivation results in fewer social exchanges and less effort towards maintaining relationships for individuals with ASD (Chevallier et al., 2012a; Chevallier, Molesworth, & Happé, 2012), other studies have found many older children and adults with ASD demonstrate similar desires for friendships and

relationships as their neurotypical peers (Bauminger & Kasari, 2000; Mazurek, 2014; Lasgaard, Nielsen, Eriksen, & Goossens, 2010; Whitehouse, Durkin, Jaquet, & Ziatas, 2009). Moreover, many adults with ASD, particularly females, are sensitive to being perceived as socially atypical and report engaging in effortful and exhausting "camouflaging" behaviors in order to appear more neurotypical to others in social interactions (Hull et al. 2017). Rather than lacking motivation for relationships, these individuals may instead lack the social abilities to adequately meet their social needs (Chevallier et al., 2012b; Garman et al., 2016; Hintzen, Delespaul, van Os, Myin-Germeys, 2010). Thus, social motivation, and the social strategies employed to meet social needs, appear to be highly variable across adults on the spectrum (Garman et al., 2016), which may in turn relate to large individual differences in social interaction quantity and quality for people with ASD.

For instance, social interaction difficulties may deepen if the individual has lower levels of social motivation, as these individuals may be less likely to seek out interactions and thus have fewer opportunities to practice their already fragile social skills (Chevallier et al., 2012a; Koning & Magill-Evans, 2001). These forces likely have bidirectional effects. Unsuccessful social interactions driven by poor social skills or social cognitive ability may affect motivation for future interactions, producing a feedback loop of social impairment and increasing the likelihood of social reticence (Hintzen et al., 2010; Garman et al., 2016). Alternatively, higher social motivation may be related to improved social experiences for some adults with ASD, as a stronger desire for relationships may result in seeking out more opportunities for social interactions that provide chances to build social skills. Although this has not been explicitly tested, some work suggests individuals with ASD with higher social motivation have better

quality friendships, engage in more social interactions, and display higher rates of prosocial behavior in interactions with others (Chevallier et al., 2012b; Dean et al., 2014; Sedgewick, Hill, Yates, Pickering, & Pellicano, 2016). Because social motivation has been linked to social interaction outcomes, it may constitute an important factor to target in treatments and interventions.

1.4.4 Summary of Individual Social Impairments for Adults with ASD

Research examining social interaction impairments in ASD has predominantly focused on how individual impairments relate to poor outcomes. This work has been informative for current understanding of ASD, illustrating difficulties in perceiving and interpreting social information (e.g., facial expressions, others' intentions) and the challenges enacting appropriate social behaviors in interactions with others. These abilities are important predictors of social outcomes for adults with ASD, and have been targeted in treatments.

Although individual characteristics do predict social outcomes across ASD individuals on average, treating each individual by targeting the same deficits in the same way ignores the unique roles of the personal social competencies and social contexts for each individual. From this perspective, individual abilities are but one of several important contributors to social interaction quality. Interaction quality is also dependent upon how the individual's characteristics are perceived and responded to by social partners, who in turn influence interaction quality with their own characteristics. Analyzing how characteristics of both social partners predict social interaction outcomes may provide a more comprehensive understanding of the poor social outcomes in ASD. In order to understand the role of social context and the influence of a social

partner, knowledge from an entirely different research discipline, social and personality psychology, can be applied to the study of social interaction in ASD.

1.5 Social Interaction from the Relational Perspective

Social interaction has been extensively studied in the social and personality psychology literature, which examines social interactions in the context of romantic partners, formation of friendships, and dynamics between unfamiliar partners (Aron, Melinat, Aron, Vallone, & Bator, 1997; Berry & Hansen, 1996; Eastwick & Finkel, 2008; Finkel & Eastwick, 2008; Reis, Maniaci, Caprariello, Eastwick, & Finkel, 2011). Based on this work, four primary aspects stand out as particularly relevant to social interaction outcomes: qualities of the individual (Ambady, Bernieri, & Richeson, 2000; McCrae & Costa, 1989; Wiggins, 1982; Willis & Todorov, 2006), qualities of the partner (Hehman et al., 2017; Funder & Dobroth, 1987), the interaction of the two partners' qualities (Darley & Fazio, 1980; Hehman et al., 2017), and metaperception (Darley & Fazio, 1980; Steinmetz, Sezer, & Sedikides, 2017). Each of these factors may have implications for understanding social interaction impairments in ASD and served as the primary assessment areas of the current study.

1.5.1 Qualities of the Individual

Research examining social interaction in TD adults focuses on understanding how individual differences in observable traits (e.g., facial attractiveness and expressions, social tendencies, personality traits, behavior, etc.) influence social interactions. Often this is investigated using trait evaluation paradigms in which perceivers (i.e., observers rating stimuli) view photos of target participants (i.e., the individual being evaluated; Albright, Kenny, &

Malloy, 1988; Funder & Dobroth, 1987) or live interaction paradigms capturing how perceivers evaluate targets in real-time (Aron et al., 1997; Finkel & Eastwick, 2008; Human, Sandstrom, Biesanz, & Dunn., 2013; Reis et al., 2011; Sedikides, Campbell, Reader, & Elliot, 1999). Evaluations can be made based on static observations such as facial structure (e.g., strong brows predict dominance ratings; Todorov, Olivola, Dotsch, Mende-Siedlecki, 2015) and clothing choice (Albright et al., 1988), or on dynamic cues such as facial expressivity (Carney, Colvin, & Hall, 2007; Naumann, Vazire, Rentfrow, & Gosling, 2009) and body movement (O'Sullivan, Ekman, Friesen, & Scherer, 1985).

Physical attractiveness is one of the strongest predictors of evaluations. Higher physical attractiveness and increased facial symmetry are related to more favorable impressions, as well as higher ratings of extraversion, social competence, and employability (Albright et al., 1988; Naumann et al., 2009; Fink, Neave, Manning, & Grammer, 2005; Willis & Todorov, 2006; Gilmore, Beehr, & Love, 1986; Eagly, Ashmore, Makhijani, & Longo, 1991). These evaluations tend to be highly reliable across observers (Albright et al., 1988; Ambady et al., 2000; Funder & Dobroth, 1987; Willis & Todorov, 2006). This level of consistency across perceivers suggests that discernable qualities of the target have predictable effects on evaluations formed by others.

Relatedly, one influential line of research suggests that individuals are rapidly assessed on two orthogonal components, warmth and dominance, that predict the likelihood and quality of social interaction (Locke & Mitchell, 2016; McCrae & Costa, 1989; Wiggins, 1982). Warmth is characterized by communion and affiliative behaviors, and dominance refers to levels of assertiveness or submissiveness. Whereas warmth evokes warmth from a partner and predicts likelihood of interacting in the future and fostering closeness between partners (Horowitz et al.,

2006), dominance is complementary in nature, such that the degree of one partner's assertiveness is balanced by the other's level of submissiveness (Horowitz et al., 2006). Similar to judgments based upon physical traits, evaluations of warmth and dominance are rapidly formed as well as reliable in how they are measured in interactions and valid in predicting other social interaction outcomes (e.g., liking; Lizdek, Sadler, Woody, Ethier, & Malet, 2012; Markey & Markey, 2009; Markey, Lowmaster, & Eichler, 2010; Sadler, Ethier, Gunn, Duong, & Woody, 2009).

Perception and evaluation of individual traits are the basis by which unacquainted social partners form first impressions (Ambady et al., 2000). First impressions are formed very quickly, some within seconds of exposure to a stimulus, and are predictive of future interactions with the individual who is being evaluated (Ambady et al., 2000; Harris & Garris, 2008). For example, individuals who evoke more positive first impressions are rated higher on positive behaviors (e.g., smiling, eye contact) than those who evoke negative first impressions (Harris & Garris, 2008) and have a higher likelihood of their partners desiring to engage with them again in the future (Human et al., 2013). Although negative first impressions can be overcome through continued demonstration of positive qualities and behaviors (Harris & Garris, 2008), first impressions are often highly resistant to change, and negative first impressions may discourage future interactions and eliminate the opportunity to regain favor through future encounters (Darley & Fazio, 1980).

Unfortunately, first impressions formed by TD adults of adults with ASD have been shown to be more negative than those of TD controls, which may affect the frequency and quality of their social experiences (Sasson et al., 2017; Sasson & Morrison, 2019). These findings suggest that the social presentation and behavior of adults with ASD differ from TD

controls in readily discernible ways and are predominantly appraised negatively by TD peers. These poor impressions may be driven by the observable traits specific to the different social presentation styles of ASD adults, including atypical facial expressivity (Faso, Sasson, & Pinkham, 2015) and vocal prosody (Hubbard, Faso, Assmann, & Sasson, 2017), that are perceived by TD raters as being more exaggerated and less natural. Poor first impressions also relate to a greater reluctance on the part of TD peers to socially interact with adults with ASD (Sasson et al., 2017), indicating that these judgments may contribute to reduced social experiences for ASD adults.

1.5.2 Qualities of the Partner

Qualities of individuals are not the sole drivers of how they are evaluated. Recent work suggests that a perceiver's characteristics account for unique variance in judgments over and above the target's qualities (Hehman et al., 2017), including when TD evaluators are rating ASD adults (Morrison, DeBrabander, Faso, & Sasson, in press). Perceiver characteristics are especially important for evaluating traits that are less observable, such as likeability and trustworthiness (Ambady et al., 2000; Funder & Dobroth, 1987). In such cases perceivers have less information on which to form first impressions, and must rely on their own experiences, preferences, and biases when making judgments. This lack of information in the context of a social interaction may result in the perceiver making impressions based less on the target's characteristics and more on the characteristics of the perceiver.

One characteristic of the partner that may be important for adults with ASD is whether or not the person they are interacting with also has a diagnosis of ASD. Recent work suggests that not only do individuals with ASD have difficulty interpreting the behaviors and emotions of TD

individuals, but TD individuals may also have difficulty evaluating individuals with ASD. This *double empathy problem* (Milton, 2012) suggests that social deficits in ASD are not solely the consequence of the individual with ASD, but also of TD individuals' difficulty interacting with ASD adults (Milton, 2012). Indeed, recent evidence suggests that TD adults are less accurate in interpreting emotional cues conveyed by ASD adults compared to these same emotions conveyed by TD adults (Edey et al., 2016; Sheppard et al., 2016). TD adults also anticipate more social difficulty interacting with ASD adults relative to other TD adults (Gernsbacher, Stevenson, & Dern, 2017). If TD adults are predisposed to expect negative social experiences with adults with ASD, and misinterpret the emotional cues of ASD partners when they do have these interactions, these factors may reduce social opportunities for individuals with ASD and affect social interaction quality between TD and ASD individuals (Edey et al., 2016; Sheppard et al., 2016).

There is also some preliminary evidence that adults with ASD perceive themselves as more socially competent when interacting with another individual with ASD compared to a TD individual (Gernsbacher et al., 2017). This suggests each partner's diagnosis and knowledge of his or her partner's diagnosis may influence the social behaviors displayed in the interaction, perhaps leading to more misunderstanding in mixed dyads (i.e., ASD and TD) relative to matched dyads (i.e., ASD-ASD, TD-TD). However, Gernsbacher et al. (2017) did not examine real time interactions using matched and mixed dyads, so it is unknown if ASD adults would experience less difficulty when interacting with another ASD adult during real-world interaction.

1.5.3 Interaction of Partners' Qualities

In live interaction, the characteristics of an individual and his/her partner not only assert independent effects on social outcomes, but the unique combination of both partners'

characteristics influences interactions as well (Darley & Fazio, 1980; Hehman et al., 2017). Researchers in social and personality psychology have examined these processes by using live interaction paradigms assessing both individuals in a social exchange and analyzing data with statistical techniques designed to capture the dynamic nature of interactions (Aron et al., 1997; Eastwick & Finkel, 2008; Kenny,1988). For example, some evaluations are driven by the product of reciprocal interchanges. When one individual likes his or her partner, the partner tends to reciprocate with higher levels of liking (Eastwick & Finkel, 2008). Other processes are complementary, such as when one individual's assertiveness evokes submissiveness in the other (McCrae & Costa, 1989). These interactions predict outcomes such as partner chemistry (Eastwick & Finkel, 2008) and interaction quality (Berry & Hansen, 1996; Berry, Willingham, & Thayer, 2000), underscoring the importance of examining the product of the two individuals' characteristics rather than only examining individuals separately to predict outcomes.

Although several studies have examined ASD individuals interacting with others (Bauminger, Shulman, & Agam, 2003; Forde, Holloway, Healy, & Brosnan, 2011; Hanley et al., 2014; Hauck, Fein, Waterhouse, & Feinstein, 1995), very few have examined the characteristics of *both* the ASD individual and their social partner within a single interaction (Stevanovic et al., 2017; Usher, Burrows, Schwartz, Henderson, 2015). Usher et al. (2015) examined interactions of ASD and TD peers having a "get to know you" conversation, finding ASD adolescents had a higher tendency to talk and share but lower social reciprocity compared to TD partners. However, groups did not differ in their self-monitoring behaviors, which included pausing for the partner's benefit, looking at the partner, and verbal directives towards the partner. In later work, Usher, Burrows, Messinger, & Henderson (2018) measured peer liking and disliking after

an interaction with an unfamiliar peer, and found that for both TD and ASD adolescents, an individual's beliefs of how much their partner liked them was driven more by how much they liked their peer rather than how much the peer actually liked them. Relatedly, Stevanovic et al. (2017) recently assessed dynamic effects of warmth and dominance between dyads of ASD and TD partners during a 45-minute interaction. Similar to TD-TD dyads, warmth was reciprocal in the mixed dyads, while dominance was complementary. However, TD partners displaying high dominance evoked high affiliativeness from ASD partners early in the interaction but low affiliativeness by the end of the interaction. The authors interpreted this result as ASD adults expending energy on affiliative behaviors early that are exhausted by the end of the interaction. Importantly, TD participants rated more willingness to be friends with ASD adults who showed more affiliative behaviors overall, suggesting affiliativeness can have positive social outcomes for ASD adults.

No studies yet have examined aspects of social interaction between ASD-ASD dyads, or compared how processes in these dyads may differ from ASD-TD dyads. However, studies of the Broad Autism Phenotype (BAP), which refers to subclinical levels of autism, suggest that compatibility of autistic traits between partners predicts social relationship outcomes (Faso, Corretti, Ackerman, & Sasson, 2016; Wainer, Block, Donnellan, & Ingersoll, 2013). Faso et al. (2016) examined the relationship satisfaction of college roommates with differing BAP traits, finding that roommates matched on level of aloofness (i.e., both roommates high or both low in aloofness) were more satisfied with their relationship quality than roommates mismatched on aloofness, such that one roommate had high levels of aloofness and the other had low levels of aloofness. This finding suggests that poor relationship quality is not dependent upon presence of

aloofness in a relationship, but rather depends upon dissimilarity in aloofness levels between partners within a relationship (Faso et al., 2016). Relatedly, Wainer et al. (2013) also found that self-reported BAP traits for friends were moderately correlated, suggesting individuals with similar BAP traits are more likely to form and maintain friendships with people who have traits similar to them. These results align with the social model of disability, such that when partners match on desire for social interaction, the two individuals are more satisfied with their relationship. These same mechanisms may also be present in ASD adults' interactions, such that social interaction may be predicated on an ASD adult's degree of fit with their partner's traits and behaviors.

1.5.4 Meta-Perception and Meta-Accuracy

Effectively gauging how one is being perceived by an interaction partner allows for the modification of behavior in real-time in order to achieve social goals (Darley & Fazio, 1980). For example, someone who discerns that they are being viewed negatively may alter conversation or nonverbal behaviors in an attempt to change their partner's perception. In contrast, those who accurately detect that they are being perceived positively may leverage that favorable impression to achieve social objectives. These meta-perceptions are an individual's judgment about how others perceive them (Carlson et al., 2011; Vazire & Carlson, 2010), and the degree to which these meta-perceptions match the reality of the perceivers' views is referred to as meta-accuracy (Vazire & Carlson, 2010). Importantly, meta-accuracy refers only to whether individuals' views of themselves align with the perceivers' views and does not refer to how well the individuals' views align with their actual traits (Vazire & Carlson, 2010).

Meta-perception and meta-accuracy have important implications for social interaction, as these processes directly influence how the individual chooses to present him or herself both before and during the interaction (e.g., display competence, confidence; Steinmetz et al., 2017). Self-presentation involves enacting specific behaviors and tactics to portray oneself in a positive light, or to communicate specific behaviors to accomplish goals (e.g., get hired after a job interview; Steinmetz et al., 2017). Impression mismanagement arises when cognitive resources are taxed or failed perspective taking occurs (Steinmetz et al., 2017; Vohs, Baumeister, & Ciarocco, 2005; Tyler & Feldman, 2004), and not only reduce the quality of the social interaction but ultimately can reduce the chances that future interactions occur with that partner.

Although Steinmetz et al. (2017) detailed impression mismanagement processes within a TD population, there are several reasons why similar difficulties may be expected to extend to ASD, perhaps to an even greater degree. First, Steinmetz et al. (2017) argue that cognitive resources are taxed when participants engage in self-presentation, which may arise from high-risk situations (e.g., job interviews) or when the image presented to others is non-congruent with the individual's self-perception (e.g., portraying oneself as extraverted when he or she is introverted; Pontari & Schlenker, 2000; Steinmetz et al., 2017). These factors may contribute to impression mismanagement in ASD, as many adults with ASD attempt to "camouflage" their social challenges in order to appear more "neurotypical" (Hull et al., 2017). This process is not only taxing on cognitive and behavioral resources, but engaging in camouflaging also results in a departure from one's own natural inclinations, causing distress for adults with ASD (Steinmetz et al., 2017; Hull et al., 2017). Second, individuals with ASD are characterized by perspective-taking deficits, which may limit their ability to think about how others perceive them during real-

world social interaction (Cameron & Vorauer, 2008). These deficits may result in a failure to update social strategies during social interaction that increase the likelihood of interaction success.

Studies of meta-perception and meta-accuracy in ASD have produced mixed results. Compared to controls, autistic adolescents' ratings of their own social abilities and traits deviate more from their parents' ratings of their own skills, and they are relatively unaware that their parents' views differ from their own (Locke & Mitchell, 2016; McMahon & Solomon, 2015; cited in Sasson Morrison, Pinkham, Faso, & Chmielewski, 2018). Additionally, ASD adults are more discrepant than controls in judging how unfamiliar observers will evaluate them on aspects of their personality, especially for extraversion (Sasson et al., 2018; Schriber, Robins, & Solomon, 2014). Together these studies suggest meta-perception may be poorer in ASD for perceiving traits related to social characteristics and experiences. However, other work suggests that some meta-perception capabilities may be intact in ASD. Adults with ASD are relatively accurate at making meta-perceptions of how others evaluate their own traits of conscientiousness and openness (Schriber et al., 2014). In a more recent study, ASD adolescents were more accurate in predicting how much their TD partners liked them after a live interaction than TD partners were at predicting how much their ASD peer liked them (Usher et al., 2018). The authors interpreted this finding to mean that TD adolescents had more difficulty interpreting the ASD partner's cues. Consistent with the double empathy theory of autism and prior work of TD perceptions of ASD (Hubbard et al., 2017; Faso et al., 2015), this suggests that differences in ASD social presentations can impair inferences about their mental states made by TD

individuals. Research on meta-perception in ASD, however, is quite limited and thus far findings are equivocal.

1.5.5 Summary of Social Interaction from the Relational Perspective

In summary, interaction outcomes are influenced by many factors. First the qualities of the individual, such as physical traits and expressed behaviors, are important drivers of first impressions formed by others, which in turn predict probability of future encounters. Interaction also depends on qualities of the partner. Particularly for ASD adults, one quality of the partner that may make interactions easier or more difficult is his or her own diagnostic status, with some evidence suggesting that adults with ASD experience better interaction outcomes with other individuals with ASD. Effects from combinations of traits among partners may also predict outcomes above and beyond individual traits alone. Lastly, social interaction is also dependent on both partners' accurate understanding of how they are being perceived by their partners (i.e., meta-perception), as accurate meta-perception can enable the real-time modification of verbal and nonverbal behaviors to manage self-presentation and achieve social goals. Although some studies have examined patterns of behaviors and perceptions between ASD and TD dyads, more work is needed to more comprehensively explore what impressions partners form, how characteristics of both partners impact social interaction outcomes, and how combinations of partners' diagnoses may influence social interaction outcomes.

1.6 Specific Aims

Social interaction is a complex and dynamic process involving two or more people perceiving, interpreting, and responding to each other's verbal and nonverbal behaviors. During

this process, individuals evaluate social communicative signals expressed by their partner, and also continually evaluate how their partner perceives them, and update their verbal and nonverbal behaviors to accomplish desired goals from the interaction. Although recent work has begun to examine how some of these aspects independently contribute to social interaction impairments in ASD (Stevanovic et al., 2017; Usher et al., 2018), to date no study has extensively examined these aspects together, nor have they been compared across different dyadic compositions (i.e., ASD-TD vs. ASD-ASD vs. TD-TD).

To explore the nature of social interaction for adults with ASD, three groups of unfamiliar dyads (ASD-ASD; TD-TD; ASD-TD) in this study completed a short interaction in which participants were tasked to get to know each other for five minutes. After this interaction, participants completed a variety of measures rating: a) their overall impression of the interaction, b) their impression of their partner's characteristics, and c) their prediction of how they believed their partner evaluated the interaction and their characteristics (i.e., meta-perceptions). Additionally, participants completed measures assessing their social cognitive abilities and level of social motivation, and independent coders, trained to reliability, provided objective ratings of their social skills ability. The Actor Partner Interdependence Model (APIM; Kenny, Kashy, & Cook, 2006) was then used to statistically assess both individual and relational factors affecting social interaction quality for adults with ASD. This statistical technique allows for estimation of the unique contribution of an individual's characteristics on his or her own evaluation of the interaction (i.e., actor effects) as well as the contribution of the partner's characteristics on the individual's own evaluation of the interaction (i.e., partner effects). Additionally, APIM can

model interactive effects, allowing for examination of how both partners' characteristics interact to impact outcomes.

1.6.1 Specific Aim 1

To determine how ASD and TD adults differ in their evaluations of their partner and of the interaction. Specifically, I examined how these evaluations change depending on if ASD and TD adults interact with ASD or TD adults. ***Hypothesis 1.*** TD adults would rate lower interaction quality, lower closeness to their partner, and make less favorable impressions of their partner when they had an ASD partner compared to a TD partner. ***Hypothesis 2.*** ASD partners would rate interactions with other ASD adults more positively on social interaction outcomes than they would rate their interactions with TD partners. Together, results from this aim were expected to extend prior work finding that ASD adults receive more negative impressions from TD peers (Sasson et al., 2017). Here, however, these findings for the first time were generated in a real-time naturalistic context rather than based upon recordings, photos, or recreations as have been done in prior studies. Results from this aim would also empirically test whether impressions for ASD adults were more favorable when made by an ASD partner than a TD partner, as predicted by the double empathy theory of autism (Milton, 2012).

1.6.2 Specific Aim 2

To determine the unique role of specific social abilities (e.g., social cognition, social skills, and social motivation) on social interaction outcomes across dyadic combinations. ***Hypothesis 1.*** Regardless of diagnosis, individuals with poorer social skills ability, social cognitive ability, and social motivation would evaluate their partner less favorably and rate their

own experience of the interactions lower in quality and closeness (i.e., actor effects). This prediction aligns with previous work finding individuals with more BAP traits rate their own friendships more negatively and have more negative interactions with friends (Wainer et al., 2013). ***Hypothesis 2.*** Regardless of diagnosis, individuals with poor social skills ability, social cognitive ability, and social motivation would be evaluated less favorably by their partners and their partners would rate their experience of the interactions lower in quality and closeness (i.e., partner effects). ***Hypothesis 3***. The social skills ability, social cognitive ability, and social motivation of the two partners would interact to influence social interaction outcomes, such that when both partners were skilled or unskilled, outcomes would be more favorable compared to outcomes of partners mismatched on skills (i.e., one with good skills, one with poor skills; interaction effect). ***Hypothesis 4***. Actor, partner, and interaction effects would be moderated by diagnosis and dyad type. *Hypothesis 4a*: the effects of social skills ability, social cognitive ability, and social motivation on social interaction outcomes would be moderated by diagnosis, such that effects would be stronger for ASD individuals compared to TD individuals (e.g., the effect of an individual's social skills on outcomes would be stronger for ASD individuals), as ASD individuals would be more socially impacted than TD individuals and these abilities would be more strongly related to outcomes compared to TD adults who do not have pervasive social challenges. *Hypothesis 4b:* the actor, partner, and interaction effects would also be moderated by dyad type; the effect of social abilities on outcomes would differ depending on whether dyads were matched or mixed on diagnosis. The effect of social abilities on outcomes would result in more favorable outcomes in matched dyads and poorer outcomes in mixed dyads. Testing these

hypotheses assessed which factors predicted evaluations, as well as determined what combinations of partners and/or traits led to poor or favorable interactions.

This aim was followed up with additional exploratory hypotheses to further parse the relationship between social abilities and social interaction outcomes. First, post hoc analyses were conducted to determine the direction of effect for the contribution of social cognition and social skills to social interaction outcomes. To do this, a mediational model was tested. Social skills ability was expected to mediate the relationship between social cognition and social interaction outcomes. This would provide support that social cognition is related to social outcomes through the mediation of social skill, as has been found for the Broad Autism Phenotype (Sasson, Nowlin, & Pinkham, 2013). These paths were also evaluated with diagnosis as a moderator to assess the specific influence of these paths for ASD adults. Second, additional analyses were conducted to determine the individual contribution of each social cognitive domain (e.g., theory of mind, facial recognition, and emotion recognition) and interactive social skills to social outcomes. These effects were also tested for moderation of diagnosis and dyad type.

1.6.3 Specific Aim 3

To examine how individuals' meta-perceptions of interaction quality and impressions aligned with their partner's perceptions (i.e., meta-accuracy), and whether meta-accuracy depended upon the diagnostic composition of the dyad. ***Hypothesis 1.*** TD adults would be more accurate at judging how their partner evaluated them and the overall interaction when they had a TD partner compared to an ASD partner. ***Hypothesis 2.*** ASD adults would be more accurate at judging how their partner evaluated them and the overall interaction when they had an ASD

partner compared to a TD partner. This aim would extend work from Usher et al. (2018) by examining ASD adults' meta-accuracy for both traits and social interaction evaluations. Further, this aim assessed if meta-accuracy was predicated on a match between social partners' diagnoses.

Taken together, this project aimed to contribute to the understanding of: a) how adults with ASD are evaluated in real-time social interactions; b) how individual characteristics of both partners interact to contribute to good or poor interaction quality and impressions; and c) how accurate adults with and without ASD are at evaluating the way in which they are perceived during a real-time social interaction.

CHAPTER 2

METHODS

2.1 Participant Information

Three compositions of dyads were assessed: TD-TD, ASD-ASD, and ASD-TD. The APIM Power Analysis on Shiny Application (Ackerman, Ledermann, & Kenny, unpublished) specified that 132 participants comprising 66 dyads total (22 dyads of each type) were needed to detect medium-size effects with 80% power. A medium effect size was chosen for the power analysis as previous work has found medium effects for actor and partner effects of meta-perception, moderation of actor and partner effects for ASD-TD dyads (Usher et a., 2018), and the relationship between autistic traits and relationship satisfaction in adults with the BAP (Faso et al., 2016). The sample size yielded from the power analysis with this medium effect was also greater than the sample sizes used in other studies examining dyads in ASD, which found significant effects (Usher et al., 2018; Stevanovic et al., 2017).

For inclusion, all participants had to be males between 18 and 45 years old. Only males were recruited because there is a disproportionate male ratio in ASD of 4:1 (Fombonne, 2009), and including females would complicate gender composition of dyads, dilute effects for males, and be underpowered to detect differences in social presentation between males and females. All ASD participants scored above the clinical threshold for ASD on the Autism Diagnostic Observation Schedule (ADOS-II; Lord et al., 2012). For this study, ASD individuals with IQ scores over 90 were included to aid in matching TD and ASD groups on IQ. TD participants included had no current ASD diagnosis nor history of psychiatric illness, developmental disabilities, or a first degree relative with ASD. Of the 140 participants (69 ASD, 71 TD) who

participated, fifteen participants were excluded for not meeting these criteria: two ASD adults for having an IQ lower than 70, one TD adult for having a previous developmental disability, four for having a sibling with ASD, and eight for having history of a psychiatric disorder. Of the 15, one was dropped from an ASD-ASD dyad, eight were dropped from ASD-TD dyads, and six were dropped from TD-TD dyads. Thus, the final sample consisted of 67 ASD and 58 TD adults comprising 22 ASD-ASD, 23 TD-TD, and 25 ASD-TD dyads.

Individuals with autism were recruited from the Autism Research Collaborative at UT Dallas, a database of over 150 local adults with ASD who have consented to participate in research. TD adults were recruited from UT Dallas using the SONA system, study fliers, and a database of previous student participants who have consented to be contacted to participate in paid research. Diagnostic and dyad groups were well matched. Race did not differ across diagnostic groups ($X^2(3) = .87$, $p = .83$) nor dyad type (X^2 (6) = 1.27, $p = .97$). WRAT-IQ scores also did not differ between diagnostic groups (p=.58) or dyad types (p=.17), but age differed across diagnostic groups (p<.01) and dyad type (p<.01), with the TD group overall and the TD-TD dyads specifically being younger than the other groups. Age, race, and IQ were covaried in all analyses.

2.2 Procedure

Interested ASD participants were contacted to determine scheduling availability. TD adults recruited at UTD answered demographic and scheduling questions via the SONA system and were compensated 0.5 research exposure credits for completing the survey. As participants were recruited for the study, all participants were entered into a database, and the three dyad

types were created by assigning pairs of individuals that matched approximately on race, age, scheduling availability, and preferred location of participation. Participants were then contacted to schedule the appointment either at UT Dallas or at the nonPareil Institute, a non-profit organization for adults with ASD that has partnered with UT Dallas in past research studies. Because individuals attending nonPareil could have interacted with each other in classes previous to study participation, individuals recruited for ASD-ASD dyads from nonPareil consisted of either new nonPareil students who were not familiar with other students, or adults with autism recruited from outside nonPareil. At the end of the study, participants were asked if they tried looking up information about their partner prior to the interaction or had any prior knowledge of the partner. None acknowledged looking up information about their partner. Only one dyad rated that they knew one another, elaborating that they had seen the other person in a course in the past year but had never spoken. Two other dyads expressed knowing one another prior, but this knowledge was not reciprocated between partners. For these reasons, data from these dyads were retained in analyses.

Testing spaces at both locations were set up identically with two chairs positioned opposite each other for the social interaction and two video cameras set up to capture each participants' full body in the frame. Chairs were angled in such a way that faces were clearly visible to the video camera. An additional camera was also set up between the two chairs to capture both participants simultaneously. After the informed consent process, participants completed a videotaped unstructured measure of dyadic interaction, first developed for typically-developing interactions (Berry & Hansen, 1996) but recently used in ASD as well (Usher et al., 2018). Participants were seated opposite from each other and instructed that they have five

minutes to get to know each other. The research assistant then turned on the camera and set a timer for five minutes. The researcher was present during the conversation to ensure participants completed the interaction, but a partition ensured she was not visible to them. Following the interaction, participants completed additional measures at separate computer stations. Although participants completed surveys in the same room, the survey instructions explicitly told participants that the partner cannot and would not see their responses. To ensure order effects did not influence results, the groups of measures (detailed in Measures section) were counterbalanced for each participant, and within each group of measures the order of the measures were randomized. All tasks were completed using Qualtrics Survey software. After completing the study, participants were paid with $15 or 1.5 course credits for completing the study.

2.3 Measures

Participants first individually completed the *Wide-Range Achievement Test* (WRAT-3; Wilkinson, 1993), a short (i.e., under five minutes) reading test used to approximate verbal IQ. Participants were scored on correctly pronouncing 42 words, and raw scores on this task were converted to standard scores. This measure has been used in previous studies to obtain an efficient and valid measure of verbal IQ in TD and ASD participants (Sasson et al., 2017). Participants then completed four sets of measures: 1) evaluation of the interaction; 2) evaluation of the partner; 3) meta-perception of the partner's evaluation of the interaction; and 4) individual abilities (e.g., social cognition, social motivation). Trained independent observers later rated individuals in the videotaped interactions for their social skills and behaviors.

2.3.1 Evaluation of the interaction

Participants completed two measures evaluating qualities of the interaction and how close they felt to their partner after the interaction.

Social interaction evaluation measure. The Social Interaction Evaluation Measure (Berry & Hansen, 1996) was a self-report measure completed by both partners after the interaction. Participants answered 11 questions about the interaction on an eight point Likert scale, where higher values indicated more positive perceptions of the interaction. This scale measured interaction quality (e.g., enjoyment of the interaction), disclosure (e.g., how much did your partner disclose in the conversation), engagement (e.g., how much did your partner influence the conversation), and intimacy (e.g., to what extent was the interaction intimate). This measure was selected because it can be used with non-romantic partners, has validity with observer measures of interaction quality (Berry & Hansen, 1996), and specifically examines perceptions of the interaction rather than traits of the partner.

The items had strong internal consistency (ASD α = .75; TD α = .84) and the item structure was further examined with the inter-item correlation matrix. The inter-item correlation of the 11 items was .281, indicating adequate relationships between items (Briggs & Cheek, 1986). Because the 11 items are related in this way in prior work (Berry & Hansen, 1996) and have been used as an averaged interaction quality composite score (Heerey & Kring, 2007), the average score was computed and used in analyses.

Closeness to partner. In social and personality psychology research examining relationship development between two unfamiliar partners, overall interaction quality is often measured by how close partners feel after the interaction (Aron, Aron, & Smollan, 1992; Aron et

al., 1997; Sedikides et al., 1999). Closeness refers to a sense of connectedness to the partner, and can be evidenced by self-disclosing thoughts and feelings to the other person (Aron et al., 1992). Closeness has been used as an outcome measure for interactions examining friendship formation of two unfamiliar partners, and can be detected in partners even in brief interactions (Aron et al., 1997; Sedikides et al., 1999). As has been done in previous work (Aron et al., 1997), this study operationalized closeness as the composite score of two validated closeness measures, the *Inclusion of Other in the Self* (IOS Scale; Aron et al., 1997) and the *Subjective Closeness Index* (SCI; Berscheid, Snyder, & Omoto, 1989). In the IOS, participants indicated how close they feel to their partner by selecting one of seven overlapping circles representing the self and the partner (Aron et al., 1997). The SCI determined closeness by asking participants to rate on a seven-point scale: a) how their relationship with their partner compared to his or her other relationships, and b) to compare this relationship with what he or she knew about closeness of other people's relationships (Berscheid et al., 1989). The composite score was formed by averaging the raw scores of both measures together. This closeness score has demonstrated strong psychometric properties (Aron et al. 1997), and was also strong in this study (ASD α = .78; TD α = .77).

2.3.2 Evaluation of the partner

Participants completed two measures rating their impression of their partner and evaluating their partner on interpersonal circumplex traits.

First Impression Scale. The First Impression Scale for ASD (Sasson et al., 2017; see Faso, 2016 for scale development) has been used in previous work examining how others form first impressions of adults with ASD. Participants rated their partner on ten first impression

statements. Six items assessed first impressions of different traits (e.g., awkwardness, attractiveness, trustworthiness, dominance, likeability, and intelligence). The last four items were ratings of intent to engage in future interactions with their partner (e.g., I would mind living near this person, I would start a conversation with this person). All items were rated on a four-point scale in which higher ratings indicated more positive first impressions. Because the partner was rated rather than a video, questions were rephrased for this study (e.g., changed from "This person is awkward" to "My partner is awkward"). The behavior intent items showed fair internal consistency (ASD α = .63; TD α = .60), suggesting shared measurement of an underlying construct. Thus, for the behavioral intention items, a composite metric average of the four items was used in analyses. The trait items showed worse internal consistency (ASD α = .37; TD α = .50), as each item was intended to measure distinct aspects of partners. Therefore, each of the six traits were analyzed separately.

International Personality Item Pool – Interpersonal Circumplex (IPIP-IPC). The IPIP-IPC (Markey & Markey, 2009) assessed warmth and dominance behaviors towards the partner. Because the First Impression Scale was developed to assess specific first impressions related to autism (e.g., awkwardness), the IPIP-IPC was chosen as an additional measure in order to obtain a broader metric of the domains of personality related specifically to social behavior, as interpersonal warmth and dominance are key predictors of dyad behavior in social interactions and a variety of interaction outcomes (e.g., relationship satisfaction, task productivity, liking; Markey et al., 2010; Markey & Markey, 2007). Participants answered 32 questions encompassing the octants of the interpersonal circumplex using a five-point Likert scale in which higher scores indicated more agreement with each statement. These octant scores were used to

create an index of interpersonal dominance (e.g., my partner demands attention) and warmth (e.g., my partner is interested in people). This scale has good psychometric properties and closely aligns with the Big Five personality traits of agreeableness and extraversion (Markey & Markey, 2009). Warmth and dominance scores were calculated and used in analyses.

2.3.3 Meta-Perception

All participants completed the Social Interaction Evaluation Measure and First Impression Scale for ASD with additional instructions to predict how they believed their partner would rate them on these measures. These two measures were chosen for meta-perception, as the Social Interaction Evaluation required meta-perception of the quality of the individual's social interaction, while the First Impression Scale required understanding of the impressions elicited by the individual in a social interaction. Instructions and questions for each measure specified that the questions should be answered with how the individual thought his partner perceived both the interaction (e.g., what do you think your partner thinks of the interaction?) and the participant's own traits and behavior (e.g., what do you think your partner thinks of you?). For example, the awkwardness item in the First Impression Scale for ASD read, "To what extent do you think your partner thinks you are awkward". The same scores for each measure were computed for meta-perception scores and used in analyses. For consistency, the six trait items were examined separately and the four behavioral intent items were averaged together. Similar to the reliability scores found for the behavioral intention subscale of the First Impression Scale for ratings of partners, the metaperception version also showed fair internal consistency

(ASD α = .61, TD α = .54). However, the metaperception version of the Social Interaction Evaluation showed strong properties (ASD α = .85; TD α = .78).

Participants also completed the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) so that mood could be controlled for in metaperception analyses, as affective states and mood impact meta-perceptive judgments made after real time interaction (Christensen, Stein, & Means-Christensen, 2003). The BDI is a 21-item questionnaire. Participants answer each questionnaire about their mood and behavior using a 4-point Likert scale, where higher scores indicate more depressive symptoms. These items are summed into a total depression score. Scores between 14 to 19 indicate mild depression, 20 to 28 indicates moderate, and scores over 29 are severe. This scale had excellent reliability in this sample (ASD α = .93; TD α = .93).

2.3.4 Individual Abilities

Participants also completed measures assessing their social cognitive abilities and motivations to form friendships.

Social Cognition Composite. To obtain an index of social cognitive ability, participants completed measures spanning the three domains of social cognition: social perception, emotion recognition, and social appraisal (e.g., theory of mind). Scores on these three tasks were then standardized and averaged together to yield a total social cognition composite score used in primary analyses. This composite score has been used as an index of overall social cognitive ability in the BAP, in which this score was predictive of overall social skill ability (Sasson et al., 2013). However, one exploratory aim also assessed the independent impact of each domain on social interaction outcomes. Three tasks were administered to obtain this composite score: the

Benton Facial Recognition Task (Benton, Hamsher, Varney, & Spreen, 1983), Penn Emotion Recognition Task (ER-40; Kohler, Bilker, Hagendoorn, Gur & Gur, 2000), and The Awareness of Social Inference Task (TASIT; McDonald et al., 2006).

The Benton measured social perception, specifically face recognition. Participants viewed 54 faces and selected the matching face from an array of six faces. The task was scored for correct identification, and yielded a total score out of 54. This task showed good internal consistency for TD (α = .68) and ASD (α = .73) groups. The ER-40 assessed emotion recognition, in which participants selected the emotion displayed in 40 photos. This task was also scored for correctness, yielding a total score out of 40. This task showed lower internal consistency for both groups (ASD α = .47; TD α = .41). This was lower than has been found in previous work (ASD α = .67; TD α = .47 in Morrison et al., in press), possibly in part because the smaller sample used here yielded reduced overall variability in scores. Lastly, the TASIT assessed theory of mind ability. Participants watched 16 short videos in which characters engaged in social interactions and either lied or were sarcastic to the other characters. After each video participants answered four questions regarding what the characters' intentions, thoughts, and beliefs were about the other people or the scenario. Each question was scored as correct or incorrect, and items were summed to create a total score ranging from 0 to 64. This task showed strong reliability for ASD adults (α = .84), but was weaker for TD adults (α = .68). All three tasks have been used previously in autism research (Neves et al., 2011; Philip et al., 2010; Ratto et al., 2011).

Social Motivation. To assess how interested the participant was in forming social relationships, participants completed the Friendship Motivation Scale (Richard & Schneider,

2005). This measure assessed social motivation, or the desire to seek out and form social relationships. Participants answered 12 questions in response to the question, "Why do you have friends?" For each item, participants indicated on a 4-point scale how true each statement was. Statements comprised four subscales: intrinsic motivation, identified regulation, external regulation, and amotivation. Intrinsic motivation refers to self-determination for seeking friendships, in which social relationships are satisfying for internal reasons (e.g., for the pleasure I get by talking with friends). The other three types of motivation are extrinsic in nature. Identified regulation refers to seeking relationships for their own sake (e.g., because I think having friends is good for me). External regulation refers to seeking friendships for environmental reasons or rewards (e.g., to be invited to parties). Lastly, amotivation refers to a lack of motivation to seek friendships because the individual does not perceive benefits from friendships (e.g., I don't see why I would want to have friends). The total social motivation score was computed by summing weighted subscale scores (see Richard & Schneider, 2005 for formula). This measure showed fair internal consistency (ASD α = .61, TD α = .61).

Social Skill Ability. To obtain a measure of both partners' social skills, three independent raters were trained on the Conversation Probe (CP) social behavior coding manual (Pinkham & Penn, 2006). All raters coded each participant's behavior and were blind to participant diagnoses. Prior to coding, raters attended training sessions and coded videos until consensus in ratings was achieved on 20% of the videos.

The CP coding paradigm captured both discrete and holistic rating of the participant's overall social skill. Coders first coded nine discrete behaviors then made a holistic judgement of the participant's overall skill ability, rating how successful the participant was at interacting with

his partner. The nine behaviors can be categorized into four composite skill groups: appropriate content, paralinguistic behaviors, interactive behaviors, and non-verbal behaviors (Morrison et al., 2017). Conversational content refers to the participant's ability to discuss topics appropriate to meeting someone for the first time. Paralinguistic behaviors quantify the quality of participants' speech other than semantic content (e.g., speaking with clarity, enunciating clearly and fluently, and successfully switching turns with their partner). Interactive behaviors measure the degree to which participants are interested in getting to know their partners and carry on the interaction. This subscale was comprised of involvement, or the degree to which the participants appear engaged in the conversation, and the number of questions the participants asked of their partner. Lastly, non-verbal behaviors consisted of the degree of appropriate eye-contact and affective behaviors displayed by the participants. Each social skill rating was made on a nine-point Likert scale, where higher scores indicated better social skills ability. For this study, the holistic overall social skills score was used for analyses and the discrete behaviors (i.e., interactive behaviors) were used for exploratory analyses and post hoc tests. Interclass correlation coefficients were computed to assess reliability on the videos. The three coders' consistency ranged from .57 to .95 on the behaviors, and specifically were strongly consistent for overall social skills (ICC = .732). Reliability is displayed in Table 1.

2.4 Analysis Plan

Normality and skew were examined for all measures, and descriptive statistics were examined to see general patterns in the data. Because data were collected on two interacting individuals, the primary outcomes for both partners were related (i.e., interaction evaluations, closeness, and impressions were dependent on the interaction with the partner). Thus, outcomes

were non-independent, and traditional analytic techniques using the general linear model could not be used. Additionally, hypotheses examining how the partners influenced each other could not be examined with these techniques and instead were modeled with analyses that take non-independence into account. Therefore, to test the specific aims for this study, the Actor-Partner Interdependence Model (APIM) was used (Kenny et al, 2006).

APIM can estimate three types of effects (see Figure 1 for example model). First, APIM specifies actor effects, or the effect of the individual's own behavior (e.g., overall social skills ability) on the individual's own outcome (e.g., interaction quality). Second, these models specify partner effects, or the effect of the partner's behaviors or abilities on the individual's outcome. Finally, this model specifies interaction effects, allowing for examination of how an individual's behaviors and traits are related to his own outcomes depending on his partner's behaviors and traits. Additionally, by collecting all three types of dyads, effects were estimated for ASD adults compared to TD adults, as well as how the combinations of dyads (i.e., ASD-ASD, ASD-TD, TD-TD) influenced outcomes (Kenny, 1988; Kraemer & Jacklin, 1979). Actor, partner, and interaction effects were estimated to address all hypotheses.

APIM was modeled using multilevel modeling in SPSS Version 25. Multilevel modeling is a statistical technique appropriate for examining dyadic data as it allows for data with a multilevel structure, such as partners nested within dyads. To estimate actor, partner, and interaction effects, multilevel modeling was run using Restricted Maximum Likelihood estimation (REML). In addition to fixed effects of interest, random effects were specified to account for variation in individuals across dyads. Specifically, compound symmetry covariance structure was specified, estimating the variance of the partners' residuals for outcomes of interest

as well as the covariance of the two partners' residuals. All analyses addressing specific aims one and two were run separately for each social interaction outcome: social interaction evaluation, closeness, first impressions formed (i.e., each of the six traits and averaged behavioral intent), and interpersonal circumplex traits (i.e., warmth and dominance behaviors). For all analyses continuous predictors were grand mean centered, and categorical predictors were effects coded. Interactions were followed up with simple slopes. Due to the number of tests that were performed, an adjusted alpha threshold of .01 was specified for all fixed effects *a priori.* Significant interaction terms were then followed up with the alpha of .05.

Specific Aim One. To test hypotheses, actor and partner diagnosis and the interaction of the two were entered into the model as fixed effects predicting each social interaction outcome separately. Hypotheses were tested with the interaction of the actor and partner effects, estimating the effect of an individual's diagnosis on the social interaction outcomes depending on whether or not the partner was TD or ASD.

Specific Aim Two. To test Specific Aim Two hypotheses, the basic model run in the first specific aim was run with additional parameters in order to examine a) if social abilities predicted social interaction outcomes, and b) if these pathways were moderated by diagnosis and dyad type. First, basic models were run to determine the effect of social abilities on outcomes. In these models, actor and partner social abilities and the interaction of actor and partner social abilities were entered into the models controlling for diagnosis. Hypothesis one was tested with the *actor effect* examining how actor social abilities predicted how he evaluated the interaction and partner. The *partner effect* tested hypothesis two, assessing how the actor's evaluations were predicted by the partner's social abilities. Next, the *interaction* of partners' social abilities tested

hypothesis three, examining if combinations of actor and partner social abilities influenced social evaluations.

The next set of models tested both diagnosis and dyad type as moderators of the actor, partner, and interactive effects. To test moderation of diagnosis, the interaction of the individual's diagnosis with both actor and partner social abilities and the three-way interaction of actor and partner social abilities with the individual's diagnosis was added to the model. These effects evaluated a) the effect of the individual's social abilities on the individual's outcome depending on the individual's diagnosis (moderation of the actor effect), b) the effect of the partner's social abilities on the individual's outcomes depending on the individual's diagnosis (moderation of the partner effect), and c) the three-way interaction effect of how both partners' social abilities interacted with each other to influence outcomes depending on the individual's diagnosis (moderation of the interaction effect). Last, to test for moderation of dyad type, additional interaction terms of both the actor diagnosis and partner diagnosis on the actor, partner, and interaction effects were examined.

Exploratory Analyses. Additional hypotheses were run to further understand predictors and mechanisms of social evaluation. First a mediation model was tested to examine if social skills moderated the relationship between social cognition and social evaluation. Mediational APIM was used to model the pathways for both partners, testing specific pathways (Faso et al., 2016). First, the *personal relationship shaping pathway* was examined. This pathway tested for how an individual's social cognition predicts his own social interaction outcomes through his own social skills ability. This pathway was predicted to be significant, such that an individual with better social cognition would be more socially skilled, which would predict more favorable

social interaction outcomes rated by that individual. Second, the *interpersonal relationship shaping pathway* was tested, evaluating how the individual's social cognition influenced the partner's evaluations of the interaction through the individual's social skills. This pathway was also predicted to be significant; individuals with better social cognitive ability would be more socially skilled, and would be evaluated more favorably by their partner.

Mediation was specified using structural equation modeling (SEM) in MPlus, testing the model in Figure 2 for each social outcome. In these models, both participants' diagnoses and the interaction of diagnoses was controlled for in the mediation model in order to first assess whether or not social skills mediates the relationship between social cognition and social outcomes. Mediation paths were calculated by multiplying the path coefficients that comprise the meditational pathway, yielding indirect effects. Indirect effects were specified for both the personal relationship shaping pathway and the interpersonal relationship shaping pathway, and significance was determined by examining the 95% confidence interval around bootstrapped (5000 iterations) point estimates of these indirect effects. This mediation model was also predicted to be moderated by diagnosis, such that the indirect effect of social cognition on social outcomes through social skills would be stronger for ASD adults than TD adults. To test this, additional terms were added to the model, specifying the interaction of diagnosis and actor and partner social skills. If these terms were significant, this would indicate these was a difference between the indirect effect for ASD and TD adults for actor and/or partner effects. Thus, this would be followed up by examining the effects separately with ASD and TD adults as the reference group.

Two additional sets of models were run to understand how interactive behaviors and the domains of social cognition predicted evaluations. To examine the impact of interactive behaviors, actor and partner diagnosis and interactive behaviors were entered into the models in the same way as fixed effects were estimated for the social cognition models in Specific Aim Two; therefore, effects of interactive behaviors could be examined in addition to moderated effects of diagnosis and dyad type. A final exploratory model was also specified to examine the effect of different social cognitive domains. Actor and partner diagnosis, dyad type, facial recognition, emotion recognition, and theory of mind, and the interaction of diagnosis and dyad type with actor and partner facial recognition, emotion recognition, and theory of mind, were entered into the models. Partner effects for each social cognition domain were tested, to examine if the partner's emotion recognition and theory of mind ability would be related to the individual's social interaction outcomes. Moderated effects also assessed if these effects differed for ASD and TD adults as well as within different dyad combinations.

***Specific Aim 3*.** To address specific aim three assessing meta-perception ability, separate analyses were run to examine how accurate partners were at estimating how their partners formed first impressions of them and evaluated the social interaction. In order to examine meta-accuracy of perceptions, the truth and bias model (West & Kenny, 2011) was used. This model was used to examine the degree of accuracy of a judgment (e.g., how accurate was the actor's meta-perception in predicting how his partner actually perceived him) and the direction of a judgment's bias (e.g., was the actor over- or underestimating how he was perceived). In this model, the actor's meta-perception (i.e., judgment value) was the outcome variable predicted by the partner's actual evaluation (i.e., truth value), and both were centered on the mean of the

partner's actual evaluation. This centering allowed for the intercept to be interpreted as the direction of the actor's bias in meta-perception, and also yielded an estimate of the degree to which the partner's actual evaluation was related to the actor's meta-perception.

To address the hypotheses, actor and partner diagnosis were also entered into the model as moderators to examine how accuracy and bias of an ASD or TD actor's meta-perception changed when interacting with an ASD or TD partner. Thus, this model included the fixed effects of actor and partner diagnosis, partner social evaluation rating, and the interaction of actor and partner diagnosis, interaction of actor and partner with partner social evaluation ratings, and the three-way interaction of both actor and partner diagnosis and partner social evaluation rating. Depression scores were also included as a covariate in the models, as metaperception is influenced by mood. The hypotheses were tested with the three-way interaction. These fixed effects estimated how much the partner's social evaluation of the actor was related to the actor's meta-perception for ASD and TD adults, and if accuracy changed when interacting with an ASD or TD partner.

CHAPTER 3

RESULTS

3.1 Descriptive Statistics

Normality, skew, and kurtosis were examined for all measures and were in acceptable ranges for analyses. First, the descriptive statistics of the predictors were assessed to examine if diagnostic groups differed on predictors and whether or not there were differences in the different dyad groups. Means and standard deviations are displayed for predictors (Tables 1 and 2), outcomes (Table 3), and meta-perceptive judgements (Table 4). As expected, diagnostic groups differed on a number of predictor variables, including the Benton ($F(1, 177) = 26.37$, $p < .001$), TASIT ($F(1, 117) = 14.98$, $p < .001$), FMS ($F(1, 117) = 12.46$, $p = .001$), social cognition composite score ($F(1, 117) = 26.02$, $p < .001$), overall social skills ratings ($F(1, 123) = 31.49$, $p < .001$) and interactive behaviors ($F(1, 123) = 21.37$, $p < .001$), with the TD adults scoring higher on all tasks. Contrary to predictions, diagnostic groups did not differ on the ER-40 ($F(1, 117) = 2.79$, $p = .10$), nor did they differ on the BDI ($F(1, 117) = 3.07$, p = .08).

Dyad groups also differed on the Benton ($F(2, 116) = 10.88$, $p < .001$), TASIT ($F(2, 116) = 7.52$, $p = .001$), social cognition composite ($F(2, 116) = 10.45$, $p < .001$), overall social skills ($F(2 ,116) = 5.57$, $p = .005$) and interactive behaviors ($F(2, 116) = 5.27$, $p = .006$). The TD-TD group scored higher than the ASD-ASD and ASD-TD groups on the Benton ($ps < .004$) and social cognition composite (ps < .009), and higher than the ASD-ASD but not the ASD-TD group on the TASIT ($p = .001$), overall social skills score ($p = .004$), and interactive behaviors score ($p = .005$). Specifically looking at the mixed dyads, ASD and TD groups differed on the Benton ($F(1, 37) = 5.71$, $p = .02$), social cognition composite ($F(1, 37) = 5.34$, $p = .02$), overall

social skills ($F(1, 37) = 14.43$, $p = .01$), and interactive behaviors ($F(1,37) = 5.07$, $p = .03$), but not the TASIT ($F(1, 37) = 1.59$, $p = .22$) or FMS ($F(1, 37) = 4.21$, $p = .05$). Dyads did not differ on BDI scores ($F(2, 116) = 0.65$, $p = .53$) nor did diagnostic groups in the mixed dyads ($F(1, 37) = 4.31$, $p = .05$).

Next, the relationships between variables were examined to parse general patterns in the data. Zero-order correlations were assessed between outcomes (Table 5), predictors (Table 6), actor outcomes with actor predictors (Table 7), and partner outcomes with actor predictors (Table 8). Outcome variables were generally related. First impression traits, behavioral intentions, and interaction quality and closeness were minimally to strongly related for both ASD and TD groups. For TD adults, ratings of warmth, desire to hang out with, and interaction quality were strongly correlated with most other outcomes. For ASD adults, these relationships were less strong, and fewer were statistically significant. Predictors were only minimally correlated with one another, and tolerance values did not indicate multicollinearity (all values >.656). For TD adults, ER-40 scores and Benton scores were positively related, and TD adults with more interactive behaviors were also rated higher on overall social skills ratings, but no other correlations were significant. For ASD adults, higher TASIT scores predicted better ER-40 and Benton scores, and ER-40 scores and FMS scores were positively related. Additionally, higher TASIT scores predicted better overall social skills scores, and lower ER-40 scores and lower FMS scores were related to displaying more interactive behaviors.

Next, correlations between predictors with both partner and actor outcomes were examined. For ASD adults, several social abilities moderately predicted partner evaluations. ASD adults with better overall social skills were rated as less awkward and smarter, and their

partners rated the interaction higher in quality. Additionally, ASD adults who displayed more interactive behaviors were rated as more dominant by partners. ASD adults with better TASIT scores were rated as smarter, and those with higher ER-40 scores were rated as less dominant and more awkward.

TD adults' social abilities were moderately correlated with partner outcomes. TD adults displaying more interactive behaviors were rated as less awkward, and their partners wanted to hang out with them more. Higher scores on the Benton were also related to receiving higher warmth scores. Predictors were also only minimally to moderately correlated with actor evaluations of the partner. For TD adults, higher ER-40 scores predicted rating partners lower in warmth, and higher TASIT scores were related to perceiving the partner as less dominant and more trustworthy. Higher friendship motivation was related to seeing the partner as more attractive. For ASD adults, higher TASIT scores were related to feelings less close to partners, perceiving the partner as less dominant, and having less desire hang out with their partners later, while better ER-40 scores predicted stronger desire to live near the partner. Friendship motivation was also related to perceiving the partner as warmer, less aggressive, smarter, and having a stronger desire to have a conversation their partners.

3.2 Aim 1 Hypothesis Testing

Aim 1 explored how partners' diagnoses impacted impressions and evaluations reported after a social interaction. Consistent with the double empathy framework (Milton, 2012), TD individuals were predicted to have less favorable outcomes (e.g., rate interaction quality and closeness lower, evaluate partners as less warm and dominant, and form negative first impressions of their partner) after interacting with an ASD partner compared to a TD partner

(hypothesis 1) and ASD individuals were predicted to have more favorable social interaction outcomes (e.g., rate interaction quality and closeness higher, evaluate partners as more warm and dominant, and form positive first impressions of their partner) when interacting with an ASD partner compared to a TD partner (hypothesis 2).

Effects are displayed in Table 9. Ratings of behavioral intent depended on dyad composition (b = .28, SE = .09, p = .004). Whereas TD participants endorsed higher intentions to interact with TD relative to ASD partners (b = -0.16, SE = .06, p = .01), ASD participants trended towards higher intentions to interact with ASD compared to TD partners (b = .11, SE = .06, p = .052), though this effect was not statistically significant from zero. There was also a significant actor effect for closeness (b = .28, SE = .10, p = .004), such that ASD participants reported feeling closer to their partners after the interaction than TD participants. There were also significant partner effects. ASD partners were rated as more awkward, less attractive, and less warm than TD partners (ps < .001). No other actor effects (ps > .27), partner effects (ps > .38), or interactions of partner diagnoses (ps > .03) were significant.

Hypothesis one therefore was partially supported. TD adults rated higher intent to interact with other TD adults compared to ASD adults, while ASD individuals trended towards showing a preference for interacting with other ASD partners., lending support to the double empathy theory of autism. However, this theory does not extend to evaluations of the interaction quality, closeness, or specific trait ratings. In fact, ASD adults received less favorable impressions than TD adults from both TD and ASD partners on several impressions and traits.

3.2.1 Aim 1 Post Hoc Testing

Because the interaction quality and closeness measures assessed the conversation as a whole, it was also of interest to examine patterns on these measures in more depth. The Social Interaction Measure's subscales, Quality, Disclosure, and Engagement were assessed with separate models. There was a significant interaction effect for the disclosure item (b = .31, SE = .11, p = .007), such that ASD adults felt there was more disclosure between partners when they interacted with an ASD rather than a TD partner (b = .36, SE = .15, p = .02), while TD adults did not differ on disclosure depending on their partners' diagnosis (b = -0.26, SE = .16, p = .10). No other interaction effects (ps > .36), actor effects (ps > .13), nor partner effects (ps>.29) were significant for disclosure, quality, or engagement.

Additionally, it was of interest to assess agreement on the Social Interaction Measure and perceptions of closeness. To do so, a discrepancy score was computed for each dyad by subtracting the partner's score from the actor's score, and taking the absolute value of that difference. Average scores for each dyad type are presented in Table 10. Although the pattern of means suggested the TD-TD dyads showed the most similarity (i.e., difference scores closest to zero), testing differences between dyad types with a 3-way ANOVA suggested no differences in agreement between dyad types (ps > .40).

3.3 Aim 2 Hypothesis Testing

Aim 2 examined the impact of social abilities (e.g., social cognition, social skills, and social motivation) on social interaction outcomes and whether these effects depended on partners' diagnoses and the dyad type. First, models tested the actor, partner, and interaction

effects of social cognition, social skills, and social motivation (measured by friendship motivation scores) on outcomes. Participants with lower levels of each social ability were predicted to rate the interaction less favorably on social interaction outcomes and rate their partner less favorably on traits and behavioral intentions (actor effects; hypothesis 1). Individuals with a partner low on each social ability were predicted to evaluate the interaction less favorably and rate their partner negatively on traits and behavioral intentions (partner effect, hypothesis 2). Individuals with poor skills were predicted to have less positive social interaction outcomes and trait and behavior evaluations, but this effect would be attenuated when they were paired with a partner who also had poor skills compared to a partner who was highly skilled (interaction effect; hypothesis 3).

Models were rerun including diagnosis and combinations of partners' diagnoses as moderators. Actor, partner, and interactive effects were predicted to be strongest for ASD adults, such that social abilities would be more strongly related to social interaction outcomes for adults with ASD (hypothesis 4a). Additionally, evaluations were expected to be more favorable for dyads matched on diagnosis (i.e., TD-TD and ASD-ASD) compared to mixed (i.e., ASD-TD; hypothesis 4b).

3.3.1 Social Cognition

There were few significant effects of social cognitive abilities on outcomes controlling for diagnosis (see Tables 11 and 12). Actors with better social cognitive abilities rated their partners as more dominant/aggressive ($p = .007$). There were no other significant effects of actor ($ps > .03$), partner ($ps > .05$), or interaction of actor and partner social abilities ($ps > .08$).

The moderation model was then tested (see Tables 13 and 14), yielding significant effects on interaction quality and awkwardness. There was a significant three-way interaction of actor and partner diagnoses with actor social cognition for interaction quality. Breaking down this interaction revealed an effect for TD actors (b = 1.13, SE = .43, p = .01). Within ASD-TD dyads, TD actors with better social cognitive abilities rated the interaction quality higher (b = 1.80, SE = .72, p = .014). However, this pattern was not observed for TD actors within TD-TD dyads (b = -0.45, SE = .43, p = .30), nor for ASD actors within ASD-TD or ASD-ASD dyads (b = -0.26, SE = .19, p = .18).

There was a significant two-way interaction of actor diagnosis and partner social cognition on awkwardness scores. ASD actors rated partners with better social cognitive ability as more awkward than partners with low levels of social cognitively skilled (b = -0.65, SE = .27, p = .02). This pattern was not observed for TD actors (b = .28, SE = .19, p = .13). However, this interaction was subsumed by a three-way interaction of actor and partner diagnoses and partner social cognitive ability. This interaction was first broken down at each level of actor diagnosis to examine if the two-way interaction of partner diagnosis and partner social cognition was observed for ASD actors and for TD actors. This two-way interaction was significant for ASD actors (b = .61, SE = .27, p = .03), and was further broken down to reveal an effect of partner social cognition on ASD actors' awkwardness ratings in mixed dyads. ASD actors rated their TD partners as less awkward when their partner had lower levels of social cognitive ability (b = -1.26, SE = .52, p = .02). This effect was not seen for ASD actors in ASD-ASD dyads (b=-0.03, SE = .15, p =.81). Moreover, the interaction of partner social abilities was not moderated by partner diagnosis for TD actors (b = -0.31, SE = .19, p = .10). With the moderated terms included

in the model, there was an effect of partner diagnosis on awkwardness ratings (p = .002) with ASD adults rated more awkward by partners. However, no other effects were moderated by diagnosis (ps > .02) or dyad type (ps > .013).

3.3.2 Social Skills

There was a significant effect of the partner's composite social skills rating on awkwardness evaluations (p < .001), such that partners who were more socially skilled were rated as less awkward. No other actor effects (ps > .10), partner effects (ps > .05), or interactions of actor and partner skills (ps > .02) were significant. All effects are displayed in Tables 11 and 12. The moderation models testing whether or not social skills may impact social evaluations differently depending on diagnosis and dyad type revealed no significant effects for diagnosis (ps > .04) or dyad type (ps > .07). These are displayed in Tables 15 and 16.

3.3.3 Social Motivation

Actor friendship motivation predicted feelings of warmth and behavioral intentions. Actors with higher motivation to make friends rated their partners as warmer (p=.008) and rated higher desire to interact with them again (p < .001). However, there were no other effects of friendship motivation scores on outcomes for actors (ps > .02), partners (ps > .23), or the interaction (ps > .07). Effects are displayed in Tables 11 and 12.

Effects for the moderated model are displayed in Tables 17 and 18. In examining the moderated model, there was an interaction of actor and partner diagnoses with actor friendship motivation scores for trustworthiness ratings (p = .007). Breaking this interaction down for TD actors, there was a significant interaction of partner diagnosis with actor friendship motivation (b

= -0.03, SE = .02, p = .03). TD actors with more motivation for friendships rated their ASD partners as less trustworthy (b = -0.06, SE = .03, p = .04), but this did not extend to TD partners (b = .01, SE = .01, p = .45). Moreover, the interaction of partner diagnosis and friendship motivation approached significance for ASD actors (b = 0.02, SE = .01, p = .06). The pattern of results suggests ASD actors with more motivation rated other ASD adults marginally more trustworthy (b = 0.02, SE = .01, p = .06), but ASD actors' friendship motivation did not influence trustworthiness scores of their TD partners (b = -0.02, SE = .02, p = .26). The effect of actor diagnosis on closeness was still observed (p=.006), as well as partner diagnosis on awkwardness (p=.001), but the first order effects of friendship motivation on warmth (p = .01) and behavioral intent was no longer significant (p = .20). With alpha level set to .01 for first order effects, diagnosis (ps > .02) and dyad type (ps > .09) did not significantly moderate any other effects.

Specific Aim 2 was largely not supported. There were few actor and partner effects on outcomes controlling for diagnosis (hypotheses 1 and 2), and no evidence to suggest that matching partners on social cognition, social skills, or social motivation ability was related to more favorable outcomes (hypothesis 3). Additionally, only a few effects were moderated by diagnosis and dyad type (hypothesis 4). Here, social abilities of TD but not ASD adults appeared to be related in unique ways to outcomes within mixed dyads but not matched dyads. Social cognitive ability was more strongly predictive for TD individuals within ASD-TD dyads, such that those with better social cognitive skills experienced better interaction quality with their partners but were also evaluated as more awkward by ASD partners. Additionally, TD adults who were highly motivated to obtain friendships rated ASD partners lower in trustworthiness.

3.4 Exploratory Aims

The first exploratory aim examined how social cognition and social skills were related to social interaction outcomes, and whether this relationship differed for ASD and TD adults (see Figure 2 for model). First, the mediation model was tested to examine if the personal relationship shaping pathway (i.e., effect of the actor's social cognition on their own outcomes transmitted through their own social skills ability) and interpersonal relationship shaping pathway (i.e., effect of the partner's social cognition on the actor's outcome transmitted through the partner's social skills) were significant. In addition, separate paths could also be assessed, including the direct effect (i.e., effect of social cognition on outcomes), specific effect of social cognition on social skill, and specific effect of social skills on outcomes for both actors and partners. Results indicated good model fit for all outcomes (RMSEAs < .10; CFIs > .082; Table 19). However, there was no evidence for mediation, as the bootstrapped confidence intervals for indirect effects specifying the personal relationship shaping pathway and interpersonal relationship shaping pathway contained zero (Table 19). Although partners with better social skills were rated as less awkward (b = .25, SE = .08, p< .001) and more warm (b = .26, SE = .10, p= .009), effects of social cognition on social skills (*ps*>.29), social skills on social outcomes (*ps*>.018), and direct effects of social cognition on social outcomes (*ps*>.011) were not significant. These paths are displayed in Table 20 Additionally, aligning with APIM results, diagnosis influenced social skills and social cognitive abilities, such that in all models, TD adults had better social skills and social cognitive ability (Table 21). Additionally, this model also showed ASD adults feel closer to their partners (p < .01).

Next moderated mediation was tested to assess if the effect of social cognition on social outcomes may be transmitted through social skills differently for ASD and TD adults. However, when these moderated terms were added into the models, model fit was very poor (RMSEAs > .233; CFI < .405). Model fit statistics are displayed in Table 22. This suggested that the moderated mediation model did not fit the data appropriately. Taken together with the mediation results, this suggests that social skill is not a mediator between social cognition and social outcomes, and moreover, that these paths are not significant for ASD or TD adults.

The second exploratory aim determined the unique contributions of specific social skills and social cognitive domains to social interaction outcomes. First, the effect of interactive behaviors on social interaction outcomes was examined. Effects are displayed in Tables 23 and 24. There were no actor effects (*ps* > .13), partner effects (*ps* > .08) or interactive effects (ps > .13) of interactive behaviors across social interaction outcomes, and there was no evidence of moderation of these effects (*ps* > .014).

The relative contribution of each social cognitive domain on social interaction outcomes was also examined, and effects are displayed in Tables 25 and 26. There were significant two-way interactions of actor and partner diagnosis with partner emotion recognition abilities (i.e., ER-40 scores) for trustworthiness ratings. ASD actors trusted their partners more when their partners had higher levels of emotion recognition ability (b = .10, SE = .03, p = .003). This effect was not significant for TD actors (b = -0.03, SE = .03, p = .296). Additionally, participants rated TD participants with stronger emotion recognition abilities as more trustworthy (b = .09, SE = .03, p =.006), but this effect was not significant for ASD partners with differing levels of emotion recognition ability (b = -0.04, SE = .03, p = .15).

There were also significant two-way interactions for likeability. Breaking down the interaction of actor diagnosis and partner ER-40 scores revealed that ASD actors also liked partners more when their partners had higher emotion recognition abilities (b = .09, SE = .03, p = .009), but this effect was not significant for TD actors (b = -0.03, SE = .03, p = .31). The interaction of partner diagnosis with facial recognition scores (i.e., Benton) was also significant (p = .002); however, following up this interaction with simple slopes revealed that the effect of Benton scores on likeability ratings did not significantly differ from zero for both ASD and TD partners, though the pattern of effects suggests that participants rated higher likeability for TD partners who had lower facial recognition scores and for ASD adults who had higher facial recognition scores (TD partner: b = -0.04, SE = .02, p = .08; ASD partner: b = .03, SE = .02, p = .08).

Thus, exploratory analyses suggested interactive behaviors are largely unrelated to evaluations. However, specific subdomains of social cognition did have differential impacts, as emotion recognition and facial recognition but not theory of mind ability related to trustworthiness and likeability ratings. In line with primary results from specific aim two, abilities of the TD partner were more predictive, and abilities of the ASD partner were not significantly related to outcomes.

3.5 Aim 3 Hypothesis Testing

Using the truth and bias model, specific aim 3 examined the degree to which actors' meta-perceptions were related to partners' actual evaluations, and if meta-accuracy differed depending on if actors interacted with an ASD or TD partner. For each individual, the outcome was the actor's meta-perception of social evaluation outcomes (i.e., how he believed the partner

rated him on first impression and how he believed his partner evaluated the social interaction). Independent variables were actor and partner diagnosis and the partner's social evaluation of the actor. BDI scores were also entered to control for mood. TD partners were expected to be more accurate in predicting how their partner would perceive them when they had a TD partner rather than an ASD partner (hypothesis 1), and ASD partners would be more accurate when they had an ASD partner relative to a TD partner (hypotheses 2).

Effects of the model are displayed in Tables 27 and 28. Actor truth values and actor metaperception ratings were significantly related for interaction quality, attractiveness, and trustworthiness. For these items, the more favorably actors evaluated their partners on interaction quality, attractiveness, and trustworthiness, the more favorably they predicted they would be rated by their partner on those items. No other actor effects (*ps* > .04) were significant. Additionally, the intercept was significant for the interaction quality ($p < .001$) and aggression/dominance ($p = .008$) items, with participants underestimating how much their partners would view the interaction as high quality, and overestimating how others' view them as aggressive/dominant. There were also no significant partner effects (*ps* > .02), suggesting there is no relationship between how participants believed the partner would evaluate them and how partners actually evaluated participants.

There was also no significant moderation of the intercept by actor (*ps* > .05) or partner diagnosis (*ps* > .12). Depression was a moderator for awkwardness ratings, such that individuals with higher levels of depression believed their partners would rate them as more awkward ($p < .001$). There was an interaction of actor diagnosis with the partner's truth value for the behavioral intention item ($p = .003$). Simple slopes revealed that ASD actors' metaperception for

behavioral intention ratings was significantly related to how their partners actually evaluated them (b = .47, SE = .17, p = .007), such that ASD adults who believed their partners would rate them low on behavioral intentions were actually rated low on behavioral intentions. TD actors' metaperception, however, did not significantly predict how their partners evaluated them on behavioral intentions (b = -0.18, SE = .14, p = .20), though the direction of the coefficient suggests that TD adults who believed they would be rated low on behavioral intention were actually evaluated higher on the behavioral intention item by their partners. This interaction term was also significant for intelligence (p = .006). For TD adults, metaperception was significantly but negatively related to the truth value (b = -0.38, SE = .15, p = .02), meaning that TD participants who perceived themselves to be more intelligent were rated as less intelligent by partners. This effect was not significant for ASD adults (b =.18, SE = .13, p = .16). There were no other significant moderated effects of actor diagnosis or partner diagnosis with partners' metaperception (ps > .03), nor were the interactions of actor and partner diagnoses with partners' metaperception abilities significantly predicted (ps > .20).

Aim 3 was not supported, as metaperception ability did not depend on matching diagnoses within dyads (hypotheses 1 and 2). Although diagnosis did not impact metaperception abilities across the first impression and interaction quality items, ASD adults were more accurate at predicting how they would be evaluated on behavioral intentions and did not show the inaccuracy TD participants did in predicting their how they would be evaluated on intelligence.

CHAPTER 4

DISCUSSION

Social interaction has been called the "blind spot" of autism research, as few studies have directly examined the mechanisms affecting real-time social interaction quality for adults with ASD (De Jaegher, 2013, p. 14). A large literature has accumulated indicating that adults with ASD are characterized by poor social outcomes (Howlin et al., 2007; Orsmond et al., 2004), including having fewer and lower quality social experiences (Billstedt et al., 2005; Howlin et al., 2004; Jennes-Coussens et al., 2006), but common psychosocial treatment programs attempting to improve these outcomes have produced small effects (for a review, see Gates et al., 2017). One potential reason for the limited effects of these programs is that this "blind spot" within autism research has prevented a deep examination of the factors contributing to real-world social interaction impairments for adults with ASD.

The current study attempted to increase understanding of social impairments in ASD in several important ways. First, this study assessed social interaction of adults with ASD during a real-time conversation with an unfamiliar TD or ASD individual. A majority of social interaction work has observed children playing with peers (Bauminger et al., 2003; Bauminger et al., 2008), or has utilized pseudo-naturalistic paradigms where participants interact with a confederate (Morrison et al., 2017; Ratto et al., 2011; Verhoeven et al., 2013). Far fewer studies (Stevanovic et al., 2017; Usher et al., 2015; Usher et al., 2018) have used ecologically valid paradigms to examine real time social interactions of adults with ASD. The current study is the largest adult ASD interaction study to-date, assessing how 67 adults with ASD interacted with others, and is

the first to compare whether interaction quality for adults with ASD differs when engaging with a TD relative to an ASD partner.

Second, the current study reflects and extends upon recent developments within autism research to examine social interaction from a relational perspective rather than focusing solely on the social and cognitive abilities of the adults with ASD. Here, by methodologically and statistically accounting for the perspectives of both partners within the interaction, this study allows for more ecological validity in understanding how adults with ASD are perceived by partners in real-time and for capturing how partners' abilities and behaviors may contribute to the experiences of adults with ASD. Of particular interest was determining whether the combination of partners' diagnoses impacted interactions. In this way, assessing how ASD and TD adults evaluated both TD and ASD adults allowed for a direct test of the double empathy theory of autism (Milton, 2012), which posits that social impairments in ASD stem in part from miscommunication, and differing social norms and expectations, between ASD and TD individuals. Finally, this study is also the first to examine how individual social abilities (i.e., social cognition, social skills, and social motivation) predict real-world social interaction outcomes for adults with ASD. Although this relationship has long been implied in the literature (Howlin et al., 2004), no studies have directly assessed the association between these social abilities and real-world social interaction quality for ASD adults. Determining how social abilities are related to outcomes has implications for evaluating what intervention components are most effective for treating the social challenges experienced by adults with ASD.

In the current study, 67 ASD adults and 58 TD controls completed a five minute unstructured interaction. Participants comprised one of three dyad types: ASD-ASD (n=22), TD-

TD (n=23), and ASD-TD (n=25). After the conversation, participants evaluated their partner and the conversation, and completed a series of social cognitive and social motivation assessments. Trained coders also observed and rated the social skills of both partners in the interaction. Analyses addressed a) how partners evaluated each other, b) what abilities predicted evaluations, and c) whether participants could accurately predict how their partners evaluated them.

4.1 Specific Aim One

Previous work found that TD adults form negative first impressions of ASD adults based upon their social presentations during 10-second video clips (Sasson et al., 2017; Sasson & Morrison, 2019; Morrison et al., in press). The first aim of the current study was to assess whether these patterns extended to real-world interactions. Of particular interest was examining whether negative evaluations of adults with ASD would also occur during face to face interaction, and whether they would extend to first impressions made by ASD partners. A finding that ASD adults were evaluated more favorably by other ASD adults relative to TD adults would provide empirical support for the double empathy theory of autism (Milton, 2012).

In line with previous findings from Sasson et al., (2017), ASD adults were perceived as more awkward, less attractive, and less warm than TD adults. Given that similar impressions have now been found across several independent samples and two different methodological approaches (i.e., video clips and face to face interactions), these results suggest that negative trait assessment of adults with ASD is common and relatively pervasive. Moreover, the current study found that ASD adults also formed more negative impressions about the traits of other ASD adults, suggesting that the characteristics driving negative impression formation of ASD adults are salient and similarly evaluated across both TD and ASD perceivers. This result is

inconsistent with the predictions of the double empathy theory (Milton, 2012), which would predict that greater alignment in social communication styles between ASD actors and partners would produce more favorable person assessment. Instead, findings from the current study suggest that the expectations and norms for evaluating these specific traits do not differ between ASD and TD adults.

This finding is also somewhat surprising given that the social perceptual and cognitive impairments that characterize autism (Klin et al., 1999; Mathersul et al., 2013; Sasson et al., 2015; Uljarevic & Hamilton, 2013), and supported in the current sample using standardized assessments of social cognitive ability, might be assumed to result in less sensitivity to perceiving these social presentation differences and a failure to interpret them similarly to TD adults. However, it is possible that judgments like awkwardness, attractiveness, and warmth are highly salient aspects of person evaluation that do not require sophisticated social cognitive abilities to detect, particularly for the type of adults with ASD like those in the current study who are all characterized by average to above average intellectual ability. Alternatively, traditional computerized and paper and pencil measures demonstrating impaired social cognitive ability in ASD may be unrelated to social impression formation, or may overestimate how those impairments manifest in real-world interaction.

Importantly, ASD and TD adults were not differentially rated on some traits. There were no differences in ratings of trustworthiness, likeability, intelligence, dominance/aggression, or social dominance. Although previous work also found no differences in how ASD and TD adults are rated on trustworthiness and intelligence (Sasson et al., 2017), a notable difference here is that ASD adults were also not evaluated lower on likeability. This may suggest that face to face

interaction can mitigate certain negative evaluations that emerge during non-interactive observation of ASD adults. Although an explicit controlled comparison of impression formation between video and face-to-face methodologies using a single sample would be needed to support this conclusion, such an interpretation is consistent with previous work indicating that direct contact with ASD adults improves perceptions and decreases stigma towards ASD (Gillespie-Lynch, 2015; Sasson & Morrison, 2019). ASD adults may therefore be able to overcome impressions of being unlikeable when given the chance for personal interaction, an opportunity often denied to them when negative judgments made from afar reduce the chances for subsequent social interaction (Sasson et al., 2017).

ASD and TD adults also did not differ in how partners perceived the quality of the conversation, suggesting ASD adults are perceived by both TD and ASD partners as participating in the same level of meaningful and high quality conversations as TD adults. This finding suggests that negative trait evaluation of ASD adults does not necessarily translate to lower perceptions of conversation quality, and may indicate that partners are capable of separating person judgment from their assessment of the conversation. Such a discrepancy suggests that both ASD and TD adults evaluate content of the conversation independently from the character evaluation of their partners, and are an indication that negative impressions of ASD adults do not invariably result in low quality interactions. This interpretation aligns with prior work in our lab indicating that the negative impressions formed about adults with ASD are driven by their social presentation differences rather the content their conversation (Sasson et al., 2017).

Because trait evaluations have consistently been found to predict future contact between partners (Eagly et al., 1991; Markey & Markey, 2009; Sadler et al., 2009), the current study also examined this association in ASD by questioning participants about their desire to interact with their partners again after their conversation. TD adults in the current study rated a stronger desire for future interaction with other TD adults compared to ASD adults, replicating prior work by our lab group (Sasson et al., 2017; 2019). This occurred despite TD adults rating ASD adults similarly on likability and a number of other trait evaluations. So what is driving the lower inclination in TD adults to pursue future interaction with ASD adults? Perhaps negative evaluations on awkwardness, attractiveness, and warmth translate to reduced desire for future contact, or are proxies for other considerations used to assess social desirability. Alternatively, other aspects of the interaction may have affected TD adults' ability to connect with ASD adults. For instance, elements of the conversation between TD and ASD partners (e.g., content, reciprocity, and shared backgrounds/interests) may have differed relative to those between TD and TD partners. Future analyses may help address this question.

Finally, it may be the case that differences in social and emotional presentation styles of ASD adults (Hubbard et al., 2017; Faso et al., 2015), shape TD adults' decisions to not pursue future contact with their ASD partners. As has been suggested in prior first impressions studies of ASD (Sasson et al., 2017; Sasson & Morrison, 2019), it is possible that having fewer opportunities for sustained personal contact may contribute to the lower rates of friendships, romantic relationships, and job opportunities often found for ASD adults (Howlin et al., 2004). These prior studies questioned whether direct contact between TD and ASD adults would increase interest by TD adults for future interaction relative to the findings they reported using

video recordings. This did not occur, however. TD adults remained reluctant to pursue subsequent interaction with ASD adults even after experiencing an in-person conversation with them. Brief interaction therefore does not appear sufficient for improving future social opportunities for ASD adults among TD individuals, at least within the context assessed here. Relative to video-based evaluations, in- person interactions do appear to favorably impact some impression judgments, such as ratings of likeability, but they do not result in a higher probability for later social interaction. As a result, the current study finds little evidence for direct contact between ASD and TD individuals being, at least by itself, a panacea for improving social opportunities for ASD adults among TD individuals.

In contrast, findings concerning interest in future social interaction were notably different when made by ASD evaluators. Despite both ASD and TD adults rating ASD adults as more awkward and less attractive and warm, ASD adults did not endorse lower intentions to interact with other ASD adults compared to TD adults, and in fact, they trended towards significance for greater interest in future interaction with ASD relative to TD adults. The reasons for this finding are not entirely clear. It is possible that ASD-ASD dyads differed from ASD-TD dyads on some unmeasured qualities, behaviors, or interaction dynamics that resulted in greater interest in future interaction with ASD adults by ASD but not TD partners. Perhaps ASD adults were better able to relate to other ASD adults in ways not captured by the trait evaluations measured in this study, and therefore were more inclined than TD adults to desire subsequent interaction with other ASD adults.

Furthermore, in contrast to the trait impression findings in which ASD adults were just as likely as TD adults to negatively evaluate their ASD partners, the results concerning future social

interest are more consistent with a double empathy framework (Milton, 2012) and suggest that adults with ASD may be more capable than their TD counterparts of forming positive connections with other ASD adults. However, given that both TD and ASD adults form negative trait impressions of ASD adults, but only TD adults report lower interest in future interaction with them, it may be the case that the criteria ASD adults use to decide whether or not to interact with others differs from those used by TD adults. While awkwardness and warmth were correlated with behavioral intention ratings for TD adults, these relationships were smaller in magnitude, and many were non-significant for ASD adults. That is, socially salient cues such as awkwardness and attractiveness may have a stronger bearing on TD adults' social inclinations, whereas ASD adults may rely to a lesser degree on these same social cues and instead base social decisions on other factors. Indeed, there is some evidence to suggest that content of the conversation is used to a greater degree by ASD adults for such decisions. Post hoc tests showed ASD adults reported more disclosure when interacting with other ASD adults compared to TD adults, which suggests that ASD adults either felt more open and comfortable disclosing personal information to other ASD adults, or they were better able to discuss topics of common interests with ASD adults resulting in higher disclosure ratings (Carrington et al., 2003; Kuo et al., 2013). The higher disclosure in ASD-ASD dyads may in turn lead to ASD adults feeling a stronger desire to interact again with other ASD adults, despite perceiving them as awkward and less attractive. Finally, it is possible that the terms "awkward" and "less attractive" are not ascribed the same weight or value by ASD adults relative to TD adults. Unfortunately, it is beyond the scope of the current project to determine whether TD and ASD adults define and interpret traits

similarly, or whether the terms used evoke different biases and beliefs that differ between the two groups.

Taken together, specific aim one demonstrated that ASD adults were evaluated poorly on many traits, but that some evaluations depended upon the diagnostic status of their partner. This replicated findings from earlier video-based first impression studies in a face to face context (Sasson et al., 2017), and partially supported the double empathy theory (Milton, 2012). However, this aim did not address the reason *why* adults with ASD were evaluated more negatively. Thus, the next series of hypotheses aimed to determine what qualities of partners were related to evaluations.

4.2 Specific Aim Two

Specific aim two tested if the evaluations found in specific aim one could be predicted by different social characteristics of the dyad members. Three main domains were assessed: social cognition, social skill, and social motivation, as these have been widely studied and found to be atypical in individuals with ASD (Chevallier et al., 2012a; Golan et al., 2007; Klin et al., 1999; Mathersul et al., 2013; Morrison et al., 2017). Determining which domains predict evaluations could inform what treatments are most effective for treating social dysfunction in ASD as well as provide greater insight into the mechanisms involved in social interaction both for TD and ASD adults.

In general, although all three domains were largely unpredictive of outcomes when controlling for diagnosis, several effects were moderated by diagnosis and by dyad type, suggesting that the impact of these abilities on outcomes were different for ASD and TD adults. Indeed, consistent with prior research, ASD adults demonstrated poorer performance on social

cognitive and social skills assessments, and had lower desire for relationships compared to TD adults. It was therefore expected that effects would be moderated such that ASD adults who were less skilled in these domains would be less favorably evaluated by partners.

4.2.1 Social Cognition

Moderated results suggested that social cognitive ability did influence evaluations in ASD-TD dyads, but contrary to expectations, it was largely the social cognitive abilities of the TD adult, not the ASD adult, that influenced outcomes in these dyads. For instance, TD adults with better social cognitive ability in ASD-TD dyads rated the conversations as higher in quality. This may be due to highly skilled TD adults using their higher social perception and appraisal abilities to better perceive facial and emotional cues from their ASD partners and infer their perspectives. In this way, social cognitive skills may mitigate the difficulties TD adults have in understanding ASD adults (Edey et al., 2016; Gernsbacher et al., 2017; Sheppard et al., 2016), leading more skilled TD adults to feel the conversation was overall more enjoyable compared to TD adults who were less capable of deciphering social cues from their ASD partners. Alternatively, higher social cognitive performance among TD adults may serve as a proxy for other characteristics that lead to more favorable evaluation of ASD partners, like motivation, engagement, and attentiveness.

Unfortunately, the current project cannot assess the relative merits of these two potential explanations, but regardless of which one is more accurate, the results reported here invert traditional thinking about how to improve social interaction for autistic adults. Typically, because ASD adults perform poorly on many traditional social cognitive tasks, psychosocial treatments often focus on improving the social cognitive abilities of ASD adults with the

expectation that this will result in more successful social interaction. This, unfortunately, does not commonly occur in practice (Gates et al., 2017). Here, however, because social cognitive skills of the TD partner better predicted more favorable interaction responses by the ASD adults rather than vice versa, one implication is that interaction quality between ASD and TD adults may improve by increasing social cognitive ability in TD individuals rather than their ASD partners. This finding, however, was not predicted and should be interpreted cautiously, and future work is needed to better understand how social cognitive ability in ASD and TD adults affects social interaction quality within mixed dyads.

Curiously, TD individuals with better social cognitive abilities were also perceived as *more* awkward by their ASD partners. What underlies this finding is unclear. ASD partners did not report other negative evaluations of TD adults with high social cognitive ability, nor were there any effects of social skill on awkwardness ratings for TD adults within mixed dyads. Thus, one possibility is that this effect is a spurious finding, though the strict alpha level used here and the size of the effect reduces the likelihood that this is the case. Other possibilities are that social cognitive ability in TD individuals manifests in social behaviors perceived as awkward by ASD adults, or ASD individuals interpret and rate the term "awkward" differently from TD individuals. However, ASD adults did appear to perceive "awkward" as a negative trait—ratings of awkwardness were related to lower intentions to interact as well as with other less favorable trait evaluations—but these relationships were not nearly as strong as those found for TD adults. Different perceptions of the meaning of traits such as awkwardness could potentially have downstream consequences, as they might influence the behaviors and skills individuals employ for impression management and ultimately affect how partners evaluate one another (Darley &

Fazio, 1980). Across multiple studies in our lab (Sasson et al., 2017; Sasson & Morrison, 2019), awkwardness is consistently the trait that TD adults rate ASD adults most unfavorably. If ASD adults perceive awkwardness differently than TD adults, it could affect the ways ASD adults present themselves during interaction, thereby also influencing how their TD partners perceive them and respond.

Importantly, however, ASD adults largely mirrored TD adults in making negative trait evaluations of other ASD adults, despite performing worse on several social cognitive tasks. Thus, ASD adults appear just as sensitive to social presentation differences among other ASD adults and interpret these differences negatively, and in a similar manner to their TD counterparts. Conversely, when their partners were more skilled in emotion recognition ability, ASD adults rated their partners as more trustworthy and likeable. This suggests that even though ASD adults may have difficulty with these abilities themselves, interacting with someone who is skilled in these domains improves how they perceive their partner. Collectively findings from the current study suggest that lower social cognitive abilities among ASD adults largely do not affect person perception during real world social interaction in clear and predictable ways.

4.2.2 Social Skill

The next set of analyses examined whether overall social skills abilities of ASD and TD adults influenced evaluations. These analyses attempted to provide insight into observable social behaviors partners use to inform their evaluations. Analyses revealed that overall social skill ability, as measured by the summary score rating made by trained coders on the Conversation Probe (Pinkham & Penn, 2006) and previously found to be impaired in ASD (Morrison et al., 2017), was predictive of partner ratings of awkwardness. This effect was not moderated by

diagnosis, indicating that overall social skill was related to awkwardness ratings similarly for both TD and ASD partners, with ASD partners overall having lower social skill and higher ratings of awkwardness. It may be the case that trained coders on the Conversation Probe and raters of awkwardness within the dyads were perceiving similar characteristics to make their judgments. Indeed, "overall social skills ability" on the Conversation Probe may consist in part of the coder's perceptions of the person's awkwardness, and may be one reason why overall social skills ability was only associated with this impression rating and not any other evaluated traits. Given that adults with ASD tend to score the worse on this judgment compared to other impression ratings (Sasson et al., 2017), an important direction for future research is to determine the specific characteristics and cues driving higher scores of awkwardness. Awkwardness may be in some sense an individual's rating of a person's social skill, with poorer ratings signifying a deviation from some neurotypical ideal.

Although overall social skill ability may be a potential explanation for ASD adults' awkwardness ratings, social skill did not predict other traits (e.g., warmth), behavioral intentions, quality of the interaction, or closeness between partners. Further, effects of overall social skill were not moderated by diagnosis or dyad type, demonstrating that overall social skill is no more or less predictive of these outcomes for ASD compared to TD adults, nor does overall social skill ability play different roles in different dyad combinations. This is contrary to predictions. It was expected that social skill would predict interaction outcomes for ASD adults because behavior is a salient, observable feature to partners within an interaction. Results instead suggest that trait evaluations, behavioral intent, and interaction quality may depend less upon behavior and more upon other salient features. For example, traits such as attractiveness may be influenced more by

physical traits rather than behaviors. Moreover, evaluations such as likeability, trustworthiness, warmth, behavioral intent, and interaction quality, may be more related to conversational content and personal disclosure rather than to the way in which participants convey this information with their social skills. Thus, while awkwardness may be an index of social competence measured here by overall social skill, other evaluations may be driven more by different qualities and abilities.

An alternative explanation for why overall social skill was only related to ratings of awkwardness and not to other outcomes has to do with how social skill was measured. Perhaps a holistic definition of social skill used here may not be relevant for predicting traits, behavioral intent, and interaction quality. Although a holistic social skill rating was used here because prior work suggests that face to face interactions allow participants to use more contextual information in forming impressions (Eastwick, Finkel, & Eagly, 2011; Reis et al., 2011), it is possible that more discrete social behaviors other than awkwardness are used when making evaluations. Because reciprocity is one of the most consistent discrete behaviors found to discriminate ASD adults from TD adults in prior work (Morrison et al., 2017; Ratto et al., 2011), a follow-up exploratory analysis was used to assess whether the interactive behaviors from the Conversation Probe (a composite of involvement, conversational engagement, and the number of questions a participant asked) would predict interaction outcomes, but they did not. One possible reason for the limited predictive value of the social skills metrics used here is that coders assessed each social skill rating as a summary judgment of the individual across the entire interaction rather than attempting to more sensitively assess dynamic and emergent patterns of skills used throughout the conversation. Recent work examining social warmth and dominance suggests that

moment to moment behaviors rather than overall summaries of behavior are better predictors of outcomes (Stevanovic et al., 2017; Markey et al., 2010). It is currently unclear from this study how these patterns of behaviors may have influenced outcomes, but the recorded interaction videos could be re-coded with alternative approaches for evaluating social skill to determine whether they better relate to interaction outcomes.

4.2.3 Social Motivation

In addition to social cognition and social skill, specific aim two also assessed if social motivation predicted outcomes, as prior work suggests biased motivational processes may influence ASD adults' opportunities for positive social experiences (Chevallier et al., 2012a). Social motivation was assessed here using the friendship motivation scale (Richard & Schneider, 2005). Results suggested that social motivation does influence social interaction; participants who were more motivated to have friendships were more likely to perceive their partners in positive ways, rating them as warmer and also endorsing a stronger desire to interact in the future. As this effect controls for the partners' social motivation, this suggests motivation may play a role in social interaction regardless of the partner with whom they are interacting– some people may be more interested in people in general and have greater desire for future social contact.

However, moderated results suggested that differing levels of motivation did not impact how ASD adults were evaluated in the conversation. Indeed, there was only one effect of motivation, such that highly motivated TD adults trusted their ASD partners less. This may again be due to TD adults having more difficulty interpreting the cues of their ASD partner. In fact, correlations show that trustworthiness ratings were related to interactive behaviors, which ASD

adults on average demonstrate to a lesser degree. This may have implications for ASD adults, as TD adults who are highly motivated and more likely to interact with all partners may not extend this benefit to ASD adults if they are perceived as less trustworthy. Such an interpretation, however, is speculative given that results did not show effects of motivation on behavioral intention for the different dyadic combinations.

4.2.4 Specific Aim Two Conclusions

If ASD adults were evaluated worse on some traits and behavioral intent, but their social cognition, social skill, and social motivation abilities only minimally predicted outcomes, why were ASD adults evaluated more poorly? Although specific aim two attempted to address this question, results provided no clear answers. It has been widely assumed that social cognitive performance, objective social skills, and levels of social motivation are primary mechanisms of real-world social dysfunction in individuals with autism (Chevallier et al., 2012a; Howlin et al., 2004; Laugeson et al., 2009). Indeed, numerous social cognitive and social skills interventions have been developed with the ultimate goal to improve real-world outcomes for individuals with ASD (Laugeson et al., 2009; Turner-Brown et al., 2008). However, the empirical link between real-life social outcomes and social cognition, social skills, and social motivation has only limited support (Gates et al., 2017), especially in work on adults with ASD. The current study found some support for social skill relating to real-world evaluations, as overall social skill was predictive of awkwardness ratings. Thus, perhaps one explanation for past work finding small effects of social skills on outcomes is because social skill has a very specific effect on awkwardness, but not other traits, intentions, or evaluations. This may still be clinically

significant, as awkwardness is one of the most negatively evaluated traits of adults with ASD by their peers (Sasson et al., 2017; Sasson & Morrison, 2019; Morrison et al., in press).

However, no other associations were found between social skills abilities and trait and interaction evaluations, nor were ASD adults' social cognitive or social motivational skills predictive. In fact, many results here demonstrated that TD adults' but not ASD adults' social abilities are predictive, despite ASD adults scoring lower on social cognitive ability, social motivation, and overall social skills compared to TD adults. Thus, if taken at face value, these results suggest that social cognition, social skill, and social motivation may not be useful treatment targets for improving how ASD adults are evaluated by others in real-time, calling into question the validity of the rationale for some of the most prominent content of common intervention programs. Alternatively, social cognition, social skill, and social motivation may influence real-life social outcomes in ASD, but each were either poorly measured in the current study or done so in a way that has limited application to interaction outcomes. Isolated computerized assessments of social cognition and social motivation such as those used here may not fully capture how these social abilities influence social interaction in the real world. This is not to suggest these measures do not tap the constructs of interest; in fact, they are somewhat predictive of TD outcomes. However, the ability to recognize faces and emotions from static images on a computer screen and make social inferences within a dynamic interaction may not always correspond in predictable ways. From this perspective, the field may benefit from the development of more real-world assessments of social cognitive, social motivational, and social skills abilities, rather than continuing to rely solely on paper and pencil and computerized tasks.

The field may also benefit from continuing to explore what other abilities and behaviors of ASD adults may be predictive of how they are evaluated. Some recent work has argued that there is much unknown about social interaction in ASD (Bottema-Beutal, 2017; Bottema-Beutal, Park, & Kim, 2018a). Because commonly measured social abilities have only demonstrated small effects on outcomes, there may be other constructs unknown to the field or less well studied that would better serve as effective intervention targets (Bottema-Beutal, Kim, & Crowley, 2018b). Indeed, testing prior assumptions that social cognition relates to social outcomes through social skill not only did not reveal mediation, but also did not reveal many significant effects of these separate constructs, which often serve as the targets of psychosocial interventions in ASD. Some researchers have suggested new ways in which to examine social interaction difficulties for adults with ASD by applying new theoretical frameworks (Bottema-Beutal, 2017). For example, Bottema-Beutal (2017) suggests that research on social abilities should be examined using sociolinguistic approaches (e.g., conversation analysis) which not only takes the individual's context into account, but also allows for more dynamic assessment of how a person interacts with his or her environment. Additionally, this kind of approach allows for the examination of environmental and societal influences such as stigma that may play a role in how social dysfunction develops and manifests, as well as determining the efficacy of current interventions for treating social dysfunction (Bottema-Beutal et al., 2018a). Moreover, given the heterogeneity of ASD, this more person-centered approach may better approximate understanding of social deficits than the group-level assessments and analyses used in this study and in prior work. Future work is encouraged to reevaluate the theoretical framework informing how these constructs are related to each other and to social outcomes.

4.3 Specific Aim Three

A final goal of the current project was to determine whether individuals were accurate in predicting how they were perceived by their partners, and whether accuracy depended upon the diagnosis of the actor and the partner. Previous work had found mixed results, some finding that children and adults with ASD have poorer awareness of how they are perceived (Locke & Mitchell, 2016; McMahon & Solomon, 2015; Sasson et al., 2018), while others found that ASD adolescents were actually more accurate than TD controls (Usher et al. 2018). Results show that individuals' ratings of their partner's interaction quality, trustworthiness, and attractiveness predicted how they themselves believed they would be rated on these items. This supports prior work finding individuals with and without ASD use their own abilities and judgments as the basis of their perceptions (Carlson et al., 2011; Kenny & DePaulo, 1993; Usher et al., 2018). As Usher et al. (2018) suggested, participants who enjoyed interacting with their partner and evaluated them favorably on traits may in turn believe the partner would also feel favorably about them.

However, both TD and ASD adults demonstrated low meta-perceptive accuracy for other trait judgments. Although this was predicted for ASD adults, similarly poor metaperception was found for TD adults as well. It is possible that low meta-perceptive accuracy for some traits occurs in part because they may be difficult to evaluate within just a five minute interaction. Complex judgments of trustworthiness and likeability may need more time and information from the partner to be able to accurately evaluate how one is perceived (Carney et al., 2007). This may be one reason why this study and Usher et al. (2018) do not align with some prior work, as the current study and Usher et al. (2018) utilized real-time conversation with unfamiliar peers,

whereas much past work involves predicting how a video of one's behavior might be evaluated (Sasson et al., 2018) or comparing informant report to self-report on behaviors and traits (Locke & Mitchell, 2016; McMahon & Solomon, 2015). Perhaps knowledgeable informants are able to more objectively evaluate characteristics and abilities of adults with ASD compared to naïve observers who are just meeting the person with ASD and only for a brief interaction. Indeed, adults in the general population have improved meta-accuracy when they are evaluated by informants who know them well (Vazire & Carlson, 2010).

Meta-perceptive ratings of behavioral intention, however, proved different for ASD and TD adults. Here, ASD adults' ratings of how they believed their partner would evaluate them aligned with how partners actually perceived them, a finding that is inconsistent with their characterization of social cognitive impairment. ASD adults not only accurately perceived when their partners wanted to interact again, they also accurately predicted when their partners did *not* want future interaction. In the context of specific aim one, this means that within ASD-TD dyads, ASD adults were able to detect when TD adults had lower desire to interact with them. This high level of metaperceptual accuracy may be due in part to awareness about their past unsuccessful social experiences. ASD adults may have had less success sustaining contact with people they meet, and this feedback may then be incorporated into their beliefs about how others will desire to interact with them in the future. Alternatively, the ASD adults sampled here may be aware of their diagnosis and their social differences, and believe that these may lead others to be less likely to want to interact with them. In the context of the current study, such assumptions were largely accurate, and diverge from the typical "self-enhancement" bias that has often been found in TD populations in which people overestimate how positively they are viewed by others

(Brown, 1986; Brown & Dutton, 1995; Vazire & Carlson, 2011). This may have adaptive value, as it serves a self-protective function and encourages pursuit of social interaction. For ASD adults, their more accurate appraisal of their partner's impressions could be maladaptive if such beliefs produce a sort of social self-fulfilling prophecy in which they fail to seek out opportunities that they believe will ultimately end in rejection.

In contrast, TD adults in this study were inaccurate not only in predicting how they would be perceived by ASD adults, a finding that replicates results from Usher et al. (2018), but also in how they would be perceived by other TD adults. This is consistent with prior work finding adults in the general population have difficulty evaluating how they are perceived by others (Steinmetz et al., 2017; Vazire & Carlson, 2010). Perhaps one explanation for findings from this study is that the social biases and influences that hinder TD adults' evaluations (Steinmetz et al., 2017) may not have the same influence on ASD adults' judgments. Perhaps higher social awareness makes TD adults more susceptible to social biases that may inflate ratings (e.g., self enhancement bias; Brown, 1986; Brown & Dutton, 1995) that sway their judgments to be inaccurate, whereas ASD adults are able to more objectively estimate how they will be evaluated. This explanation receives some support for ratings of intelligence. TD adults who perceived themselves as being more intelligent were actually rated by partners as being less intelligent. Thus, not only were they inaccurate in judging how their intelligence would be viewed by their partner, the association was inverted— higher self-assessments of intelligence were associated with lower assessment of intelligence by others. This same bias was not observed for ASD adults.

The meta-perception findings in this study largely replicate Usher et al. (2018), but differed from Sasson et al.(2018) that found that TD adults were more accurate in perceiving how others would evaluate them compared to ASD adults. In Sasson et al. (2018), TD and ASD adults recorded a 45-second video of themselves and then rated how they believed others would rate the video. Unlike the current study and Usher et al., (2018), participants did not know who would be evaluating them, and they did not have any prior interaction with that person. This suggests that metaperception may change depending on the individual's knowledge of, and experience with, the person who will be the judging their behavior and traits. Previous work suggests that there are differences in how people believe others in general view them compared to when the specific evaluator is known (Vazire & Carlson, 2010), suggesting perceptions shift depending on the audience. Participants also may use more holistic and contextual factors in real-time interactions, while in evaluating others based on short videos, raters may rely more on the discrete skills they are observing and being asked specifically to rate (Eastwick et al., 2011; Reis et al., 2011). Future work should examine these processes in ASD, as how autistic adults make generalized versus specific meta-perceptions was not assessed in this study.

4.4 Limitations and Conclusions

One major limitation of the current study is the power to detect effects. Although the sample size was based upon prior work, these prior studies used different measures and different populations (e.g., Broad Autism Phenotype and adolescents; Faso et al., 2016; Usher et al., 2018). Moreover, the effects found in prior dyadic studies were estimated with small sample sizes, which may have artificially inflated the size of the true effect. Therefore, effects here may have actually been small rather than medium or large, and were not detectable with the current

sample size. Null effects should be interpreted with caution, as some may have reached statistical significance with increased power.

Another potential limitation is the outcome measures used in this study. Although the interaction quality and closeness measures showed strong psychometric properties, the behavioral intention score on the first impression scale showed poorer properties than in past work (Sasson et al., 2017; Morrison et al., in press), and relationships between traits and behavioral intentions were not as strongly related relative to previous studies (Sasson et al., 2017). Thus, this measure may perform differently in face to face contexts compared to use in forming evaluations from videos. Additionally, the current study only used a few of the social cognitive, social motivational, and social skills assessments that exist, and may not have been the best measures to capture meaningful relationships with social outcomes within real-world interaction. Further, by using composite scores, such as overall social skill and a social cognitive composite, nuanced effects of specific abilities may have been obscured. However, social skills and social cognition effects were followed up with exploratory analyses looking at discrete abilities and found very few effects. Thus, future work should continue to parse discrete abilities that make up overall social skill and social cognitive ability to better understand specific mechanisms of effect. Moreover, there may be other mechanisms importantly related to these outcomes not assessed here, such as language abilities or executive functioning abilities. Future work is also encouraged to assess the ecological validity of these measures and develop a comprehensive understanding of how social abilities commonly found to be worse in individuals with ASD are related to real world outcomes.

Results should also be interpreted in the context of the sample used. This sample was all male and mostly white, so study findings may be very different in more diverse samples as well as with females, both in cross-sex interactions and with interactions between two females. ASD adults in this study also tended to be intellectually quite capable, as participants were recruited from either a college campus or a training program for job skills. Successfully functioning in these environments requires at least some ability to interact with others and function relatively independently. This selection bias may have resulted in a sample that is already more socially and intellectually skilled than ASD participants in related research. However, these adults did score lower on measurements of social cognition, social skill, and social motivations, suggesting that this sample, though high-functioning, did have social impairments characteristic of most ASD samples.

Additionally, there may be unique interaction qualities of the ASD individuals recruited from nonPareil, a service provider and job training program that served as the recruitment source for many of the ASD participants included in this study. These adults interact daily with other ASD students and staff members, and may have developed their interaction abilities, particularly with other ASD adults. This may explain why TD adults' social abilities were most predictive of many outcomes, as perhaps the nonPareil group are less used to interacting with TD relative to ASD individuals. Additionally, TD adults were recruited from UT Dallas, where there is a very high percentage of students with ASD (Hoffman, 2016), and it is possible these participants had prior personal experience with ASD adults. This student population also has been found in previous studies by our group to have a relatively high knowledge of autism (Sasson & Morrison, 2019), which may also impact how they interact with ASD adults. Despite these

sample characteristics, however, ASD adults were still rated lower on the behavioral intent items, and awkwardness, attractiveness, and warmth, suggesting these factors alone do not attenuate all poor impressions, though it may explain why few effects were found for predictors of evaluations.

Despite these limitations, the current project provides greater insight into real world social experiences of ASD adults. This study examined social interaction using a relational framework, which not only provided a novel and more ecologically valid way of examining social interaction for ASD adults, but also for the first time allowed for an examination of how partners varying in diagnosis and other characteristics influenced the social experiences of adults with ASD. Results showed that ASD adults were rated more negatively on some traits, and partners, particularly those who were TD, reported lower interest in future interaction with them. Unfortunately, the reasons for these negative evaluations were largely unexplained by their own social abilities. In fact, the social abilities of the TD adults they interacted with had a larger bearing on evaluations than did the social abilities of the ASD adults. This underscores the importance of using a relational perspective, as effects of partners may have been masked in prior assessments of social interaction in autism.

Moreover, examining the role of the partner and dynamic role of the dyad more closely approximates the complex processes that occur during real-world interactions. If the goal is to understand and treat adults with ASD in order to improve quality of life and enable independence, the complexity of the real world in which they live must be acknowledged and included within research efforts. One potential implication of the results reported here is that the autism research field may need to re-evaluate how the social deficits commonly found in adults

with ASD are assessed and treated. Not only do findings demonstrate that much remains unknown about the specific characteristics and abilities that influence social interaction outcomes for adults with ASD, but they also suggest that the characteristics of their TD partners can strongly affect interaction outcomes. Acknowledgment of the relational contributors so social interaction quality in ASD makes it clear that cross-diagnostic communication and interaction can improve with increasing social awareness and sensitivities among TD partners. In sum, this study suggests that social interaction for adults with ASD is a complex and dynamic process, deserving of continued study in order to better understand how to improve the social experiences for those on the autism spectrum.

APPENDIX A

TABLES OF RESULTS FOR CHAPTER 3

Table 1. Means and group comparison of social skills

	ICC	ASD		TD		$F(1,123)$	p
		M	*SD*	*M*	*SD*		
Content	.731	6.72	0.81	7.09	0.60	8.177	0.005
Clarity	.588	6.08	0.96	6.42	0.72	4.934	0.028
Fluency	.765	6.01	1.08	6.60	0.59	13.817	<.001
Meshing	.713	6.02	1.16	6.59	0.68	10.841	0.001
Gaze	.660	6.67	1.12	7.55	0.57	29.398	<.001
Involvement	.793	6.59	1.09	7.21	0.55	15.149	<.001
Asks Questions	.951	3.76	2.66	5.61	2.42	16.297	<.001
Appropriate Affect	.655	6.80	0.54	7.12	0.46	12.361	0.001
Flat Affect	.712	5.85	1.00	6.27	0.82	6.548	0.012
Social Anxiety	.725	6.01	0.97	6.78	0.64	27.012	<.001
Overall Skill	.732	5.57	1.04	6.44	0.62	31.494	<.001
Repetitive Verbal Content	.566	6.79	0.77	7.18	0.42	11.688	0.001
Repetitive Movement	.743	6.56	0.97	7.17	0.55	17.813	<.001
Verbosity	.905	6.36	1.85	6.40	1.13	0.022	0.882
Paralinguistic	--	6.04	0.86	6.54	0.47	15.675	<.001
Nonverbal	--	6.44	0.69	6.98	0.47	25.459	<.001
Interactive	--	5.18	1.60	6.41	1.34	21.373	<.001

Note. ICC refers to Intraclass correlation coefficient for coders' reliability. Note the paralinguistic, nonverbal, and interactive behaviors are composite scores rather than coded items, and thus do not have ICCs.

Table 2. Demographic characteristics and scores on predictors and covariates for diagnostic and dyad groups

	ASD-ASD (n = 42)		TD-TD (n = 40)		ASD-TD (n = 42)				ASD (n=66)		TD (n=58)	
Race												
White	36		33		34				56		47	
Black	2		2		2				3		3	
Asian	2		1		2				3		2	
Other	2		4		4				4		6	
					ASD		TD					
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age	22.67	3.62	20.62	3.43	25.10	4.47	21.33	2.50	23.51	4.07	20.84	3.17
WRAT-3 IQ	111.88	7.12	110.78	7.91	108.67	10.72	108.00	9.34	110.77	8.58	109.91	8.39
Benton	43.35	4.26	47.35	3.64	43.14	3.95	46.00	3.43	43.28	4.12	46.93	3.60
TASIT	51.60	6.54	56.33	4.39	53.14	6.38	55.22	3.06	52.13	6.48	55.98	4.03
ER-40	34.08	2.49	34.73	2.72	33.52	2.73	34.56	2.28	33.89	2.57	34.67	2.57
Social Cognition	-0.24	.66	.40	.60	-.24	.70	.21	.47	-0.24	.66	.34	.57
FMS	15.35	7.15	19.40	5.29	16.33	7.16	20.33	4.45	15.69	7.11	19.69	5.02
Overall Social Skills	5.71	1.00	6.35	.63	5.67	.96	6.65	.56	5.57	1.04	6.44	.62
Interactive Behaviors	5.34	1.56	6.43	1.26	5.19	1.70	6.36	1.54	5.18	1.60	6.41	1.34
BDI	11.83	10.47	9.83	9.88	12.14	12.89	6.11	5.42	11.93	11.25	8.67	8.87

Note. BDI = Beck Depression Inventory. ER-40 = Emotion Recognition test. FMS = Friendship Motivation Scale. TASIT = The Awareness of Social Inference Test. WRAT-3 = Wide Range Achievement Test 3rd Edition.

Table 3. Means and standard deviations of actor outcome measures for diagnostic and dyad groups

	ASD-ASD (n = 42)		*TD-TD* (n = 40)		ASD-TD (n = 42)				*ASD* (n=66)		*TD* (n=58)	
					ASD		*TD*					
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Awkward_R	2.76	.69	3.38	.67	3.39	.66	2.72	.58	2.98	.74	3.17	.70
Attractive	2.33	.72	2.65	.58	2.70	.82	2.22	.65	2.46	.77	2.52	.63
Trust	3.17	.44	3.20	.46	3.26	.45	3.17	.38	3.2	.44	3.19	.44
Aggressive/Dominant	1.83	.58	1.75	.71	1.52	.51	1.52	.51	1.72	.57	1.69	.65
Likeable	3.21	.47	3.30	.46	3.39	.50	3.28	.58	3.28	.48	3.29	.50
Smart	3.24	.66	3.23	.62	3.26	.62	3.11	.76	3.25	.64	3.19	.66
Live Near	3.21	.72	3.27	.64	2.74	.86	3.00	.77	3.05	.80	3.19	.69
Hangout	2.95	.49	2.85	.58	2.78	.78	2.33	.59	2.89	.62	2.69	.63
Sit Near	3.24	.73	3.33	.66	3.22	.74	3.17	.71	3.23	.72	3.28	.67
Conversation	3.07	.60	3.15	.53	3.09	.60	2.94	.54	3.08	.59	3.09	.54
Behavioral Intent	3.12	.40	3.15	.43	2.96	.59	2.86	.35	3.06	.47	3.06	.43
IPC Warmth	-0.27	1.00	.20	.65	.32	.84	-.22	.59	-0.06	.98	.07	.66
IPC Dominance	-.16	.96	.10	1.02	.02	.86	.12	1.18	-0.10	.92	.10	1.06
Interaction Quality	5.71	.87	5.62	.89	5.77	.71	5.31	.92	5.73	.81	5.52	.90
Closeness	3.14	1.11	2.57	.84	2.99	1.15	2.19	.79	3.09	1.11	2.45	.84

Note. Outcomes are actor evaluations of the interaction and partner. Awkward was reverse scored. IPC = Interpersonal Circumplex.

Table 4. Means and standard deviations of meta-perception scores for diagnostic and dyad groups

	ASD-ASD (n = 42)		TD-TD (n = 40)		ASD-TD (n=42)				ASD (n=66)		TD (n=58)	
					ASD		*TD*					
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Interaction Quality	5.42	1.02	5.10	.77	5.55	.99	5.02	.82	5.46	1.00	5.07	.78
Awkward_R	2.88	.73	3.1	.84	3.00	.67	3.28	.58	2.92	.71	3.16	.77
Attractive	2.21	.83	2.3	.61	2.09	.79	2.28	.83	2.17	.82	2.29	.68
Trustworthy	3.28	.45	3.05	.39	3.17	.49	3.11	.32	3.24	.47	3.07	.37
Aggressive/Dominant	2.05	.82	1.95	.78	1.87	.63	2.28	.75	1.98	.75	2.05	.78
Likeable	3.12	.59	3.03	.36	3.30	.47	2.89	.32	3.18	.55	2.98	.35
Smart	3.02	.67	2.80	.56	3.04	.56	2.61	.61	3.03	.63	2.74	.58
Live Near	3.12	.63	3.03	.62	2.78	.67	3.00	.59	3.00	.66	3.02	.61
Hangout	2.86	.64	2.70	.52	2.74	.61	2.67	.69	2.82	.63	2.69	.57
Sit Near	2.95	.65	3.15	.53	3.17	.65	3.06	.64	3.03	.66	3.12	.53
Conversation	2.93	.55	2.98	.53	3.04	.64	3.06	.64	2.97	.58	3.00	.56
Behavioral Intent	2.97	.47	3.01	.40	2.97	.47	2.94	.35	2.67	.47	2.99	.38

Note. Outcomes are evaluations of how participants believed their partner would perceive them. Awkward was reverse scored.

Table 5. Correlations between social interaction outcomes. TD correlations are above the diagonal

	Awkward_R	Attractive	Trustworthy	Aggressive/ Dominant	Likeable	Smart	Live Near	Hangout	Sit Near	Conversation	Behavioral Intent	IPC Warmth	IPC Dominance	Interaction Quality	Closeness
Awkward_R	1	.350**	0.12	0.194	0.154	0.155	0.112	.441**	0.158	.284*	.358**	.422**	0.232	.384**	.328*
Attractive	0.102	1	0.02	0.184	0.237	0.224	0.216	0.237	0.239	0.177	.323*	.364**	0.033	0.243	0.032
Trustworthy	0.16	0.141	1	-.281*	.305*	.419**	0.053	.282*	.357**	.450**	.407**	0.242	-0.198	.390**	0.042
Aggressive/ Dominant	-0.2	0.118	-0.019	1	-0.093	-0.227	-0.179	-0.153	-0.081	-.420**	-.292*	0.101	.343**	0.095	0.057
Likeable	0.152	0.24	.400**	-.381**	1	.470**	.452**	.410**	.386**	0.232	.557**	.486**	-0.15	.405**	.289*
Smart	0.046	0.188	.328**	-0.194	.438**	1	0.151	.525**	0.236	.446**	.486**	.337**	-0.239	.482**	0.197
Live Near	-.332**	-0.189	-0.122	0.071	-0.082	0.062	1	.261*	0.151	0.097	.588**	.264*	-0.181	0.058	.261*
Hangout	0.095	-0.219	-0.037	-0.174	0.202	0.215	0.17	1	0.249	.599**	.758**	.492**	-0.089	.656**	.545**
Sit Near	0.014	0.103	-0.005	-0.201	0.207	0.209	.451**	0.232	1	.370**	.661**	0.086	-0.058	0.234	0.103
Conversation	0.216	-0.107	0.24	-0.162	.251*	.315**	0.153	.492**	.353**	1	.719**	0.212	-.288*	.505**	.282*
Behavioral Intent	-0.038	-0.145	0.009	-0.153	0.188	.274*	.698**	.637**	.758**	.670**	1	.387**	-0.219	.515**	.434**
IPC Warmth	0.171	0.074	.319**	-.335**	.299*	.319**	-0.142	0.062	0.041	.373**	0.093	1	0.19	.404**	.270*
IPC Dominance	.262*	0.2	-0.034	0.04	-0.142	-0.072	-.311*	0.064	-0.127	0.02	-0.153	-0.004	1	-0.009	-0.026
Interaction Quality	0.236	0.183	.269*	-0.219	.381**	.369**	-0.117	.333**	0.173	.328**	0.226	.344**	0.077	1	.517**
Closeness	-0.066	0.216	-0.006	0.052	0.022	0.235	0.07	.449**	0.213	.286*	.345**	0.005	0.18	.305*	1

Note. Outcomes are actor ratings of the partner and interaction. Awkward was reverse scored. IPC = Interpersonal Circumplex. *p<.05, **p<.01

Table 6. Correlations between predictors. TD correlations are above diagonal

	Benton	TASIT	ER-40	FMS	BDI	Overall Social Skills	Interactive Skills
Benton	1	0.017	0.361**	-0.193	0.029	0.035	0.123
TASIT	0.272*	1	0.221	-0.24	0.046	0.122	0.035
ER-40	0.121	0.308*	1	-0.009	-0.209	0.196	-0.171
FMS	0.129	0.166	0.278*	1	-0.019	-0.037	-0.047
BDI	-0.153	-0.032	-0.03	-.0396**	1	-0.209	0.055
Overall Social Skills	0.06	0.335**	-0.137	-0.025	-0.085	1	0.310*
Interactive Skills	0.149	-0.105	-0.253*	-.0438**	0.167	0.386**	1

Note. Predictors are actor social abilities. BDI = Beck Depression Inventory. FMS = Friendship Motivation Scale.ER-40 = Emotion Recognition task. TASIT = The Awareness of Social Inference test. *p<.05, **p<.01.

Table 7. Correlations between actor social abilities with actor outcomes

TD	TASIT	ER-40	BDI	FMS	Benton	Overall Social Skill	Interactive Skills
Interaction Quality	0.058	-0.014	-0.116	0.141	-0.068	-0.048	-0.21
Closeness	-0.152	-0.185	0.091	0.038	0.09	-0.174	0.01
IPC Warmth	0.096	-0.299*	0.141	0.004	-0.159	-0.106	-0.183
IPC Dominance	-0.313*	-0.181	0.088	-0.038	-0.141	0.084	-0.219
Awkward_R	-0.085	0.041	-0.055	-0.034	0.039	-0.064	-0.208
Attractive	0.177	0.118	0.044	0.263*	-0.108	0.062	-0.115
Trustworthy	0.300*	-0.147	-0.119	-0.077	-0.214	0.008	-0.192
Aggressive/Dominant	-0.188	0.053	0.100	0.008	-0.18	-0.245	-0.241
Likeable	0.099	-0.116	0.042	0.178	-0.087	-0.001	-0.045
Smart	0.232	0.027	-0.019	0.118	-0.031	0.211	0.052
Live Near	0.235	-0.133	0.166	0.078	-0.108	0.046	0.231
Hangout	0.178	-0.064	0.108	0.153	0.208	-0.039	-0.005
Sit Near	0.138	-0.018	0.015	0.177	-0.05	-0.094	-0.133
Conversation	0.202	0.071	-0.086	0.166	0.256	0.232	0.058
Behavioral Intent	0.278*	-0.062	0.085	0.209	0.094	0.041	0.057
ASD							
Interaction Quality	0.013	-0.03	-0.239	0.089	0.143	-0.135	-0.156
Closeness	-0.254*	-0.131	-.289*	0.006	-0.093	0.012	-0.081
IPC Warmth	-0.053	-0.166	-0.069	0.409**	0.019	-0.021	-0.214
IPC Dominance	-0.316*	-0.153	0.002	-0.168	0.062	0.014	0.095
Awkward_R	-0.105	-0.096	0.144	-0.026	-0.16	-0.126	-0.121
Attractive	0.024	0.018	-0.014	-0.121	0.044	0.056	0.058
Trustworthy	-0.051	-0.173	-0.011	0.049	-0.128	0.15	-0.023
Aggressive/Dominant	0.132	0.042	-0.036	-0.243*	0.042	0.22	0.036
Likeable	-0.190	-0.052	0.023	0.081	-0.087	-0.006	0.036
Smart	-0.015	0.135	-0.121	0.290*	-0.059	-0.008	-0.239
Live Near	0.002	0.250*	-0.161	0.18	0.087	0.053	-0.009
Hangout	-0.305*	-0.038	-0.383**	0.19	-0.149	-0.157	-0.211
Sit Near	-0.004	0.131	-0.284*	0.232	0.111	-0.049	-0.064
Conversation	-0.162	-0.052	-0.428**	0.448**	0.024	0.037	-0.236
Behavioral Intent	-0.150	0.127	-0.438**	0.366**	0.039	-0.035	-0.170

Note. Outcomes are actor ratings of the partner and interaction. Awkward was reverse scored. BDI = Beck Depression Inventory. ER-40 = Emotion Recognition task. FMS = Friendship Motivation Scale. IPC = Interpersonal Circumplex. TASIT = The Awareness of Social Inference test. *p<.05, **p<.01.

Table 8. Correlations between actor predictors and partner outcomes

TD	TASIT	ER-40	BDI	FMS	Benton	Overall Social Skill	Interactive Skills
Interaction Quality	0.137	0.118	-0.053	0.119	0.123	0.018	0.137
Closeness	0.071	0.028	-0.042	0.082	0.109	0.038	0.071
IPC Warmth	0.132	0.193	0.109	0.297*	0.256	0.139	0.132
IPC Dominance	0.162	0.095	0.031	0.136	0.229	0.259	0.162
Awkward_R	0.137	0.106	-0.091	0.206	0.233	0.306*	0.137
Attractive	-0.114	0.067	0.225	-0.144	0.115	0.005	-0.114
Trustworthy	-0.178	0.220	0.274	0.078	-0.095	-0.136	-0.178
Aggressive/Dominant	0.22	-0.013	0.099	-0.061	-0.017	0.083	0.220
Likeable	0.105	0.027	0.041	-0.120	0.096	0.015	0.105
Smart	-0.03	0.057	0.24	-0.020	-0.064	0.048	-0.030
Live Near	-0.035	0.009	0.163	-0.053	0.043	-0.093	-0.035
Hangout	0.145	-0.102	-0.051	0.079	0.129	0.310*	0.145
Sit Near	0.068	0.150	-0.071	0.035	-0.220	-0.256	0.068
Conversation	-0.153	0.013	-0.09	0.204	-0.005	-0.110	-0.153
Behavioral Intent	0.026	0.025	-.0129	0.001	0.073	-.0170	-.0480
ASD							
Interaction Quality	-0.004	0.010	-0.063	-0.013	0.260*	-0.051	-0.004
Closeness	0.144	0.192	0.054	0.188	0.073	-0.150	0.144
IPC Warmth	0.036	0.162	-0.086	0.006	0.221	-0.030	0.036
IPC Dominance	-0.185	-0.267*	-0.093	0.04	0.060	0.082	-0.185
Awkward_R	0.094	-0.262*	-0.029	0.041	0.328*	0.084	0.094
Attractive	0.101	-0.045	-0.20	-0.107	0.224	0.085	0.101
Trustworthy	-0.184	-0.147	0.095	-0.022	0.206	-0.053	-0.184
Aggressive/Dominant	-0.067	-0.201	0.027	0.221	0.096	0.273*	-0.067
Likeable	0.059	0.150	0.026	0.074	0.059	-0.060	0.059
Smart	0.348**	0.192	0.149	0.054	0.265*	-0.118	0.348**
Live Near	0.063	0.142	0.168	-0.029	-0.147	-0.042	0.063
Hangout	0.22	0.023	0.058	0.22	0.149	-0.128	0.220
Sit Near	0.033	0.070	0.189	-0.081	-0.045	-0.254	0.033
Conversation	-0.047	-0.071	0.135	0.041	0.227	-0.174	-0.047
Behavioral Intent	0.109	0.079	-0.143	0.234	0.047	0.052	-0.247

Note. Outcomes are partner ratings of the actor and interaction. Awkward was reverse scored. BDI = Beck Depression Inventory. ER-40 = Emotion Recognition task. FMS = Friendship Motivation Scale. IPC = Interpersonal Circumplex. TASIT = The Awareness of Social Inference test.*p<.05, **p<.01.

Table 9. Effect of diagnosis on social interaction outcomes (Specific Aim 1)

		Intercept	Actor Diagnosis	Partner Diagnosis	WRAT-3	Race-African American	Race-Asian	Race-Other	Age	Actor Diagnosis * Partner Diagnosis	X^2	R^2
Closeness	*b*	2.94	0.28**	-0.06	-0.02	0.09	0.22	0.03	0.05	0.21		
	SE	0.18	0.10	0.09	0.01	0.36	0.38	0.28	0.02	0.11	28.08	0.19
	p	<0.001	<0.001	0.52	0.04	0.80	0.57	0.91	0.03	0.05		
Interaction Quality	*b*	5.78	0.09	-0.07	-0.01	0.20	-0.45	0.54	0.04	0.11		
	SE	0.15	0.08	0.08	0.01	0.29	0.31	0.24	0.02	0.09	20.32	0.15
	p	<0.001	0.28	0.38	0.32	0.50	0.15	0.03	0.05	0.19		
Awkward_R	*b*	3.10	<0.001	-0.33**	-0.01	0.06	-0.10	0.12	<0.001	0.01		
	SE	0.11	0.07	0.06	0.01	0.20	0.22	0.18	0.02	0.06	34.61	0.23
	p	<0.001	0.97	<0.001	0.13	0.78	0.64	0.50	0.91	0.86		
Attractiveness	*b*	2.57	<0.001	-0.20**	0.01	0.11	0.13	-0.11	0.02	0.02		
	SE	0.13	0.07	0.07	0.01	0.27	0.28	0.21	0.02	0.08	12.53	0.09
	p	<0.001	0.96	<0.001	0.31	0.68	0.66	0.60	0.38	0.84		
Trustworthy	*b*	3.30	0.02	-0.03	<0.001	0.25	-0.05	-0.07	-0.01	-0.02		
	SE	0.08	0.05	0.04	<0.001	0.15	0.16	0.13	0.01	0.05	5.47	0.05
	p	<0.001	0.63	0.44	0.49	0.11	0.76	0.61	0.64	0.66		
Aggressive/ Dominant	*b*	1.85	0.01	0.02	-0.01	-0.06	0.40	-0.11	<0.001	0.12		
	SE	0.09	0.06	0.06	0.01	0.17	0.19	0.16	0.02	0.05	15.5	0.11
	p	<0.001	0.81	0.71	0.27	0.73	0.04	0.47	0.95	0.03		
Likeable	*b*	3.34	-0.01	-0.04	<0.001	0.17	-0.32	0.23	0.01	-0.03		
	SE	0.08	0.05	0.05	0.01	0.14	0.16	0.13	0.01	0.04	11.26	0.08
	p	<0.001	0.88	0.40	0.48	0.26	0.05	0.08	0.42	0.48		
Smart	*b*	3.30	-0.02	-0.01	-0.01	-0.06	-0.05	0.26	0.05	0.08		
	SE	0.12	0.06	0.06	0.01	0.22	0.24	0.18	0.02	0.07	15.44	0.11
	p	<0.001	0.72	0.91	0.19	0.80	0.83	0.16	<0.001	0.20		
Behavioral Intent	*b*	3.02	-0.01	-0.02	<0.001	0.19	-0.35	0.19	0.02	0.14**		
	SE	0.08	0.04	0.04	<0.001	0.16	0.17	0.13	0.01	0.05	17.85	0.13
	p	<0.001	0.83	0.61	0.72	0.25	0.05	0.14	0.03	<0.001		
IPC Warmth	*b*	0.15	-0.04	-0.21**	0.01	0.34	-0.19	0.04	0.04	0.01		
	SE	0.14	0.08	0.08	0.01	0.27	0.29	0.22	0.02	0.08	18.75	0.15
	P	0.29	0.61	0.01	0.47	0.22	0.52	0.86	0.04	0.92		
IPC Dominance	*b*	0.18	-0.07	-0.06	-0.02	-0.12	0.16	0.18	<0.001	-0.04		
	SE	0.18	0.10	0.09	0.01	0.35	0.37	0.29	0.03	0.10	8.13	0.06
	P	0.32	0.47	0.55	0.09	0.74	0.67	0.54	0.95	0.67		

Note. Awkward was reverse scored. Race was effects coded with white as the reference group. Diagnosis was effects coded with TD as the reference group. The R^2 value is pseudo R^2, the proportion of variance accounted for in the model. This is

evaluated for significant using the Chi-Square values comparison between full and empty models. IPC = Interpersonal Circumplex. WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 10. Discrepancy scores for differences on Social Interaction Measure subscales and closeness (Specific Aim 1)

	TD-TD		ASD-ASD		ASD-TD			
	M	*SD*	*M*	*SD*	*M*	*SD*	*F(2, 55)*	*p*
Social Interaction Quality Measure Composite	1.06	0.64	1.02	0.93	0.77	0.70	0.71	0.50
Interaction Quality Score	1.29	1.02	1.41	0.94	1.33	0.93	0.07	0.93
Disclosure	1.12	0.94	1.57	1.68	1.06	0.92	0.94	0.40
Engagement	0.97	0.78	1.38	1.32	1.29	1.25	0.63	0.54
Closeness	1.05	0.77	0.87	0.85	1.22	0.95	0.79	0.46

Note. Discrepancy scores were calculated as the absolute value of the difference between the actor and partner's scores on each item.

Table 11. Effect of social abilities on social evaluation outcomes (Specific Aim 2)

	Closeness			Interaction Quality			IPC Warmth			IPC Dominance		
Social Cognition	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	3.03**	0.20	<0.001	5.85**	0.17	<0.001	0.12	0.15	0.44	0.07	0.17	0.67
Actor diagnosis	0.26	0.11	0.02	0.06	0.10	0.58	-0.15	0.09	0.10	-0.19	0.11	0.10
Partner diagnosis	0.01	0.11	0.91	-0.06	0.10	0.51	-0.14	0.09	0.11	-0.11	0.10	0.31
Actor WRAT-3	-0.02	0.01	0.09	-0.01	0.01	0.47	0.01	0.01	0.39	-0.02	0.01	0.11
Actor Race – African American	0.08	0.38	0.84	0.17	0.32	0.59	0.35	0.29	0.23	<0.001	0.31	1.00
Actor Race - Asian	0.17	0.44	0.70	-0.41	0.37	0.27	-0.24	0.34	0.48	-0.32	0.37	0.39
Actor Race - Other	0.02	0.31	0.94	0.52	0.28	0.07	0.08	0.25	0.76	0.45	0.29	0.13
Actor Age	0.05	0.02	0.05	0.04	0.02	0.09	0.05	0.02	0.02	<0.001	0.02	0.87
Actor Social Cognition	-0.23	0.16	0.15	-0.08	0.14	0.58	-0.26	0.13	0.05	-0.41*	0.15	0.01
Partner Social Cognition	0.31	0.15	0.05	0.05	0.14	0.70	0.17	0.13	0.17	-0.25	0.14	0.09
Actor Social Cognition * Partner Social Cognition	-0.18	0.24	0.46	0.03	0.20	0.87	-0.05	0.19	0.77	0.33	0.21	0.11
Social Skills												
Intercept	3.03**	0.21	<0.001	5.84**	0.18	<0.001	0.06	0.16	0.72	-0.13	0.18	0.49
Actor diagnosis	0.29	0.11	0.01	-0.01	0.10	0.91	-0.15	0.10	0.13	-0.02	0.12	0.90
Partner diagnosis	-0.05	0.11	0.63	0.03	0.10	0.76	-0.10	0.09	0.31	0.03	0.11	0.77
Actor WRAT-3	-0.02	0.01	0.06	-0.01	0.01	0.49	0.01	0.01	0.49	-0.02	0.01	0.09
Actor Race – African American	0.16	0.40	0.68	0.15	0.33	0.64	0.29	0.30	0.33	-0.16	0.33	0.64
Actor Race - Asian	0.20	0.45	0.66	-0.40	0.37	0.28	-0.24	0.34	0.49	-0.32	0.38	0.40
Actor Race - Other	-0.10	0.33	0.77	0.52	0.28	0.07	0.08	0.26	0.75	0.44	0.30	0.15
Actor Age	0.04	0.03	0.11	0.03	0.02	0.17	0.05	0.02	0.03	<0.001	0.03	0.99
Actor Social Skills	-0.08	0.12	0.52	-0.17	0.10	0.10	-0.10	0.10	0.29	0.11	0.11	0.35
Partner Social Skills	0.03	0.12	0.83	0.20	0.10	0.05	0.18	0.10	0.08	0.13	0.12	0.27
Actor Social Skills * Partner Social Skills	-0.03	0.13	0.81	0.01	0.10	0.96	0.07	0.10	0.46	0.12	0.11	0.26
Social Motivation												

Intercept	2.95**	0.20	<0.001	5.86**	0.17	<0.001	0.16	0.15	0.28	-0.05	0.18	0.78
Actor diagnosis	0.32**	0.11	<0.001	0.12	0.10	0.22	-0.01	0.09	0.95	-0.08	0.11	0.48
Partner diagnosis	-0.07	0.10	0.51	-0.12	0.09	0.19	-0.21	0.08	0.01	-0.04	0.10	0.73
Actor WRAT-3	-0.02	0.01	0.04	-0.01	0.01	0.47	0.01	0.01	0.43	-0.02	0.01	0.04
Actor Race – African American	0.24	0.37	0.52	0.19	0.32	0.54	0.40	0.27	0.15	0.09	0.33	0.78
Actor Race - Asian	0.10	0.43	0.82	-0.45	0.36	0.23	-0.25	0.31	0.42	-0.31	0.38	0.42
Actor Race - Other	-0.12	0.32	0.70	0.56	0.28	0.05	0.09	0.25	0.73	0.27	0.30	0.37
Actor Age	0.04	0.03	0.09	0.03	0.02	0.14	0.04	0.02	0.04	<0.001	0.03	0.90
Actor FMS	0.01	0.02	0.54	0.02	0.01	0.12	0.04**	0.01	0.01	-0.01	0.02	0.75
Partner FMS	0.01	0.02	0.39	-0.01	0.01	0.29	-0.01	0.01	0.32	<0.001	0.02	0.97
Actor FMS * Partner FMS	<0.001	<0.001	0.08	<0.001	<0.001	0.49	<0.001	<0.001	0.94	<0.001	<0.001	0.15

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. IPC = Interpersonal Circumplex. FMS = Friendship Motivation Scale. WRAT-3 = Wide Range Achievement Test – 3. **p<.01.

Table 12. Effect of social abilities on first impression outcomes (Specific Aim 2)

	Behavioral Intent			Awkward_R			Attractiveness			Trustworthy			Aggressive/Dominant			Like			Smart		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Social Cognition																					
Intercept	3.10**	0.08	<.001	3.09**	0.11	<.001	2.57**	0.14	<.001	3.42**	0.08	<.001	1.79**	0.10	<.001	3.33**	0.08	<.001	3.40**	0.12	<.001
Actor Diagnosis	0.01	0.05	0.77	-0.03	0.08	0.75	0.03	0.08	0.68	-0.03	0.05	0.51	0.10	0.07	0.16	-0.05	0.06	0.36	-0.01	0.07	0.93
Partner Diagnosis	-0.03	0.05	0.48	-0.35**	0.08	<.001	-0.15	0.08	0.06	-0.08	0.05	0.10	0.02	0.07	0.77	-0.01	0.06	0.93	0.05	0.07	0.51
Actor WRAT-3	<.001	<.001	0.29	-0.01	0.01	0.20	<.001	0.01	0.57	0.01	<.001	0.24	-0.01	0.01	0.27	<.001	0.01	0.76	-0.01	0.01	0.39
Actor Race – African American	0.16	0.15	0.30	0.07	0.21	0.73	0.12	0.26	0.65	0.10	0.15	0.48	0.04	0.18	0.81	0.14	0.14	0.34	-0.14	0.23	0.55
Actor Race - Asian	-0.33	0.18	0.08	-0.25	0.24	0.31	0.01	0.31	0.98	0.19	0.17	0.27	0.12	0.21	0.56	-0.33	0.17	0.06	0.20	0.26	0.45
Actor Race - Other	0.20	0.14	0.15	0.21	0.20	0.30	0.01	0.22	0.97	-0.04	0.13	0.74	-0.02	0.17	0.91	0.24	0.14	0.09	0.18	0.20	0.37
Actor Age	0.02	0.01	0.08	0.02	0.02	0.30	0.02	0.02	0.23	<.001	0.01	0.70	<.001	0.02	0.79	0.01	0.01	0.30	0.04	0.02	0.01
Actor Social Cognition	-0.03	0.07	0.71	-0.13	0.10	0.21	0.11	0.11	0.32	-0.15	0.07	0.03	0.11	0.09	0.26	-0.06	0.07	0.42	0.01	0.10	0.93
Partner Social Cognition	0.06	0.07	0.41	<.001	0.10	0.97	-0.02	0.11	0.85	-0.06	0.07	0.40	0.01	0.09	0.95	0.07	0.07	0.36	0.20	0.10	0.05
Actor *Partner Social Cognition	0.04	0.10	0.67	0.10	0.13	0.45	0.04	0.17	0.79	-0.07	0.09	0.48	0.04	0.11	0.70	-0.17	0.09	0.08	-0.13	0.14	0.38
Social Skills																					
Intercept	3.12**	0.09	<.001	3.02**	0.11	<.001	2.50**	0.14	<.001	3.40**	0.09	<.001	1.75**	0.10	<.001	3.32**	0.09	<.001	3.40**	0.13	<.001
Actor Diagnosis	0.01	0.05	0.82	-0.05	0.08	0.54	0.01	0.08	0.94	0.01	0.05	0.78	0.09	0.07	0.22	-0.06	0.06	0.33	-0.03	0.08	0.73
Partner Diagnosis	-0.04	0.05	0.45	-0.20	0.08	0.01	-0.10	0.08	0.22	-0.05	0.05	0.36	<.001	0.07	0.97	<.001	0.06	0.95	0.02	0.07	0.79
Actor WRAT-3	<.001	<.001	0.37	-0.01	0.01	0.21	0.01	0.01	0.37	<.001	<.001	0.32	-0.01	0.01	0.40	<.001	0.01	0.66	-0.01	0.01	0.39
Actor Race – African American	0.19	0.16	0.24	-0.03	0.20	0.89	-0.05	0.27	0.87	0.15	0.16	0.36	-0.07	0.17	0.69	0.14	0.16	0.38	-0.17	0.24	0.49
Actor Race - Asian	-0.32	0.18	0.08	-0.26	0.23	0.26	-0.02	0.30	0.94	0.20	0.18	0.27	0.10	0.20	0.62	-0.34	0.18	0.06	0.18	0.27	0.51
Actor Race - Other	0.17	0.14	0.22	0.25	0.19	0.20	0.15	0.23	0.52	-0.11	0.14	0.43	0.09	0.17	0.59	0.26	0.15	0.09	0.22	0.21	0.29
Actor Age	0.02	0.01	0.16	0.01	0.02	0.58	0.02	0.02	0.20	-0.01	0.01	0.65	0.01	0.02	0.54	0.02	0.01	0.20	0.04	0.02	0.01
Actor Social Skills	-0.02	0.05	0.71	-0.09	0.08	0.25	0.03	0.08	0.67	<.001	0.05	0.96	0.05	0.07	0.49	-0.03	0.06	0.58	<.001	0.08	0.96
Partner Social Skills	0.03	0.05	0.57	0.30**	0.08	<.001	0.11	0.08	0.19	0.02	0.05	0.71	-0.02	0.07	0.77	0.04	0.06	0.47	0.07	0.08	0.36
Actor * Partner Social Skills	-0.07	0.05	0.20	-0.04	0.07	0.52	0.11	0.09	0.20	-0.04	0.05	0.43	0.14	0.06	0.02	0.02	0.05	0.75	-0.03	0.08	0.66

Social Motivation																					
Intercept	3.12**	0.07	<.001	3.07**	0.12	<.001	2.62**	0.14	<.001	3.42**	0.08	<.001	1.80**	0.10	<.001	3.36**	0.08	<.001	3.42**	0.12	<.001
Actor Diagnosis	0.08	0.04	0.08	0.03	0.08	0.73	0.01	0.08	0.89	0.03	0.05	0.52	0.03	0.07	0.68	<.001	0.06	0.95	0.02	0.07	0.74
Partner Diagnosis	-0.05	0.04	0.25	-0.36	0.07	<.001	-0.16	0.07	0.03	-0.04	0.05	0.45	0.04	0.06	0.58	-0.03	0.05	0.64	0.01	0.07	0.92
Actor WRAT-3	0.01	<.001	0.23	-0.01	0.01	0.17	0.01	0.01	0.33	0.01	<.001	0.18	-0.01	0.01	0.33	<.001	0.01	0.42	-0.01	0.01	0.38
Actor Race – African American	0.23	0.14	0.11	0.08	0.21	0.72	0.02	0.26	0.95	0.14	0.14	0.34	-0.03	0.17	0.84	0.14	0.14	0.32	-0.05	0.22	0.82
Actor Race - Asian	-0.35	0.16	0.04	-0.24	0.24	0.34	0.06	0.31	0.86	0.23	0.17	0.18	0.15	0.20	0.45	-0.31	0.16	0.07	0.17	0.25	0.51
Actor Race - Other	0.17	0.12	0.18	0.18	0.20	0.36	0.09	0.22	0.67	-0.13	0.13	0.33	0.02	0.17	0.91	0.25	0.14	0.08	0.14	0.20	0.49
Actor Age	0.01	0.01	0.30	0.01	0.02	0.43	0.02	0.02	0.23	-0.01	0.01	0.61	0.01	0.02	0.57	0.01	0.01	0.26	0.04	0.02	0.02
Actor FMS	0.03**	0.01	<.001	<.001	0.01	0.66	<.001	0.01	0.87	<.001	0.01	0.66	-0.02	0.01	0.02	0.01	0.01	0.10	0.02	0.01	0.05
Partner FMS	<.001	0.01	0.58	-0.01	0.01	0.60	-0.01	0.01	0.26	0.01	0.01	0.37	0.01	0.01	0.51	-0.01	0.01	0.43	0.01	0.01	0.23
Actor * Partner FMS	<.001	<.001	0.70	<.001	<.001	0.97	<.001	<.001	0.12	<.001	<.001	0.08	<.001	<.001	0.18	<.001	<.001	0.07	<.001	<.001	0.67

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. FMS = Friendship Motivation Scale. WRAT-3 = Wide Range Achievement Test – 3. Awkward was reverse scored. **p<.01.

Table 13. Moderated effects of diagnosis and dyad type on the effect of social cognition on social evaluation outcomes (Specific Aim 2)

	Closeness			Interaction Quality			IPC Warmth			IPC Dominance		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	2.92**	0.23	<.001	5.70**	0.18	<.001	0.03	0.17	0.85	-0.03	0.20	0.88
Actor Diagnosis	0.24	0.15	0.11	-0.03	0.13	0.83	-0.20	0.12	0.08	-0.16	0.14	0.25
Partner Diagnosis	-0.04	0.14	0.78	-0.12	0.12	0.32	-0.14	0.11	0.20	-0.17	0.13	0.19
Actor WRAT-3	-0.02	0.01	0.09	-0.01	0.01	0.44	0.01	0.01	0.42	-0.01	0.01	0.19
Actor Race – African American	-0.01	0.42	0.98	0.11	0.34	0.75	0.37	0.31	0.24	0.06	0.36	0.88
Actor Race - Asian	0.18	0.46	0.70	-0.51	0.37	0.17	-0.35	0.34	0.31	-0.33	0.39	0.40
Actor Race - Other	0.05	0.34	0.87	0.52	0.29	0.08	0.09	0.27	0.73	0.32	0.31	0.31
Actor Age	0.05	0.03	0.07	0.06	0.02	0.02	0.06	0.02	0.01	0.02	0.03	0.46
Actor Social Cognition	-0.13	0.26	0.61	0.43	0.22	0.06	0.06	0.21	0.76	-0.21	0.24	0.39
Partner Social Cognition	0.38	0.26	0.15	0.13	0.22	0.56	0.40	0.21	0.06	-0.15	0.24	0.53
Actor * Partner Social Cognition	-0.30	0.39	0.45	0.14	0.32	0.67	0.09	0.29	0.76	0.31	0.34	0.35
Actor * Partner Diagnosis	0.19	0.16	0.26	0.12	0.13	0.37	0.03	0.12	0.80	0.03	0.14	0.82
Actor Diagnosis * Actor Social Cognition	-0.12	0.26	0.64	-0.25	0.22	0.27	-0.10	0.20	0.62	-0.05	0.24	0.85
Actor Diagnosis * Partner Social Cognition	0.06	0.27	0.83	-0.08	0.23	0.72	0.15	0.21	0.49	-0.14	0.25	0.57
Partner Diagnosis * Actor Social Cognition	-0.04	0.28	0.89	0.43	0.23	0.07	0.18	0.22	0.41	0.18	0.26	0.49
Partner Diagnosis * Partner Social Cognition	-0.03	0.26	0.91	-0.16	0.22	0.48	-0.31	0.20	0.13	-0.14	0.24	0.56
Actor Diagnosis * Actor Social Cognition * Partner Social Cognition	-0.02	0.32	0.94	-0.30	0.28	0.29	-0.03	0.26	0.92	0.09	0.31	0.78
Partner Diagnosis * Actor Social Cognition * Partner Social Cognition	-0.02	0.32	0.96	0.53	0.28	0.06	0.41	0.26	0.11	0.10	0.31	0.75
Actor Diagnosis * Partner Diagnosis * Actor Social Cognition	-0.22	0.28	0.43	-0.69**	0.24	0.01	-0.34	0.22	0.12	-0.40	0.26	0.13
Actor Diagnosis * Partner Diagnosis * Partner Social Cognition	-0.15	0.28	0.58	-0.17	0.23	0.48	-0.27	0.22	0.22	0.05	0.25	0.84
Actor Diagnosis * Partner Diagnosis * Actor Social Cognition * Partner Social Cognition	-0.14	0.38	0.71	-0.19	0.31	0.55	-0.09	0.29	0.76	0.04	0.33	0.91

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. IPC = Interpersonal Circumplex.WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 14. Moderated effects of diagnosis and dyad type on the effect of social cognition on first impression outcomes (Specific Aim 2)

	Behavioral Intent			Awkward_R			Attractiveness			Trust			Aggressive/Dominant			Likeable			Smart		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	3.09**	0.09	<.001	3.03**	0.12	<.001	2.51**	0.16	<.001	3.42**	0.09	<.001	1.74**	0.10	<.001	3.35**	0.09	<.001	3.46**	0.14	<.001
Actor Diagnosis	-0.04	0.06	0.57	0.06	0.09	0.51	0.08	0.11	0.45	-0.08	0.06	0.20	0.16	0.09	0.07	-0.06	0.07	0.40	-0.14	0.09	0.15
Partner Diagnosis	-0.03	0.06	0.55	-0.28**	0.09	<.001	-0.16	0.10	0.12	-0.07	0.06	0.24	0.06	0.08	0.45	0.01	0.07	0.88	-0.04	0.09	0.61
Actor WRAT-3	<.001	<.001	0.56	-0.01	0.01	0.21	0.01	0.01	0.29	<.001	0.01	0.51	<.001	0.01	0.45	<.001	0.01	0.60	-0.01	0.01	0.23
Actor Race – African American	0.13	0.17	0.43	0.32	0.22	0.16	0.11	0.30	0.71	0.04	0.17	0.80	0.05	0.18	0.80	0.16	0.15	0.31	-0.30	0.25	0.23
Actor Race - Asian	-0.36	0.18	0.06	-0.24	0.24	0.33	-0.04	0.32	0.91	0.15	0.18	0.40	0.08	0.20	0.70	-0.37	0.17	0.03	0.25	0.27	0.37
Actor Race - Other	0.27	0.14	0.06	0.03	0.21	0.88	<.001	0.24	0.99	0.05	0.15	0.75	0.05	0.18	0.80	0.30	0.15	0.05	0.26	0.22	0.24
Actor Age	0.03	0.01	0.03	0.02	0.02	0.24	0.03	0.02	0.14	<.001	0.01	0.95	0.01	0.02	0.54	0.02	0.01	0.11	0.06**	0.02	<.001
Actor Social Cognition	0.08	0.11	0.47	0.15	0.16	0.37	0.32	0.19	0.10	-0.16	0.11	0.17	0.13	0.15	0.39	0.08	0.12	0.49	0.05	0.17	0.75
Partner Social Cognition	0.02	0.11	0.86	-0.18	0.16	0.27	0.02	0.19	0.90	-0.06	0.11	0.59	0.07	0.15	0.66	0.02	0.12	0.90	-0.02	0.17	0.89
Actor * Partner Social Cognition	0.15	0.16	0.35	-0.01	0.21	0.95	0.08	0.28	0.79	0.06	0.16	0.73	0.01	0.17	0.94	-0.01	0.15	0.95	<.001	0.23	0.99
Actor * Partner Diagnosis	0.14	0.07	0.05	-0.03	0.09	0.74	-0.08	0.12	0.50	0.06	0.07	0.41	<.001	0.07	0.96	0.01	0.06	0.83	0.21	0.10	0.03
Actor Diagnosis * Actor Social Cognition	-0.09	0.11	0.42	-0.32	0.16	0.05	-0.25	0.19	0.18	0.08	0.11	0.50	-0.13	0.15	0.39	-0.17	0.12	0.18	0.06	0.16	0.74
Actor Diagnosis * Partner Social Cognition	0.11	0.11	0.36	-0.47**	0.17	0.01	-0.13	0.20	0.50	0.13	0.12	0.26	-0.08	0.15	0.58	0.04	0.13	0.75	0.07	0.17	0.69
Partner Diagnosis * Actor Social Cognition	0.17	0.12	0.16	0.29	0.17	0.09	0.12	0.20	0.56	0.06	0.12	0.60	-0.01	0.16	0.97	0.18	0.13	0.17	0.26	0.18	0.15
Partner Diagnosis * Partner	-0.03	0.11	0.75	0.15	0.16	0.36	-0.03	0.19	0.86	-0.14	0.11	0.20	-0.18	0.15	0.23	0.01	0.12	0.97	0.25	0.16	0.13

Social Cognition Actor Diagnosis * Actor Social Cognition * Partner Social Cognition	-0.10	0.14	0.47	-0.03	0.21	0.89	-0.01	0.23	0.96	-0.18	0.14	0.21	0.10	0.20	0.63	-0.03	0.17	0.84	-0.29	0.21	0.17
Partner Diagnosis * Actor Social Cognition * Partner Social Cognition	0.28	0.14	0.05	0.50	0.21	0.02	0.05	0.23	0.83	0.08	0.14	0.56	-0.02	0.20	0.94	0.33	0.17	0.05	0.20	0.21	0.34
Actor Diagnosis * Partner Diagnosis * Actor Social Cognition	-0.09	0.12	0.45	-0.10	0.17	0.57	-0.26	0.20	0.20	<.001	0.12	0.99	0.06	0.16	0.69	-0.08	0.13	0.56	-0.25	0.18	0.16
Actor Diagnosis * Partner Diagnosis * Partner Social Cognition	-0.02	0.12	0.89	0.46**	0.17	0.01	0.08	0.20	0.70	-0.09	0.12	0.45	0.10	0.15	0.53	0.12	0.13	0.34	-0.01	0.17	0.96
Actor Diagnosis * Partner Diagnosis * Actor Social Cognition * Partner Social Cognition	-0.07	0.15	0.65	0.14	0.20	0.49	-0.34	0.27	0.21	-0.06	0.15	0.69	-0.44	0.17	0.01	-0.18	0.14	0.21	0.14	0.23	0.56

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. Awkward was reverse scored. WRAT-3 = Wide Range Achievement Test – 3. **p<.01.

Table 15. Moderated effects of diagnosis and dyad type on the effect of social skills on social evaluation outcomes (Specific Aim 2)

	Closeness			Interaction Quality			IPC Warmth			IPC Dominance		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	2.90**	0.24	<.001	5.86**	0.21	<.001	-0.04	0.20	0.86	-0.23	0.22	0.29
Actor Diagnosis	0.31	0.16	0.06	-0.10	0.15	0.54	-0.27	0.14	0.07	0.06	0.17	0.73
Partner Diagnosis	-0.02	0.16	0.90	0.09	0.15	0.56	<.001	0.14	0.99	-0.09	0.16	0.59
Actor WRAT-3	-0.02	0.01	0.06	-0.01	0.01	0.51	<.001	0.01	0.76	-0.01	0.01	0.21
Actor Race – African American	0.15	0.39	0.70	0.21	0.34	0.55	0.23	0.33	0.48	-0.28	0.36	0.44
Actor Race - Asian	0.01	0.48	0.99	-0.49	0.42	0.25	-0.09	0.40	0.83	-0.05	0.44	0.92
Actor Race - Other	0.05	0.33	0.88	0.53	0.29	0.08	0.04	0.28	0.89	0.42	0.32	0.19
Actor Age	0.06	0.03	0.03	0.04	0.03	0.08	0.06	0.02	0.02	<.001	0.03	0.86
Actor Social Skills	-0.06	0.19	0.73	-0.18	0.17	0.29	-0.21	0.16	0.18	0.20	0.18	0.28
Partner Social Skills	0.28	0.19	0.14	0.38	0.17	0.03	0.38	0.16	0.02	0.29	0.19	0.12
Actor * Partner Social Skills	-0.34	0.23	0.14	-0.29	0.20	0.15	0.15	0.19	0.43	0.17	0.21	0.43
Actor * Partner Diagnosis	0.12	0.21	0.57	<.001	0.19	0.99	0.12	0.18	0.50	0.19	0.20	0.34
Actor Diagnosis * Actor Social Skills	0.08	0.22	0.70	0.17	0.19	0.38	0.02	0.18	0.92	-0.18	0.20	0.37
Actor Diagnosis * Partner Social Skills	-0.25	0.21	0.24	-0.22	0.19	0.25	0.07	0.18	0.71	-0.13	0.20	0.53
Partner Diagnosis * Actor Social Skills	-0.09	0.21	0.68	-0.13	0.18	0.48	0.17	0.17	0.34	0.42	0.19	0.04
Partner Diagnosis * Partner Social Skills	-0.24	0.22	0.29	0.03	0.20	0.86	-0.27	0.19	0.16	-0.23	0.21	0.29
Actor Diagnosis * Actor Social Skills * Partner Social Skills	0.40	0.19	0.04	0.16	0.18	0.36	0.12	0.17	0.47	0.10	0.19	0.59
Partner Diagnosis * Actor Social Skills * Partner Social Skills	0.18	0.19	0.36	<.001	0.18	0.99	-0.12	0.17	0.46	<.001	0.19	0.99
Actor Diagnosis * Partner Diagnosis * Actor Social Skills	0.14	0.19	0.46	0.02	0.17	0.92	-0.03	0.16	0.85	-0.29	0.18	0.12
Actor Diagnosis * Partner Diagnosis * Partner Social Skills	0.34	0.19	0.07	-0.06	0.17	0.73	-0.13	0.16	0.44	0.02	0.19	0.91
Actor Diagnosis * Partner Diagnosis * Actor Social Skills * Partner Social Skills	0.01	0.24	0.98	0.23	0.21	0.28	-0.06	0.20	0.75	-0.07	0.22	0.75

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. IPC = Interpersonal Circumplex. WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 16. Moderated effects of diagnosis and dyad type on the effect of social skills on first impression outcomes (Specific Aim 2)

	Behavioral Intent			Awkwardness			Attractiveness			Trust			Aggressive/Dominant			Likeable			Smart		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	3.09**	0.10	<.001	2.98	0.13	<.001	2.60**	0.17	<.001	3.48**	0.10	<.001	1.79**	0.11	<.001	3.35**	0.10	<.001	3.30**	0.15	<.001
Actor Diagnosis	0.05	0.08	0.51	-0.08	0.13	0.54	-0.03	0.12	0.83	0.10	0.08	0.24	0.01	0.12	0.93	-0.04	0.10	0.68	0.13	0.11	0.24
Partner Diagnosis	-0.06	0.07	0.41	-0.18	0.12	0.15	-0.04	0.12	0.75	-0.14	0.08	0.09	0.07	0.12	0.57	-0.01	0.09	0.90	-0.13	0.11	0.22
Actor WRAT-3	<.001	0.01	0.38	-0.01	0.01	0.19	0.01	0.01	0.28	0.01	0.01	0.17	-0.01	0.01	0.24	<.001	0.01	0.58	<.001	0.01	0.62
Actor Race – African American	0.20	0.16	0.22	-0.06	0.22	0.78	0.05	0.28	0.87	0.19	0.17	0.27	<.001	0.18	1.00	0.13	0.17	0.44	-0.22	0.24	0.37
Actor Race - Asian	-0.30	0.20	0.14	-0.21	0.27	0.45	-0.27	0.34	0.43	0.13	0.20	0.54	-0.02	0.22	0.93	-0.35	0.21	0.10	0.28	0.30	0.34
Actor Race - Other	0.15	0.14	0.29	0.25	0.20	0.23	0.21	0.23	0.36	-0.12	0.15	0.42	0.04	0.17	0.80	0.28	0.16	0.08	0.28	0.21	0.19
Actor Age	0.02	0.01	0.14	0.01	0.02	0.47	0.02	0.02	0.27	-0.01	0.01	0.68	0.02	0.02	0.36	0.02	0.01	0.30	0.03	0.02	0.06
Actor Social Skills	0.03	0.08	0.71	-0.08	0.13	0.55	<.001	0.13	0.98	0.04	0.09	0.63	-0.07	0.12	0.59	0.01	0.10	0.96	0.24	0.12	0.05
Partner Social Skills	0.01	0.08	0.88	0.38**	0.13	0.01	0.21	0.13	0.13	-0.07	0.09	0.44	-0.01	0.12	0.91	<.001	0.10	0.98	-0.07	0.12	0.56
Actor * Partner Social Skills	-0.17	0.09	0.07	-0.04	0.13	0.77	-0.17	0.16	0.29	-0.07	0.10	0.50	0.14	0.10	0.17	0.02	0.10	0.87	-0.08	0.14	0.56
Actor * Partner Diagnosis	0.09	0.09	0.31	0.06	0.12	0.61	-0.25	0.15	0.11	-0.09	0.09	0.31	-0.02	0.10	0.83	-0.06	0.09	0.56	0.21	0.13	0.12
Actor Diagnosis * Actor Social Skills	-0.02	0.09	0.82	-0.04	0.13	0.79	0.11	0.15	0.48	0.08	0.10	0.42	0.18	0.12	0.11	0.05	0.10	0.66	-0.22	0.14	0.11
Actor Diagnosis * Partner Social Skills	-0.07	0.09	0.47	0.02	0.13	0.90	-0.29	0.15	0.06	-0.10	0.10	0.31	-0.04	0.12	0.74	0.08	0.10	0.47	0.12	0.14	0.38
Partner Diagnosis * Actor Social Skills	-0.02	0.09	0.80	0.03	0.13	0.82	-0.23	0.15	0.13	-0.04	0.09	0.65	-0.06	0.11	0.60	-0.10	0.10	0.33	0.07	0.13	0.57
Partner Diagnosis * Partner Social Skills	0.01	0.09	0.88	-0.09	0.14	0.52	0.22	0.16	0.17	0.11	0.10	0.28	0.03	0.12	0.81	-0.02	0.11	0.83	0.02	0.14	0.88
Actor Diagnosis * Actor Social Skills * Partner Social Skills	-0.03	0.09	0.77	0.09	0.14	0.54	0.26	0.14	0.06	-0.08	0.09	0.42	-0.01	0.13	0.97	-0.08	0.11	0.46	-0.16	0.13	0.21
Partner Diagnosis * Actor Social Skills * Partner Social Skills	0.05	0.09	0.58	<.001	0.14	0.98	-0.06	0.14	0.67	0.06	0.09	0.56	-0.01	0.13	0.95	0.06	0.11	0.57	0.21	0.13	0.11
Actor Diagnosis * Partner Diagnosis * Actor Social Skills	-0.01	0.08	0.89	<.001	0.13	0.98	0.17	0.13	0.19	-0.10	0.09	0.26	0.08	0.12	0.52	-0.04	0.10	0.68	-0.14	0.12	0.25
Actor Diagnosis * Partner Diagnosis * Partner Social Skills	0.06	0.08	0.49	-0.03	0.13	0.83	<.001	0.13	0.98	0.11	0.09	0.21	<.001	0.12	0.99	0.02	0.10	0.82	0.10	0.12	0.45
Actor Diagnosis * Partner Diagnosis * Actor Social Skills * Partner Social Skills	0.05	0.10	0.61	-0.07	0.13	0.62	0.23	0.17	0.18	0.02	0.10	0.86	-0.04	0.11	0.70	0.03	0.10	0.78	0.11	0.14	0.44

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. Awkward was reverse scored. WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 17. Moderated effects of diagnosis and dyad type on the effect of social motivation on social evaluation outcomes (Specific Aim 2)

	Closeness			Interaction Quality			IPC Warmth			IPC Dominance		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	2.87**	0.24	<.001	5.78**	0.21	<.001	0.11	0.16	0.51	0.04	0.22	0.85
Actor Diagnosis	0.35**	0.12	0.01	0.16	0.11	0.17	-0.06	0.10	0.53	<.001	0.13	0.98
Partner Diagnosis	-0.12	0.12	0.30	-0.16	0.11	0.14	-0.16	0.10	0.11	-0.09	0.12	0.44
Actor WRAT-3	-0.03	0.01	0.02	-0.01	0.01	0.43	0.01	0.01	0.43	-0.02	0.01	0.05
Actor Race – African American	0.32	0.40	0.42	0.08	0.34	0.83	0.28	0.27	0.31	-0.04	0.36	0.90
Actor Race - Asian	0.05	0.45	0.90	-0.43	0.39	0.27	-0.21	0.30	0.50	-0.23	0.40	0.58
Actor Race - Other	-0.18	0.33	0.58	0.67	0.30	0.03	0.17	0.25	0.50	0.39	0.32	0.23
Actor Age	0.05	0.03	0.05	0.04	0.02	0.07	0.05	0.02	0.01	<.001	0.03	0.97
Actor FMS	0.02	0.02	0.28	0.03	0.02	0.08	0.02	0.02	0.20	<.001	0.02	0.97
Partner FMS	0.01	0.02	0.70	-0.02	0.02	0.24	<.001	0.02	0.96	-0.02	0.02	0.34
Actor * Partner FMS	0.01	<.001	0.14	<.001	<.001	0.92	<.001	<.001	0.93	<.001	<.001	0.73
Actor * Partner Diagnosis	0.23	0.14	0.12	0.13	0.12	0.29	0.10	0.10	0.31	-0.03	0.13	0.79
Actor Diagnosis * Actor FMS	-0.01	0.02	0.62	-0.02	0.02	0.34	<.001	0.02	0.91	0.01	0.02	0.65
Actor Diagnosis * Partner FMS	<.001	0.02	0.96	0.01	0.02	0.72	<.001	0.02	0.80	-0.01	0.02	0.58
Partner Diagnosis * Actor FMS	0.02	0.02	0.48	<.001	0.02	0.94	0.04	0.02	0.02	-0.01	0.02	0.81
Partner Diagnosis * Partner FMS	0.02	0.02	0.27	<.001	0.02	0.98	-0.02	0.02	0.14	<.001	0.02	0.90
Actor Diagnosis * Actor FMS * Partner FMS	<.001	<.001	0.97	<.001	<.001	0.89	<.001	<.001	0.16	<.001	<.001	0.90
Partner Diagnosis * Actor FMS * Partner FMS	<.001	<.001	0.45	<.001	<.001	0.07	<.001	<.001	0.65	0.01	<.001	0.08
Actor Diagnosis * Partner Diagnosis * Actor FMS	-0.02	0.02	0.33	<.001	0.02	0.89	0.02	0.02	0.32	<.001	0.02	0.91
Actor Diagnosis * Partner Diagnosis * Partner FMS	<.001	0.02	0.90	0.01	0.02	0.46	-0.01	0.02	0.71	0.04	0.02	0.09
Actor Diagnosis * Partner Diagnosis * Actor FMS * Partner FMS	<.001	<.001	0.37	<.001	<.001	0.29	<.001	<.001	0.25	<.001	<.001	0.66

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. FMS = Friendship Motivation Scale. IPC = Interpersonal Circumplex. WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 18. Moderated effects of diagnosis and dyad type on the effect of social motivation on first impression outcomes (Specific Aim 2)

	Behavioral Intent			Awkwardness			Attractiveness			Trust			Aggressive/Dominant			Likeable			Smart		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	3.09**	0.09	<.001	3.14**	0.14	<.001	2.55**	0.16	<.001	3.48**	0.09	<.001	1.78**	0.12	<.001	3.34**	0.09	<.001	3.43**	0.14	<.001
Actor Diagnosis	0.06	0.05	0.27	0.10	0.09	0.30	0.07	0.09	0.45	-0.02	0.06	0.69	<.001	0.08	0.96	-0.02	0.07	0.79	0.03	0.08	0.69
Partner Diagnosis	-0.03	0.05	0.53	-0.43**	0.09	<.001	-0.20	0.08	0.02	0.02	0.05	0.66	0.05	0.08	0.49	-0.02	0.06	0.73	<.001	0.08	0.99
Actor WRAT-3	<.001	<.001	0.37	-0.01	0.01	0.21	0.01	0.01	0.24	0.01	<.001	0.07	-0.01	0.01	0.28	0.01	0.01	0.12	-0.01	0.01	0.30
Actor Race – African American	0.17	0.15	0.26	<.001	0.23	1.00	-0.11	0.26	0.67	0.03	0.15	0.85	-0.07	0.19	0.72	-0.01	0.14	0.94	-0.12	0.24	0.62
Actor Race - Asian	-0.31	0.16	0.07	-0.15	0.26	0.55	0.08	0.30	0.80	0.30	0.16	0.07	0.18	0.21	0.41	-0.26	0.15	0.11	0.22	0.27	0.43
Actor Race - Other	0.20	0.13	0.12	0.22	0.21	0.31	0.20	0.23	0.39	-0.04	0.14	0.77	0.04	0.18	0.84	0.36	0.14	0.01	0.19	0.21	0.36
Actor Age	0.02	0.01	0.08	0.02	0.02	0.30	0.02	0.02	0.24	<.001	0.01	0.74	0.01	0.02	0.40	0.02	0.01	0.08	0.04	0.02	0.02
Actor FMS	0.02	0.01	0.01	0.01	0.02	0.49	0.01	0.01	0.39	-0.01	0.01	0.20	-0.02	0.01	0.06	0.01	0.01	0.24	0.02	0.01	0.14
Partner FMS	<.001	0.01	0.66	-0.03	0.02	0.08	-0.01	0.01	0.32	0.01	0.01	0.22	0.01	0.01	0.44	-0.01	0.01	0.57	0.01	0.01	0.65
Actor * Partner FMS	<.001	<.001	0.84	<.001	<.001	0.71	-0.01	<.001	0.04	<.001	<.001	0.02	<.001	<.001	0.19	<.001	<.001	0.01	<.001	<.001	0.94
Actor * Partner Diagnosis	0.13	0.05	0.02	-0.01	0.08	0.92	-0.03	0.09	0.73	-0.03	0.05	0.54	0.08	0.07	0.24	<.001	0.05	0.96	0.09	0.09	0.31
Actor Diagnosis * Actor FMS	<.001	0.01	0.66	<.001	0.01	0.95	-0.03	0.02	0.09	0.01	0.01	0.24	<.001	0.01	0.83	-0.02	0.01	0.11	0.01	0.01	0.52
Actor Diagnosis * Partner FMS	0.01	0.01	0.33	-0.01	0.01	0.56	-0.02	0.02	0.25	<.001	0.01	0.85	<.001	0.01	0.98	0.01	0.01	0.35	0.01	0.01	0.70
Partner Diagnosis * Actor FMS	<.001	0.01	0.77	0.01	0.01	0.46	-0.01	0.02	0.71	-0.01	0.01	0.49	<.001	0.01	0.71	0.01	0.01	0.30	-0.01	0.01	0.45
Partner Diagnosis * Partner FMS	<.001	0.01	0.98	0.01	0.01	0.32	-0.01	0.02	0.37	-0.01	0.01	0.27	<.001	0.01	0.97	-0.01	0.01	0.39	-0.01	0.01	0.72
Actor Diagnosis * Actor FMS * Partner FMS	<.001	<.001	0.62	<.001	<.001	0.15	<.001	<.001	0.72	<.001	<.001	0.55	<.001	<.001	0.24	<.001	<.001	0.60	<.001	<.001	0.87
Partner Diagnosis * Actor	<.001	<.001	0.38	<.001	<.001	0.08	<.001	<.001	0.30	<.001	<.001	0.94	<.001	<.001	0.23	<.001	<.001	0.27	<.001	<.001	0.25

FMS * Partner																				
FMS Actor Diagnosis * Partner Diagnosis * Actor	0.01	0.01	0.29	<.001	0.02	0.84	<.001	0.01	0.98	0.03**	0.01	0.01	<.001	0.01	0.81	0.01	0.01	0.34	<.001	0.01	0.80
FMS Actor Diagnosis * Partner Diagnosis * Partner	<.001	0.01	0.97	0.02	0.01	0.11	0.02	0.01	0.16	<.001	0.01	0.76	<.001	0.01	0.95	<.001	0.01	0.81	0.01	0.01	0.37
FMS Actor Diagnosis * Partner Diagnosis * Actor FMS * Partner	<.001	<.001	0.44	<.001	<.001	0.43	<.001	<.001	0.73	<.001	<.001	0.20	<.001	<.001	0.57	<.001	<.001	0.42	<.001	<.001	0.78

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. Awkward was reverse scored. FMS = Friendship Motivation Scale. WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 19. Mediation model indirect effects and model fit statistics (Exploratory Aim 1)

		Social Interaction Quality	Closeness	IPC Warmth	IPC Dominance	Behavioral Intent	Awkward_R	Attractive	Trust	Likeability	Smart	Aggressive/ Dominant
Indirect Actor	*b*	-0.02	-0.01	-0.01	0.02	0.00	-0.02	0.00	0.01	-0.01	0.00	0.01
Mediation	SE	0.04	0.03	0.03	0.03	0.01	0.02	0.02	0.01	0.01	0.02	0.02
	p	0.50	0.81	0.68	0.46	0.73	0.50	0.83	0.57	0.70	0.88	0.56
	95% CI LL	-0.09	-0.06	-0.07	-0.04	-0.03	-0.06	-0.03	-0.02	-0.03	-0.04	-0.02
	95% CI UL	0.05	0.04	0.05	0.08	0.02	0.03	0.04	0.03	0.02	0.03	0.04
Indirect Partner	*b*	0.04	0.01	0.04	0.02	0.00	0.04	0.02	0.01	0.01	0.02	0.00
Mediation	SE	0.04	0.02	0.04	0.03	0.01	0.04	0.03	0.01	0.02	0.02	0.02
	p	0.39	0.65	0.40	0.54	0.84	0.31	0.45	0.55	0.66	0.49	0.92
	95% CI LL	-0.05	-0.03	-0.05	-0.04	-0.01	-0.04	-0.03	-0.02	-0.03	-0.03	-0.03
	95% CI UL	0.12	0.05	0.13	0.07	0.02	0.11	0.07	0.03	0.04	0.06	0.04
Model Fit	RMSEA	0.01	0.07	0.04	0.08	0.06	0.08	0.08	0.07	0.08	0.00	0.10
	CFI	1.00	0.93	0.98	0.89	0.94	0.91	0.89	0.91	0.89	1.00	0.82
	$X^2(21)$	21.06	26.50	22.64	27.89	24.47	29.16	28.30	26.29	91.08	18.53	32.98
	p	0.46	0.19	0.36	0.14	0.27	0.11	0.13	0.20	0.00	0.62	0.05

Note. Indirect Actor Mediation tested for the effect of actor social cognition on his own social outcomes through his social skills ability. Indirect Partner Mediation tested for the effect of partner social cognition on actor social outcomes through partner social skills. Awkward was reverse coded. IPC = Interpersonal Circumplex. LL = Lower limit. UL = Upper limit. RMSEA = Root Mean Square Error of Approximation. CFI = Comparative Fit Index.

Table 20. Mediation model paths (Exploratory Aim 1)

			Social Interaction Quality	Closeness	IPC Warmth	IPC Dominance	Behavioral Intent	Awkward_R	Attractive	Trust	Likeability	Smart	Aggressive / Dominant
Social Skills on Social Cognition	Actor Effect	*b*	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
		SE	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
		p	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
	Partner Effect	*b*	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
		se	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
		p	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Social Outcome on Social Skills	Actor Effect	*b*	-0.16	-0.04	-0.08	0.14	-0.03	-0.10	0.03	0.04	-0.04	-0.02	0.06
		SE	0.12	0.12	0.12	0.10	0.05	0.08	0.09	0.05	0.06	0.08	0.06
		p	0.18	0.73	0.48	0.16	0.60	0.22	0.77	0.35	0.54	0.82	0.33
	Partner Effect	*b*	0.25	0.06	0.26	0.11	0.02	0.25	0.13	0.05	0.05	0.11	0.01
		se	0.10	0.09	0.10	0.11	0.06	0.08	0.08	0.04	0.07	0.09	0.08
		p	0.02	0.47	0.01	0.30	0.78	<0.001	0.09	0.29	0.47	0.19	0.89
Social Outcome on Social Cognition	Actor Effect	*b*	0.00	-0.29	-0.16	-0.37	-0.02	-0.14	0.14	-0.15	-0.05	0.05	0.09
		SE	0.14	0.17	0.11	0.18	0.08	0.11	0.12	0.06	0.07	0.10	0.08
		p	1.00	0.09	0.15	0.05	0.80	0.20	0.26	0.01	0.48	0.62	0.25
	Partner Effect	*b*	0.08	-0.04	0.19	-0.20	0.05	0.00	-0.02	-0.08	0.06	0.20	0.00
		SE	0.16	0.12	0.13	0.14	0.07	0.10	0.10	0.07	0.07	0.10	0.09
		p	0.62	0.73	0.13	0.14	0.51	0.98	0.83	0.25	0.42	0.05	0.97
Covariance of Partners' Social Cognition		*b*	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
		SE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05

	p	0.14	0.11	0.11	0.19	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	b	0.19	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Covariance of Partners' Social Skills	*S E*	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	p	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	b	0.05	0.05	0.24	0.00	-0.01	0.01	-0.02	0.06	0.00	-0.05	-0.09
Covariance of Partners' Social Outcomes	*S E*	0.09	0.09	0.10	0.12	0.10	0.02	0.05	0.05	0.08	0.03	0.05
	p	0.57	0.57	0.01	0.99	0.91	0.63	0.74	0.28	0.93	0.09	0.05

Note. Effects in this model were results in addition to the indirect effects. Awkward was reverse coded. IPC = Interpersonal Circumplex.

Table 21. Mediation model diagnosis effects (Exploratory Aim 1)

			Social Interaction Quality	Closeness	IPC Warmth	IPC Dominance	Behavioral Intent	Awkward_R	Attractive	Trust	Likeability	Smart	Aggressive/ Dominant
Outcome	Actor												
	Diagnosis	*b*	0.00	0.28	-0.14	-0.13	0.02	-0.08	0.07	-0.02	-0.06	0.03	0.13
		SE	0.10	0.11	0.09	0.11	0.05	0.09	0.08	0.06	0.05	0.09	0.07
		p	0.96	<.001	0.12	0.23	0.69	0.38	0.42	0.67	0.24	0.73	0.05
	Partner												
	Diagnosis	*b*	0.06	0.01	-0.04	-0.06	-0.04	-0.23	-0.09	-0.06	0.02	0.09	0.01
		SE	0.09	0.11	0.09	0.13	0.05	0.09	0.08	0.05	0.06	0.08	0.06
		p	0.56	0.90	0.66	0.64	0.49	0.02	0.26	0.24	0.77	0.30	0.81
	Actor*Partner												
	Diagnosis	*b*	0.06	0.12	-0.04	0.07	0.08	0.01	-0.01	0.01	-0.04	<.001	0.06
		SE	0.10	0.12	0.09	0.10	0.05	0.06	0.07	0.05	0.05	0.07	0.06
		p	0.59	331.00	0.66	0.48	0.08	0.88	0.87	0.87	0.41	0.98	0.25
Social Skills	Actor												
	Diagnosis	*b*	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43
		SE	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
		p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
	Partner												
	Diagnosis	*b*	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
		SE	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
		p	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	Actor*Partner												
	Diagnosis	*b*	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
		SE	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
		p	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Social Cognition	Actor												
	Diagnosis	*b*	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32
		SE	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		P	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
	Partner												
	Diagnosis	*b*	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
		SE	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		p	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
	Actor*Partner												
	Diagnosis	*b*	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
		SE	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
		p	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09

Note. Effects of diagnosis included in the mediation model. Diagnosis was effects coded with 1 = ASD, -1 = TD. Awkward was reverse coded. IPC = Interpersonal Circumplex.

Table 22. Moderated mediation model fit statistics (Exploratory Aim 1)

	RMSEA	CFI	$X^2(43)$	
				p
Social Interaction Quality	0.207	0.337	144.66	<.001
Closeness	0.216	0.393	153.008	<.001
IPC Warmth	0.213	0.371	150.412	<.001
IPC Dominance	0.215	0.351	152.167	<.001
Behavioral Intent	0.214	0.316	151.607	<.001
Awkward_R	0.227	0.405	164.507	<.001
Attractive	0.217	0.333	154.411	<.001
Trust	0.212	0.338	149.572	<.001
Likeability	0.214	0.317	151.475	<.001
Smart	0.207	0.366	144.025	<.001
Aggressive/Dominant	0.222	0.338	159.208	<.001

Note. Awkward was reverse coded. IPC = Interpersonal Circumplex. RMSEA = Root Mean Square Error of Approximation. CFI = Comparative Fit Index.

Table 23. Moderated effects of diagnosis and dyad type on the effect of interactive behaviors on social evaluation outcomes (Exploratory Aim 2)

	Closeness			Interaction Quality			IPC Warmth			IPC Dominance		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	2.93**	0.23	<.001	5.75**	0.19	<.001	0.05	0.17	0.76	0.03	0.20	0.89
Actor Diagnosis	0.34**	0.12	0.01	0.02	0.11	0.82	-0.08	0.10	0.39	-0.04	0.12	0.73
Partner Diagnosis	-0.11	0.12	0.36	-0.04	0.10	0.72	-0.16	0.09	0.08	0.05	0.12	0.64
Actor WRAT-3	-0.02	0.01	0.07	-0.01	0.01	0.37	0.01	0.01	0.18	-0.02	0.01	0.16
Actor Race – African American	0.16	0.42	0.70	0.05	0.35	0.89	0.09	0.31	0.76	0.17	0.37	0.66
Actor Race - Asian	0.26	0.45	0.56	-0.35	0.37	0.36	-0.10	0.33	0.76	-0.32	0.39	0.42
Actor Race - Other	-0.14	0.35	0.68	0.45	0.31	0.14	0.15	0.28	0.60	0.22	0.34	0.53
Actor Age	0.04	0.03	0.12	0.04	0.03	0.10	0.05	0.02	0.03	0.01	0.03	0.71
Actor Interactive Skills	-0.03	0.08	0.73	-0.09	0.07	0.19	-0.10	0.06	0.13	0.02	0.08	0.77
Partner Interactive Skills	<.001	0.08	0.98	-0.03	0.07	0.71	0.05	0.07	0.49	0.14	0.08	0.10
Actor * Partner Interactive Skills	0.05	0.06	0.40	0.03	0.05	0.49	0.01	0.04	0.76	0.08	0.05	0.13
Actor * Partner Diagnosis	0.22	0.14	0.11	0.09	0.11	0.45	-0.12	0.10	0.23	<.001	0.12	0.99
Actor Diagnosis * Actor Interactive Skills	-0.06	0.08	0.44	<.001	0.07	0.99	-0.02	0.06	0.73	0.01	0.08	0.93
Actor Diagnosis * Partner Interactive Skills	0.03	0.09	0.76	-0.09	0.07	0.25	-0.13	0.07	0.05	0.01	0.08	0.93
Partner Diagnosis * Actor Interactive Skills	0.07	0.09	0.41	0.03	0.07	0.64	-0.11	0.07	0.11	0.06	0.08	0.44
Partner Diagnosis * Partner Interactive Skills	-0.09	0.08	0.28	<.001	0.07	0.98	-0.05	0.07	0.43	-0.06	0.08	0.44
Actor Diagnosis * Actor Interactive Skills * Partner Interactive Skills	0.07	0.05	0.16	0.02	0.04	0.58	0.04	0.04	0.35	0.03	0.05	0.50
Partner Diagnosis * Actor Interactive Skills * Partner Interactive Skills	<.001	0.05	0.98	0.05	0.04	0.25	0.01	0.04	0.80	0.03	0.05	0.57
Actor Diagnosis * Partner Diagnosis * Actor Interactive Skills	<.001	0.08	0.99	0.02	0.07	0.75	-0.01	0.07	0.87	-0.02	0.08	0.78
Actor Diagnosis * Partner Diagnosis * Partner Interactive Skills	-0.03	0.08	0.70	0.02	0.07	0.75	0.05	0.07	0.49	0.02	0.08	0.79
Actor Diagnosis * Partner Diagnosis * Actor Interactive Skills * Partner Interactive Skills	-0.01	0.06	0.83	0.01	0.05	0.80	0.03	0.04	0.55	-0.03	0.05	0.57

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. IPC = Interpersonal Circumplex. WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 24. Moderated effects of diagnosis and dyad type on the effect of interactive behaviors on first impression outcomes (Exploratory Aim 2)

	Behavioral Intent			Awkwardness			Attractiveness			Trust			Aggressive/Dominant			Likeable			Smart		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	3.01**	0.09	<.001	3.07**	0.13	<.001	2.58**	0.16	<.001	3.43**	0.09	<.001	1.77**	0.11	<.001	3.31**	0.09	<.001	3.33**	0.13	<.001
Actor Diagnosis	-0.01	0.05	0.90	-0.04	0.08	0.66	<.001	0.09	0.99	-0.01	0.05	0.91	0.07	0.07	0.33	-0.03	0.06	0.60	-0.07	0.08	0.39
Partner Diagnosis	-0.05	0.05	0.35	-0.30**	0.08	<.001	-0.11	0.08	0.19	-0.10	0.05	0.07	0.05	0.07	0.48	0.01	0.06	0.83	-0.01	0.07	0.85
Actor WRAT-3	<.001	0.01	0.54	-0.01	0.01	0.21	0.01	0.01	0.38	0.01	0.01	0.30	-0.01	0.01	0.31	0.01	0.01	0.39	-0.01	0.01	0.38
Actor Race – African American	0.03	0.17	0.85	<.001	0.24	0.99	-0.17	0.31	0.59	0.04	0.17	0.82	-0.17	0.19	0.38	-0.05	0.17	0.77	-0.37	0.24	0.14
Actor Race - Asian	-0.22	0.18	0.21	-0.19	0.26	0.47	0.07	0.32	0.83	0.24	0.18	0.18	0.12	0.20	0.54	-0.28	0.17	0.12	0.36	0.26	0.16
Actor Race - Other	0.18	0.15	0.21	0.24	0.23	0.30	0.21	0.25	0.40	-0.04	0.15	0.80	0.15	0.18	0.42	0.35	0.16	0.03	0.29	0.21	0.18
Actor Age	0.02	0.01	0.08	0.02	0.02	0.27	0.03	0.02	0.18	-0.01	0.01	0.45	0.02	0.02	0.29	0.02	0.01	0.24	0.04	0.02	0.03
Actor Interactive Skills	-0.01	0.03	0.84	-0.03	0.05	0.58	<.001	0.06	0.97	-0.05	0.04	0.15	-0.01	0.05	0.81	0.01	0.04	0.76	-0.05	0.05	0.33
Partner Interactive Skills	-0.01	0.03	0.73	0.08	0.05	0.14	0.06	0.06	0.36	-0.04	0.04	0.33	0.08	0.05	0.08	0.02	0.04	0.67	<.001	0.05	0.99
Actor * Partner Interactive Skills	-0.03	0.02	0.18	-0.03	0.03	0.36	-0.03	0.04	0.53	<.001	0.02	0.96	-0.03	0.02	0.23	-0.03	0.02	0.18	-0.05	0.03	0.15
Actor * Partner Diagnosis	0.05	0.05	0.34	0.01	0.08	0.95	-0.04	0.10	0.71	-0.03	0.05	0.59	0.06	0.06	0.35	-0.10	0.05	0.08	0.08	0.08	0.30
Actor Diagnosis * Actor Interactive Skills	-0.03	0.03	0.35	0.07	0.05	0.21	0.06	0.06	0.32	0.02	0.04	0.58	0.09	0.05	0.07	-0.01	0.04	0.89	-0.08	0.05	0.10
Actor Diagnosis * Partner Interactive Skills	-0.05	0.04	0.14	<.001	0.06	0.97	-0.06	0.06	0.34	-0.05	0.04	0.16	-0.03	0.05	0.47	-0.10	0.04	0.01	-0.11	0.05	0.04
Partner Diagnosis * Actor Interactive Skills	-0.04	0.04	0.27	-0.07	0.06	0.20	-0.10	0.06	0.10	-0.01	0.04	0.80	-0.08	0.05	0.09	-0.06	0.04	0.17	<.001	0.05	0.93
Partner Diagnosis * Partner Interactive Skills	-0.03	0.03	0.46	-0.03	0.05	0.56	0.03	0.06	0.61	0.04	0.04	0.28	0.04	0.05	0.41	0.02	0.04	0.57	<.001	0.05	0.99
Actor Diagnosis * Actor Interactive Skills * Partner Interactive Skills	0.01	0.02	0.49	-0.02	0.03	0.50	0.03	0.03	0.39	-0.01	0.02	0.75	0.03	0.03	0.32	0.01	0.02	0.72	0.02	0.03	0.40
Partner Diagnosis * Actor Interactive Skills * Partner Interactive Skills	0.01	0.02	0.51	0.01	0.03	0.82	0.03	0.03	0.43	-0.01	0.02	0.75	0.01	0.03	0.86	0.02	0.02	0.43	0.02	0.03	0.55
Actor Diagnosis * Partner Diagnosis * Actor Interactive Skills	0.01	0.03	0.74	-0.04	0.05	0.46	-0.01	0.06	0.87	-0.05	0.04	0.17	0.01	0.05	0.91	0.01	0.04	0.74	-0.02	0.05	0.69
Actor Diagnosis * Partner Diagnosis * Partner Interactive Skills	-0.03	0.03	0.43	-0.02	0.06	0.75	-0.01	0.06	0.89	-0.01	0.04	0.69	0.03	0.05	0.59	0.01	0.04	0.88	-0.05	0.05	0.30
Actor Diagnosis * Partner Diagnosis * Actor Interactive Skills * Partner Interactive Skills	-0.02	0.02	0.48	0.03	0.03	0.33	0.04	0.04	0.27	0.04	0.02	0.12	0.03	0.03	0.27	0.02	0.02	0.37	0.03	0.03	0.42

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. Awkward was reverse scored. WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 25. Effect of Social Cognitive Domains on Social Evaluation (Exploratory Aim 3)

	Closeness			Interaction Quality			IPC Warmth			IPC Dominance		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	3.01**	0.21	<.001	5.66**	0.18	<.001	0.03	0.17	0.88	-0.07	0.20	0.75
Actor Diagnosis	0.17	0.13	0.22	0.07	0.13	0.60	-0.19	0.11	0.11	-0.11	0.14	0.42
Partner Diagnosis	-0.13	0.13	0.33	-0.17	0.12	0.17	-0.14	0.11	0.22	-0.14	0.14	0.31
Actor WRAT-3	-0.03	0.01	0.03	<.001	0.01	0.79	0.01	0.01	0.59	-0.02	0.01	0.20
Actor Race – African American	0.09	0.39	0.83	0.05	0.33	0.88	0.34	0.31	0.29	-0.04	0.37	0.92
Actor Race - Asian	0.64	0.46	0.17	-0.59	0.39	0.14	-0.30	0.37	0.42	-0.19	0.43	0.66
Actor Race - Other	-0.22	0.34	0.52	0.67	0.31	0.03	0.10	0.29	0.74	0.28	0.35	0.42
Actor Age	0.04	0.03	0.18	0.05	0.03	0.08	0.04	0.02	0.08	<.001	0.03	0.98
Actor Benton	0.02	0.03	0.45	-0.01	0.03	0.71	-0.02	0.02	0.36	0.01	0.03	0.66
Actor ER-40	-0.07	0.06	0.22	0.04	0.05	0.46	-0.02	0.05	0.66	-0.06	0.05	0.24
Actor TASIT	-0.06	0.02	0.01	0.02	0.02	0.43	<.001	0.02	0.83	-0.03	0.02	0.23
Partner Benton	0.04	0.03	0.20	<.001	0.03	0.95	0.05	0.03	0.06	0.01	0.03	0.82
Partner ER-40	-0.03	0.06	0.56	0.03	0.05	0.52	0.03	0.05	0.51	-0.07	0.06	0.25
Partner TASIT	0.02	0.03	0.48	0.04	0.02	0.11	0.02	0.02	0.32	-0.01	0.03	0.80
Actor * Partner Diagnosis	0.38	0.15	0.01	0.05	0.13	0.70	0.02	0.12	0.88	0.04	0.14	0.77
Actor Diagnosis * Partner Benton	0.05	0.03	0.13	-0.02	0.03	0.50	0.02	0.03	0.44	0.02	0.03	0.48
Actor Diagnosis * Partner ER-40	-0.03	0.05	0.61	0.07	0.05	0.12	0.03	0.04	0.44	-0.07	0.05	0.20
Actor Diagnosis * Partner TASIT	0.03	0.02	0.29	<.001	0.02	0.97	<.001	0.02	0.87	-0.02	0.03	0.52
Partner Diagnosis * Partner Benton	-0.04	0.03	0.16	0.01	0.03	0.82	-0.02	0.03	0.53	-0.02	0.03	0.64
Partner Diagnosis* Partner ER-40	0.07	0.05	0.22	-0.10	0.05	0.04	-0.05	0.04	0.27	-0.01	0.05	0.90
Partner Diagnosis * Partner TASIT	-0.01	0.02	0.57	-0.01	0.02	0.80	-0.01	0.02	0.69	<.001	0.03	0.88
Actor Diagnosis * Partner Diagnosis * Actor Benton	-0.03	0.03	0.27	<.001	0.03	0.89	-0.01	0.02	0.73	-0.01	0.03	0.67
Actor Diagnosis * Partner Diagnosis * Actor ER-40	0.06	0.06	0.32	-0.08	0.05	0.12	-0.02	0.05	0.64	-0.02	0.06	0.73
Actor Diagnosis * Partner Diagnosis * Actor TASIT	<.001	0.02	0.99	-0.02	0.02	0.25	<.001	0.02	0.82	-0.02	0.02	0.29
Actor Diagnosis * Partner Diagnosis * Partner Benton	-0.05	0.03	0.13	-0.01	0.03	0.62	-0.04	0.03	0.12	-0.01	0.03	0.76
Actor Diagnosis * Partner Diagnosis * Partner ER-40	0.09	0.06	0.16	-0.03	0.06	0.61	-0.02	0.05	0.76	0.06	0.06	0.33
Actor Diagnosis * Partner Diagnosis * Partner TASIT	-0.02	0.03	0.54	-0.03	0.02	0.24	-0.01	0.02	0.64	<.001	0.03	0.88

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. IPC = Interpersonal Circumplex. WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 26. Effect of Social Cognitive Domains on First Impressions (Exploratory Aim 3)

	Behavioral Intent			Awkwardness			Attractiveness			Trust			Aggressive/Dominant			Likeable			Smart		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	3.07**	0.10	<.001	2.94**	0.13	<.001	2.58**	0.16	<.001	3.39**	0.09	<.001	1.74**	0.11	<.001	3.37**	0.08	<.001	3.40**	0.14	<.001
Actor Diagnosis	-0.01	0.06	0.82	0.13	0.10	0.20	0.04	0.10	0.71	-0.04	0.06	0.46	0.06	0.09	0.48	-0.08	0.07	0.26	-0.06	0.09	0.47
Partner Diagnosis	-0.06	0.06	0.29	-0.33**	0.09	<.001	-0.27**	0.10	0.01	-0.10	0.06	0.07	0.06	0.09	0.47	-0.03	0.07	0.62	-0.03	0.09	0.71
Actor WRAT-3	<.001	0.01	0.91	-0.01	0.01	0.47	0.01	0.01	0.42	0.01	<.001	0.32	-0.01	0.01	0.12	<.001	0.01	0.43	-0.01	0.01	0.42
Actor Race – African American	0.16	0.18	0.39	0.04	0.24	0.86	0.14	0.30	0.64	0.06	0.17	0.72	-0.03	0.20	0.88	0.04	0.14	0.79	-0.19	0.25	0.46
Actor Race - Asian	-0.35	0.21	0.11	-0.29	0.28	0.31	-0.01	0.35	0.99	-0.02	0.20	0.94	0.24	0.23	0.30**	-0.50	0.16	<.001	0.04	0.29	0.90
Actor Race - Other	0.26	0.16	0.11	0.24	0.23	0.30	-0.03	0.27	0.92	0.16	0.15	0.29	-0.05	0.20	0.81**	0.47	0.14	<.001	0.41	0.23	0.07
Actor Age	0.02	0.01	0.16	0.02	0.02	0.33	0.04	0.02	0.08	<.001	0.01	0.99	0.02	0.02	0.23	0.03	0.01	0.06	0.04	0.02	0.04
Actor Benton	-0.01	0.01	0.31	-0.02	0.02	0.38	0.01	0.02	0.79	-0.03	0.01	0.02	<.001	0.02	0.96	-0.02	0.01	0.11	-0.04	0.02	0.03
Actor ER-40	<.001	0.03	0.85	-0.02	0.04	0.61	-0.01	0.04	0.87	-0.02	0.02	0.52	-0.02	0.03	0.52	0.03	0.02	0.27	0.04	0.04	0.27
Actor TASIT	-0.01	0.01	0.39	-0.01	0.02	0.69	0.02	0.02	0.18	0.01	0.01	0.26	0.01	0.01	0.29	0.01	0.01	0.63	<.001	0.01	0.85
Partner Benton	<.001	0.01	0.79	0.01	0.02	0.82	-0.02	0.02	0.36	-0.01	0.01	0.50	0.02	0.02	0.38	-0.02	0.01	0.27	-0.01	0.02	0.63
Partner ER-40	0.01	0.03	0.79	-0.07	0.04	0.08	-0.01	0.04	0.76	0.04	0.03	0.11	-0.05	0.03	0.14	0.06	0.02	0.02	0.03	0.04	0.47
Partner TASIT	<.001	0.01	0.91	0.01	0.02	0.60	-0.01	0.02	0.55	-0.01	0.01	0.39	<.001	0.02	0.92	0.02	0.01	0.19	0.02	0.02	0.21
Actor * Partner Diagnosis	0.16	0.07	0.03	-0.02	0.09	0.86	<.001	0.11	1.00	0.01	0.07	0.91	0.08	0.08	0.32	-0.03	0.06	0.66	0.15	0.10	0.13
Actor Diagnosis * Partner Benton	<.001	0.01	0.87	-0.03	0.02	0.25	-0.02	0.02	0.38	-0.02	0.01	0.14	-0.01	0.02	0.60	-0.03	0.01	0.07	-0.01	0.02	0.55
Actor Diagnosis * Partner ER-40	0.04	0.02	0.14	0.02	0.03	0.55	-0.01	0.04	0.87	0.06**	0.02	0.01	-0.01	0.03	0.69**	0.07	0.02	<.001	0.07	0.03	0.04
Actor Diagnosis * Partner TASIT	<.001	0.01	0.82	-0.03	0.02	0.14	-0.01	0.02	0.59	0.01	0.01	0.42	-0.02	0.02	0.33	0.03	0.01	0.02	0.01	0.02	0.42
Partner Diagnosis * Partner Benton	<.001	0.01	0.83	<.001	0.02	0.91	0.02	0.02	0.38	0.02	0.01	0.18	0.02	0.02	0.23**	0.05	0.01	<.001	0.01	0.02	0.49
Partner Diagnosis* Partner ER-40	-0.03	0.02	0.26	-0.05	0.04	0.14	-0.03	0.04	0.43	-0.09**	0.02	<.001	<.001	0.03	0.96	-0.04	0.02	0.06	-0.05	0.03	0.14

Partner Diagnosis * Partner TASIT	0.01	0.01	0.50	0.01	0.02	0.42	0.03	0.02	0.19	<.001	0.01	0.70	-0.02	0.02	0.16	-0.02	0.01	0.09	0.02	0.02	0.33
Actor Diagnosis * Partner Diagnosis * Actor Benton	0.01	0.01	0.28	<.001	0.02	0.99	-0.03	0.02	0.22	0.01	0.01	0.66	-0.02	0.02	0.33	0.03	0.01	0.05	0.02	0.02	0.36
Actor Diagnosis * Partner Diagnosis * Actor ER-40	0.01	0.03	0.75	0.03	0.04	0.42	0.02	0.05	0.59	-0.01	0.03	0.66	0.05	0.03	0.12	-0.05	0.02	0.04	-0.05	0.04	0.22
Actor Diagnosis * Partner Diagnosis * Actor TASIT	<.001	0.01	0.70	0.01	0.01	0.67	-0.02	0.02	0.19	<.001	0.01	0.86	<.001	0.01	0.94	-0.01	0.01	0.25	<.001	0.01	0.85
Actor Diagnosis * Partner Diagnosis * Partner Benton	-0.01	0.01	0.60	0.04	0.02	0.09	<.001	0.02	0.89	0.01	0.01	0.34	-0.01	0.02	0.75	<.001	0.01	0.95	<.001	0.02	0.86
Actor Diagnosis * Partner Diagnosis * Partner ER-40	<.001	0.03	0.92	0.03	0.04	0.47	0.03	0.05	0.56	-0.04	0.03	0.21	0.05	0.04	0.21	-0.04	0.03	0.17	<.001	0.04	1.00
Actor Diagnosis * Partner Diagnosis * Partner TASIT	<.001	0.01	0.91	0.02	0.02	0.37	0.01	0.02	0.47	-0.02	0.01	0.07	0.01	0.02	0.63	-0.01	0.01	0.42	-0.03	0.02	0.16

Note. Diagnosis is effects coded with TD as the reference group. Race is effects coded with white as the reference group. Awkward was reverse scored. WRAT-3 = Wide Range Achievement Test. **p<.01.

Table 27. Effect of covariates in model predicting evaluations from metaperceptions (Specific Aim 3)

		WRAT-3	Race AA	Race Asian	Race Other	Age
Interaction Quality	*b*	0.01	0.33	-0.27	-0.22	<0.001
	SE	0.01	0.18	0.22	0.18	0.02
	p	0.27	0.07	0.21	0.22	0.90
Awkward_R	*b*	-0.01	0.18	0.03	-0.13	-0.01
	SE	0.01	0.24	0.30	0.22	0.02
	P	0.50	0.47	0.92	0.56	0.53
Attractiveness	*b*	<0.001	0.15	-0.27	0.02	0.02
	SE	0.01	0.21	0.26	0.21	0.02
	P	0.92	0.49	0.30	0.93	0.40
Trustworthiness	*b*	<0.001	-0.17	0.09	0.01	0.01
	SE	<0.001	0.12	0.14	0.11	0.01
	P	0.74	0.16	0.52	0.96	0.45
Aggressive/ Dominant	*b*	0.01	-0.24	0.33	-0.17	0.02
	SE	0.01	0.22	0.27	0.22	0.02
	p	0.31	0.28	0.22	0.45	0.38
Likeable	*b*	<0.001	0.09	0.24	-0.17	0.02
	SE	0.01	0.18	0.22	0.16	0.01
	p	0.48	0.64	0.27	0.28	0.12
Smart	*b*	<0.001	0.03	0.20	-0.03	0.04
	SE	0.01	0.18	0.22	0.18	0.02
	p	0.95	0.85	0.36	0.85	0.03
Behavioral Intent	*b*	<0.001	0.23	-0.15	-0.01	0.01
	SE	<0.001	0.15	0.18	0.13	0.01
	p	0.51	0.13	0.40	0.97	0.62

Note. Covariates were entered into models with the effects displayed below in Table 18. Race was effects coded with white as the reference group. Awkward was reverse scored. WRAT-3 = Wide Range Achievement Test 3; AA = African American. Awkward was reverse scored.

Table 28. Metaperception bias and accuracy effects (Specific Aim 3)

		Intercept	Actor Diagnosis	Partner Diagnosis	BDI	Partner Truth Value	Actor Truth Value	Actor Diagnosis * Partner Diagnosis	Actor Diagnosis * Partner Truth Value	Partner Diagnosis * Partner Truth Value	Actor Diagnosis * Partner Diagnosis * Partner Truth Value	X^2	R^2
Interaction	*b*	-0.49**	0.12	0.05	-0.01	0.10	0.84**	-0.08	0.08	-0.02	-0.14	130.80	.70
Quality	*SE*	0.10	0.06	0.06	0.01	0.07	0.07	0.06	0.07	0.07	0.08		
	p	<0.001	0.06	0.46	0.21	0.19	<0.001	0.18	0.27	0.82	0.07		
Awkward_R	*b*	0.03	0.03	0.10	-0.03**	0.25	0.20	-0.07	0.04	-0.08	0.04	38.94	.30
	SE	0.13	0.09	0.09	0.01	0.12	0.11	0.09	0.13	0.12	0.12		
	P	0.80	0.75	0.25	<0.001	0.04	0.06	0.44	0.74	0.50	0.74		
Attractiveness	*b*	-0.30	0.04	0.08	-0.03**	0.27	0.40**	-0.01	0.08	-0.05	-0.08	45.57	.32
	SE	0.12	0.08	0.08	0.01	0.12	0.11	0.07	0.11	0.11	0.11		
	p	0.02	0.60	0.30	<0.001	0.02	<0.001	0.92	0.51	0.69	0.48		
Trustworthiness	*b*	-0.07	0.07	0.04	<0.001	0.11	0.58**	0.02	-0.01	0.02	-0.05	60.57	.41
	SE	0.07	0.04	0.04	<0.001	0.09	0.08	0.04	0.09	0.09	0.09		
	p	0.30	0.08	0.32	0.44	0.22	<0.001	0.67	0.90	0.86	0.60		
Aggressive/	*b*	0.36**	-0.16	0.10	0.01	0.26	0.30	-0.08	-0.04	0.09	-0.02	21.21	.13
Dominant	*SE*	0.13	0.09	0.09	0.01	0.15	0.14	0.07	0.16	0.16	0.16		
	p	0.01	0.10	0.27	0.24	0.10	0.04	0.28	0.80	0.56	0.89		
Likeable	*b*	-0.08	0.10	-0.07	<0.001	-0.04	0.19	0.01	0.17	-0.16	0.11	29.27	.20
	SE	0.10	0.05	0.05	0.01	0.11	0.11	0.06	0.10	0.10	0.11		
	P	0.42	0.07	0.16	0.59	0.69	0.09	0.83	0.09	0.11	0.35		
Smart	*b*	-0.19	0.14	-0.08	-0.01	-0.10	-0.10	0.06	0.28**	-0.12	0.00	29.77	.19
	SE	0.10	0.07	0.07	0.01	0.10	0.10	0.06	0.10	0.10	0.10		
	P	0.07	0.06	0.27	0.46	0.33	0.34	0.32	0.01	0.23	0.99		
Behavioral	*b*	<0.001	0.00	-0.04	<0.001	0.14	0.23	-0.04	0.33**	-0.08	-0.05	32.63	.24
Intent	*SE*	0.08	0.05	0.04	<0.001	0.12	0.11	0.05	0.11	0.11	0.12		
	p	0.98	0.93	0.39	0.60	0.23	0.04	0.48	<0.001	0.44	0.69		

Note. The truth value in each model was the truth value for the outcome of interest. These fixed effects were regressed on the metaperception value for each outcome. Covariates included in the model are displayed in Table 17. The R^2 value is pseudo R^2, the proportion of variance accounted for in the model. This is evaluated for significant using the Chi-Square values comparison between full and empty models. Awkward was reverse scored. BDI = Beck Depression Inventory. **p<.01

APPENDIX B

FIGURES

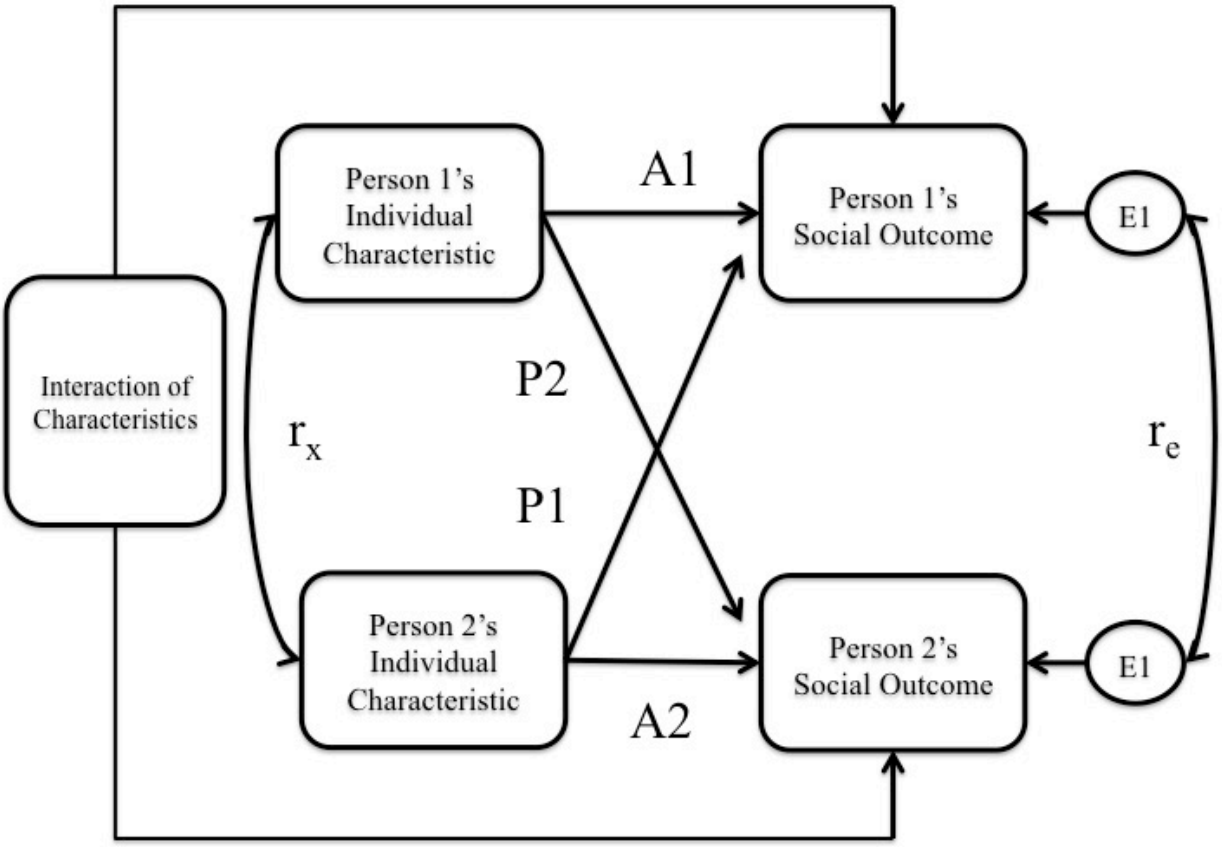

Figure 1. Actor Partner Interdependence Model of Social Abilities Predicting Social Outcomes. A-paths represent the actor effects (e.g., effect of individual's diagnosis on the individual's outcomes) and P-paths represent the partner effects (e.g., effect of the partner's diagnosis on the individual's outcomes). The interaction term represents the effect of the individual's characteristics on the individual's outcome depending on the partner's characteristics.

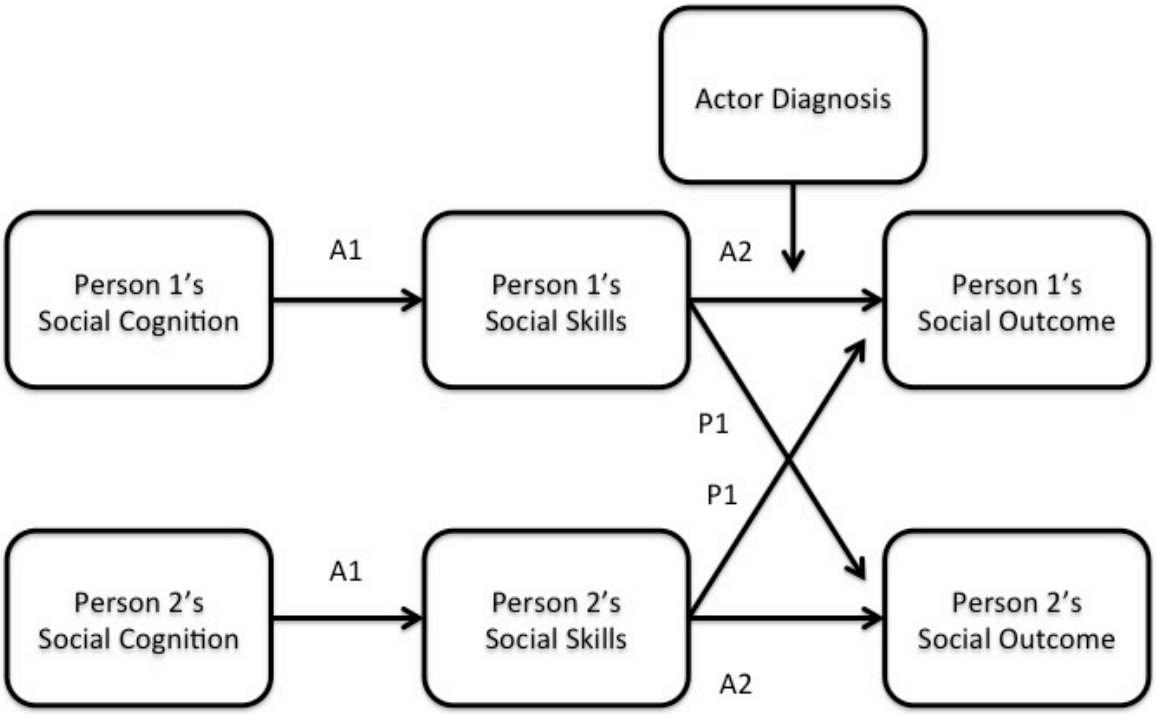

Figure 2. Actor Partner Interdependence Moderated Mediation Model. The A1-A2 paths evaluate the effect of social cognition on social interaction outcomes through the individual's social skills. The A1-P1 paths evaluate the effect of the partner's social cognition on the individuals' social interaction outcomes through the partner's social skills. These effects were tested for moderation of actor diagnosis.

REFERENCES

Ackerman, R. A., Ledermann, T., & Kenny, D. A. (In Prep). Power analysis for the Actor-Partner Interdependence Model.

Albright, L., Kenny, D. A., & Malloy, T. E. (1988). Consensus in personality judgments at zero acquaintance. *Journal of personality and social psychology*, *55*(3), 387-395.

Ambady, N., Bernieri, F. J., & Richeson, J. A. (2000). Toward a histology of social behavior: Judgmental accuracy from thin slices of the behavioral stream. In M. P. Zanna (Ed.), *Advances in experimental social psychology, Vol. 32* (pp. 201-271). San Diego, CA, US: Academic Press.

American Psychiatric Association (2013). Diagnostic and statistical manual of mental disorders, Fifth Edition. Arlington, VA: American Psychiatric Association. doi: 10.1176/appi.books.9780890425596.910646

Aron, A., Melinat, E., Aron, E. N., Vallone, R. D., & Bator, R. J. (1997). The experimental generation of interpersonal closeness: A procedure and some preliminary findings. *Personality and Social Psychology Bulletin*, *23*(4), 363-377.

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of personality and social psychology*, *63*(4), 596-612.

Baranek, G. T. (1999). Autism during infancy: A retrospective video analysis of sensory-motor and social behaviors at 9–12 months of age. *Journal of autism and developmental disorders*, *29*(3), 213-224.

Barneveld, P. S., Swaab, H., Fagel, S., van Engeland, H., & de Sonneville, L. M. (2014). Quality of life: A case-controlled long-term follow-up study, comparing young high-functioning adults with autism spectrum disorders with adults with other psychiatric disorders diagnosed in childhood. *Comprehensive Psychiatry*, *55*(2), 302-310.

Baron‐Cohen, S. (1991). The theory of mind deficit in autism: How specific is it?. *British Journal of Developmental Psychology*, *9*(2), 301-314.

Bauminger, N., & Kasari, C. (2000). Loneliness and friendship in high‐functioning children with autism. *Child development*, *71*(2), 447-456.

Bauminger, N., & Shulman, C. (2003). The development and maintenance of friendship in high-functioning children with autism: Maternal perceptions. *Autism*, *7*(1), 81-97.

Bauminger, N., Shulman, C., & Agam, G. (2003). Peer interaction and loneliness in high-functioning children with autism. *Journal of autism and developmental disorders*, *33*(5), 489-507.

Bauminger, N., Solomon, M., Aviezer, A., Heung, K., Gazit, L., Brown, J., & Rogers, S. J. (2008). Children with autism and their friends: A multidimensional study of friendship in high-functioning autism spectrum disorder. *Journal of abnormal child psychology*, *36*(2), 135-150.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). Beck depression inventory-II. *San Antonio*, *78*(2), 490-498.

Benton, A. L., Hamsher, K., Varney, N. R., & Spreen, O. (1983). Benton test of facial recognition.

Berry, D. S., & Hansen, J. S. (1996). Positive affect, negative affect, and social interaction. *Journal of Personality and Social Psychology*, *71*(4), 796-809.

Berry, D. S., Willingham, J. K., & Thayer, C. A. (2000). Affect and personality as predictors of conflict and closeness in young adults' friendships. *Journal of Research in Personality*, *34*(1), 84-107.

Berscheid, E., Snyder, M., & Omoto, A. M. (1989). The Relationship Closeness Inventory: Assessing the closeness of interpersonal relationships. *Journal of personality and Social Psychology*, *57*(5), 792-807.

Billstedt, E., Gillberg, C., & Gillberg, C. (2005). Autism after adolescence: population-based 13- to 22-year follow-up study of 120 individuals with autism diagnosed in childhood. *Journal of autism and developmental disorders*, *35*(3), 351-360.

Bishop-Fitzpatrick, L., Minshew, N. J., & Eack, S. M. (2014). A systematic review of psychosocial interventions for adults with autism spectrum disorders. In *Adolescents and adults with autism spectrum disorders* (pp. 315-327). Springer New York.

Bottema-Beutel, K. (2017). Glimpses into the blind spot: Social interaction and autism. *Journal of communication disorders*, *68*, 24-34.

Bottema-Beutel, K., Kim, S. Y., & Crowley, S. (2018b). A systematic review and meta-regression analysis of social functioning correlates in autism and typical development. *Autism Research*.

Bottema-Beutel, K., Park, H., & Kim, S. Y. (2018a). Commentary on social skills training curricula for individuals with ASD: social interaction, authenticity, and stigma. *Journal of autism and developmental disorders*, *48*(3), 953-964.

Brown, J. D. (1986). Evaluations of self and others: Self-enhancement biases in social judgments. *Social cognition*, *4*(4), 353-376.

Brown, J. D., & Dutton, K. A. (1995). Truth and consequences: The costs and benefits of accurate self-knowledge. *Personality and Social Psychology Bulletin*, *21*(12), 1288-1296.

Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. *Journal of personality*, *54*(1), 106-148.

Brothers, L. (1990). The neural basis of primate social communication. *Motivation and emotion*, *14*(2), 81-91.

Cameron, J. J., & Vorauer, J. D. (2008). Feeling transparent: On metaperceptions and miscommunications. *Social and Personality Psychology Compass*, *2*(2), 1093-1108.

Carlson, E. N., Vazire, S., & Furr, R. M. (2011). Meta-insight: Do people really know how others see them?. *Journal of personality and social psychology*, *101*(4), 831-846.

Carney, D. R., Colvin, C. R., & Hall, J. A. (2007). A thin slice perspective on the accuracy of first impressions. *Journal of Research in Personality*, *41*(5), 1054-1072.

Carrington, S., Templeton, E., & Papinczak, T. (2003). Adolescents with Asperger syndrome and perceptions of friendship. *Focus on Autism and Other Developmental Disabilities*, *18*(4), 211-218.

Chevallier, C., Kohls, G., Troiani, V., Brodkin, E. S., & Schultz, R. T. (2012a). The social motivation theory of autism. *Trends in cognitive sciences*, *16*(4), 231-239.

Chevallier, C., Molesworth, C., & Happe, F. (2012b). Diminished social motivation negatively impacts reputation management: autism spectrum disorders as a case in point. *PloS one*, *7*(1), e31107.

Christensen, P. N., Stein, M. B., & Means-Christensen, A. (2003). Social anxiety and interpersonal perception: A social relations model analysis. *Behaviour Research and Therapy*, *41*(11), 1355-1371.

Combs, D. R., Adams, S. D., Penn, D. L., Roberts, D., Tiegreen, J., & Stem, P. (2007). Social Cognition and Interaction Training (SCIT) for inpatients with schizophrenia spectrum disorders: preliminary findings. *Schizophrenia research*, *91*(1), 112-116.

Couture, S. M., Granholm, E. L., & Fish, S. C. (2011). A path model investigation of neurocognition, theory of mind, social competence, negative symptoms and real-world functioning in schizophrenia. *Schizophrenia research*, *125*(2), 152-160.

Couture, S. M., Penn, D. L., & Roberts, D. L. (2006). The functional significance of social cognition in schizophrenia: a review. *Schizophrenia bulletin*, *32*(suppl_1), S44-S63.

Darley, J. M., & Fazio, R. H. (1980). Expectancy confirmation processes arising in the social interaction sequence. *American Psychologist*, *35*(10), 867-881.

Dawson, G., Webb, S. J., Wijsman, E., Schellenberg, G., Estes, A., Munson, J., & Faja, S. (2005). Neurocognitive and electrophysiological evidence of altered face processing in parents of children with autism: implications for a model of abnormal development of social brain circuitry in autism. *Development and psychopathology*, *17*(3), 679-697.

De Jaegher, H. (2013). Embodiment and sense-making in autism. *Frontiers in integrative neuroscience*, *7, 15*.

Dean, M., Kasari, C., Shih, W., Frankel, F., Whitney, R., Landa, R., ... & Harwood, R. (2014). The peer relationships of girls with ASD at school: comparison to boys and girls with and without ASD. *Journal of Child Psychology and Psychiatry*, *55*(11), 1218-1225.

Eagly, A. H., Ashmore, R. D., Makhijani, M. G., & Longo, L. C. (1991). What is beautiful is good, but…: A meta-analytic review of research on the physical attractiveness stereotype. *Psychological bulletin*, *110*(1), 109-128.

Eastwick, P. W., & Finkel, E. J. (2008). Sex differences in mate preferences revisited: do people know what they initially desire in a romantic partner?. *Journal of personality and social psychology*, *94*(2), 245-264.

Eastwick, P. W., Finkel, E. J., & Eagly, A. H. (2011). When and why do ideal partner preferences affect the process of initiating and maintaining romantic relationships?. *Journal of personality and social psychology*, *101*(5), 1012-1032.

Eaves, L. C., & Ho, H. H. (2008). Young adult outcome of autism spectrum disorders. *Journal of autism and developmental disorders*, *38*(4), 739-747.

Edey, R., Cook, J., Brewer, R., Johnson, M. H., Bird, G., & Press, C. (2016). Interaction takes two: Typical adults exhibit mind-blindness towards those with autism spectrum disorder. *Journal of abnormal psychology*, *125*(7), 879-885.

Faso, D. J. (2016). *How Social Others Form First Impressions of Adults with Autism Spectrum Disorders* (Doctoral dissertation).

Faso, D. J., Corretti, C. A., Ackerman, R. A., & Sasson, N. J. (2016). The broad autism phenotype predicts relationship outcomes in newly formed college roommates. *Autism*, *20*(4), 412-424.

Faso, D. J., Sasson, N. J., & Pinkham, A. E. (2015). Evaluating posed and evoked facial expressions of emotion from adults with autism spectrum disorder. *Journal of autism and developmental disorders*, *45*(1), 75-89.

Fink, B., Neave, N., Manning, J. T., & Grammer, K. (2005). Facial symmetry and the 'big-five'personality factors. *Personality and individual differences*, *39*(3), 523-529.

Finkel, E. J., & Eastwick, P. W. (2008). Speed-dating. *Current Directions in Psychological Science*, *17*(3), 193-197.

Fombonne, E. (2009). Epidemiology of pervasive developmental disorders. *Pediatric research*, *65*(6), 591-580.

Forde, I., Holloway, J., Healy, O., & Brosnan, J. (2011). A dyadic analysis of the effects of setting and communication partner on elicited and spontaneous communication of children with autism spectrum disorder and typically developing children. *Research in Autism Spectrum Disorders*, *5*(4), 1471-1478.

Funder, D. C., & Dobroth, K. M. (1987). Differences between traits: properties associated with interjudge agreement. *Journal of personality and social psychology*, *52*(2), 409-418.

Gantman, A., Kapp, S. K., Orenski, K., & Laugeson, E. A. (2012). Social skills training for young adults with high-functioning autism spectrum disorders: A randomized controlled pilot study. *Journal of autism and developmental disorders*, *42*(6), 1094-1103.

Garman, H. D., Spaulding, C. J., Webb, S. J., Mikami, A. Y., Morris, J. P., & Lerner, M. D. (2016). Wanting it too much: an inverse relation between social motivation and facial emotion recognition in autism spectrum disorder. *Child Psychiatry & Human Development*, *47*(6), 890-902.

Gates, J. A., Kang, E., & Lerner, M. D. (2017). Efficacy of group social skills interventions for youth with autism spectrum disorder: A systematic review and meta-analysis. *Clinical Psychology Review, 52,* 164-181.

Gernsbacher, M. A., Stevenson, J. L., & Dern, S. (2017). Specificity, contexts, and reference groups matter when assessing autistic traits. *PloS one*, *12*(2), e0171931.

Gillespie-Lynch, K., Brooks, P. J., Someki, F., Obeid, R., Shane-Simpson, C., Kapp, S. K., ... & Smith, D. S. (2015). Changing college students' conceptions of autism: An online training to increase knowledge and decrease stigma. *Journal of autism and developmental disorders*, *45*(8), 2553-2566.

Gilmore, D. C., Beehr, T. A., & Love, K. G. (1986). Effects of applicant sex, applicant physical attractiveness, type of rater and type of job on interview decisions. *Journal of Occupational and Organizational Psychology*, *59*(2), 103-109.

Golan, O., Baron-Cohen, S., Hill, J. J., & Rutherford, M. D. (2007). The 'Reading the Mind in the Voice'test-revised: a study of complex emotion recognition in adults with and without autism spectrum conditions. *Journal of autism and developmental disorders*, *37*(6), 1096-1106.

Hanley, M., Riby, D. M., McCormack, T., Carty, C., Coyle, L., Crozier, N., ... & McPhillips, M. (2014). Attention during social interaction in children with autism: Comparison to specific language impairment, typical development, and links to social cognition. *Research in Autism Spectrum Disorders*, *8*(7), 908-924.

Happé, F. G. (1994). An advanced test of theory of mind: Understanding of story characters' thoughts and feelings by able autistic, mentally handicapped, and normal children and adults. *Journal of autism and Developmental disorders*, *24*(2), 129-154.

Harris, M. J., & Garris, C. P. (2008). You never get a second chance to make a first impression: Behavioral consequences of first impressions. In N. Ambady, J. J. Skowronski, N. Ambady, J. J. Skowronski (Eds.), *First impressions* (pp. 147-168). New York, NY, US: Guilford Publications.

Hauck, M., Fein, D., Waterhouse, L., & Feinstein, C. (1995). Social initiations by autistic children to adults and other children. *Journal of autism and developmental disorders*, *25*(6), 579-595.

Heerey, E. A., & Kring, A. M. (2007). Interpersonal consequences of social anxiety. *Journal of Abnormal Psychology*, *116*(1), 125-134.

Hehman, E., Sutherland, C. A., Flake, J. K., & Slepian, M. L. (2017). The unique contributions of perceiver and target characteristics in person perception. *Journal of Personality and Social Psychology*, *113*(4), 513-529.

Herbrecht, E., Poustka, F., Birnkammer, S., Duketis, E., Schlitt, S., Schmötzer, G., & Bölte, S. (2009). Pilot evaluation of the Frankfurt Social Skills Training for children and adolescents with autism spectrum disorder. *European child & adolescent psychiatry*, *18*(6), 327-335.

Hillier, A., Fish, T., Cloppert, P., & Beversdorf, D. Q. (2007). Outcomes of a social and vocational skills support group for adolescents and young adults on the autism spectrum. *Focus on Autism and Other Developmental Disabilities*, *22*(2), 107-115.

Hintzen, A., Delespaul, P., van Os, J., & Myin-Germeys, I. (2010). Social needs in daily life in adults with pervasive developmental disorders. *Psychiatry research*, *179*(1), 75-80.

Hoffman J (2016) Along the autism spectrum, a path through campus life. *The New York Times*, 19 November, retrieved from https://www.nytimes.com/2016/11/20/health/autism-spectrum-college.html.

Horowitz, L. M., Wilson, K. R., Turan, B., Zolotsev, P., Constantino, M. J., & Henderson, L. (2006). How interpersonal motives clarify the meaning of interpersonal behavior: A revised circumplex model. *Personality and Social Psychology Review*, *10*(1), 67-86.

Howlin, P., & Yates, P. (1999). The potential effectiveness of social skills groups for adults with autism. *Autism*, *3*(3), 299-307.

Howlin, P., Goode, S., Hutton, J., & Rutter, M. (2004). Adult outcome for children with autism. *Journal of Child Psychology and Psychiatry*, *45*(2), 212-229.

Howlin, P., Moss, P., Savage, S., & Rutter, M. (2013). Social outcomes in mid-to later adulthood among individuals diagnosed with autism and average nonverbal IQ as children. *Journal of the American Academy of Child & Adolescent Psychiatry*, *52*(6), 572-581.

Hubbard, D. J., Faso, D. J., Assmann, P. F., & Sasson, N. J. (2017). Production and perception of emotional prosody by adults with autism spectrum disorder. *Autism Research, 10*(12), 1991-2001.

Hull, L., Petrides, K. V., Allison, C., Smith, P., Baron-Cohen, S., Lai, M. C., & Mandy, W. (2017). "Putting on My Best Normal": Social Camouflaging in Adults with Autism Spectrum Conditions. *Journal of Autism and Developmental Disorders*, 47(8), 2519-2534.

Human, L. J., Sandstrom, G. M., Biesanz, J. C., & Dunn, E. W. (2013). Accurate first impressions leave a lasting impression: The long-term effects of distinctive self-other agreement on relationship development. *Social Psychological and Personality Science*, *4*(4), 395-402.

Jennes-Coussens, M., Magill-Evans, J., & Koning, C. (2006). The quality of life of young men with Asperger syndrome: A brief report. *Autism*, *10*(4), 403-414.

John, O. P., & Robins, R. W. (1993). Determinants of interjudge agreement on personality traits: The Big Five domains, observability, evaluativeness, and the unique perspective of the self. *Journal of personality*, *61*(4), 521-551.

Joseph, R. M., & Tanaka, J. (2003). Holistic and part‐based face recognition in children with autism. *Journal of Child Psychology and Psychiatry*, *44*(4), 529-542.

Kaat, A. J., & Lecavalier, L. (2014). Group-based social skills treatment: a methodological review. *Research in Autism Spectrum Disorders*, *8*(1), 15-24.

Kandalaft, M. R., Didehbani, N., Krawczyk, D. C., Allen, T. T., & Chapman, S. B. (2013). Virtual reality social cognition training for young adults with high-functioning autism. *Journal of autism and developmental disorders*, *43*(1), 34-44.

Kenny, D. (1988). The analysis of data from two person relationships. In S. Duck, D. Hale, S. Jobfoll, W. Ickles, & B. M. Montgomery (Eds.) Handbook of Personal Relationships: Theory, Research, and Interventions (pp. 57 – 77). Oxford, England: John Wiley.

Kenny, D. A., & DePaulo, B. M. (1993). Do people know how others view them? An empirical and theoretical account. *Psychological bulletin*, *114*(1), 145-161.

Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). The analysis of dyadic data. *New York: Guilford*.

Klin, A., Jones, W., Schultz, R., Volkmar, F., & Cohen, D. (2002). Visual fixation patterns during viewing of naturalistic social situations as predictors of social competence in individuals with autism. *Archives of general psychiatry*, *59*(9), 809-816.

Klin, A., Sparrow, S. S., De Bildt, A., Cicchetti, D. V., Cohen, D. J., & Volkmar, F. R. (1999). A normed study of face recognition in autism and related disorders. *Journal of autism and developmental disorders*, *29*(6), 499-508.

Kohler, C. G., Bilker, W., Hagendoorn, M., Gur, R. E., & Gur, R. C. (2000). Emotion recognition deficit in schizophrenia: association with symptomatology and cognition. *Biological psychiatry*, *48*(2), 127-136.

Koning, C., & Magill-Evans, J. (2001). Social and language skills in adolescent boys with Asperger syndrome. *Autism*, *5*(1), 23-36.

Kraemer, H. C., & Jacklin, C. N. (1979). Statistical analysis of dyadic social behavior. *Psychological Bulletin*, *86*(2), 217-224.

Kuo, M. H., Orsmond, G. I., Cohn, E. S., & Coster, W. J. (2013). Friendship characteristics and activity patterns of adolescents with an autism spectrum disorder. *Autism*, *17*(4), 481-500.

Lasgaard, M., Nielsen, A., Eriksen, M. E., & Goossens, L. (2010). Loneliness and social support in adolescent boys with autism spectrum disorders. *Journal of autism and developmental disorders*, *40*(2), 218-226.

Laugeson, E. A., Frankel, F., Gantman, A., Dillon, A. R., & Mogil, C. (2012). Evidence-based social skills training for adolescents with autism spectrum disorders: The UCLA PEERS program. *Journal of autism and developmental disorders*, *42*(6), 1025-1036.

Laugeson, E. A., Frankel, F., Mogil, C., & Dillon, A. R. (2009). Parent-assisted social skills training to improve friendships in teens with autism spectrum disorders. *Journal of autism and developmental disorders*, *39*(4), 596-606.

Lerner, M. D., & Mikami, A. Y. (2012). A preliminary randomized controlled trial of two social skills interventions for youth with high-functioning autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, *27*(3), 147-157.

Levy, A., & Perry, A. (2011). Outcomes in adolescents and adults with autism: A review of the literature. *Research in Autism Spectrum Disorders*, *5*(4), 1271-1282.

Liberman, R. P., Mueser, K. T., Wallace, C. J., Jacobs, H. E., Eckman, T., & Massel, H. K. (1986). Training skills in the psychiatrically disabled: learning coping and competence. *Schizophrenia bulletin*, *12*(4), 631-647.

Lizdek, I., Sadler, P., Woody, E., Ethier, N., & Malet, G. (2012). Capturing the stream of behavior: A computer-joystick method for coding interpersonal behavior continuously over time. *Social Science Computer Review*, *30*(4), 513-521.

Locke, K. D., & Mitchell, G. E. (2016). Self-perceptions, parent-perceptions, and meta-perceptions of the interpersonal efficacy of adolescents with autism spectrum disorder. *Research in Autism Spectrum Disorders*, *31*, 19-29.

Lord, C., Rutter, M., DiLavore, P. C., Risi, S., Gotham, K., & Bishop, S. (2012). *Autism diagnostic observation schedule: ADOS-2*. Los Angeles, CA: Western Psychological Services.

Macintosh, K., & Dissanayake, C. (2006). Social skills and problem behaviours in school aged children with high-functioning autism and Asperger's disorder. *Journal of autism and developmental disorders*, *36*(8), 1065-1076.

Magiati, I., Tay, X. W., & Howlin, P. (2014). Cognitive, language, social and behavioural outcomes in adults with autism spectrum disorders: a systematic review of longitudinal follow-up studies in adulthood. *Clinical Psychology Review*, *34*(1), 73-86.

Markey, P. M., & Markey, C. N. (2007). Romantic ideals, romantic obtainment, and relationship experiences: The complementarity of interpersonal traits among romantic partners. *Journal of social and Personal Relationships*, *24*(4), 517-533.

Markey, P. M., & Markey, C. N. (2009). A brief assessment of the interpersonal circumplex: The IPIP-IPC. *Assessment*, *16*(4), 352-361.

Markey, P., Lowmaster, S., & Eichler, W. (2010). A real‐time assessment of interpersonal complementarity. *Personal Relationships*, *17*(1), 13-25.

Mathersul, D., McDonald, S., & Rushby, J. A. (2013). Understanding advanced theory of mind and empathy in high-functioning adults with autism spectrum disorder. *Journal of Clinical and Experimental Neuropsychology*, *35*(6), 655-668.

Matson, J. L., & Wilkins, J. (2007). A critical review of assessment targets and methods for social skills excesses and deficits for children with autism spectrum disorders. *Research in Autism Spectrum Disorders*, *1*(1), 28-37.

Mazurek, M. O. (2014). Loneliness, friendship, and well-being in adults with autism spectrum disorders. *Autism*, *18*(3), 223-232.

McCrae, R. R., & Costa, P. T. (1989). The structure of interpersonal traits: Wiggins's circumplex and the five-factor model. *Journal of personality and social psychology*, *56*(4), 586-595.

McDonald, S., Bornhofen, C., Shum, D., Long, E., Saunders, C., & Neulinger, K. (2006). Reliability and validity of The Awareness of Social Inference Test (TASIT): a clinical test of social perception. *Disability and rehabilitation*, *28*(24), 1529-1542.

McMahon, C. M., & Solomon, M. (2015). Brief report: Parent–adolescent informant discrepancies of social skill importance and social skill engagement for higher-functioning adolescents with autism spectrum disorder. *Journal of autism and developmental disorders*, *45*(10), 3396-3403.

McMahon, C. M., Lerner, M. D., & Britton, N. (2013). Group-based social skills interventions for adolescents with higher-functioning autism spectrum disorder: a review and looking to the future. *Adolescent health, medicine and therapeutics*, *4*, 23-28.

Milton, D. E. (2012). On the ontological status of autism: the 'double empathy problem'. *Disability & Society*, *27*(6), 883-887.

Moriuchi, J. M., Klin, A., & Jones, W. (2016). Mechanisms of diminished attention to eyes in autism. *American Journal of Psychiatry*, *174*(1), 26-35.

Morrison, K. E., DeBrabander, K. M., Faso, D. J., & Sasson, N. J. (in press). Variability in first impressions of autistic adults made by neurotypical raters is driven more by characteristics of the rater than by characteristics of autistic adults.

Morrison, K. E., Pinkham, A. E., Kelsven, S., Ludwig, K., Penn, D. L., & Sasson, N. J. (in press). Psychometric evaluation of social cognitive measures for adults with autism.

Morrison, K. E., Pinkham, A. E., Penn, D. L., Kelsven, S., Ludwig, K., & Sasson, N. J. (2017). Distinct profiles of social skill in adults with autism spectrum disorder and schizophrenia. *Autism Research*, *10*(5), 878-887.

Mueser, K. T., & Bellack, A. S. (1998). Social skills and social functioning. In K.T. Mueser & N. Tarrier (Eds.), *Handbook of Social Functioning in Schizophrenia* (pp. 79-96). Needham Heights, MA: Allyn & Bacon.

Nangle, D. Q., Grover, R. L., Holleb, L. J., Cassano, M., & Fales, F. (2010). Defining competence and identifying target skills. In D. J. Hansen, C. A. Erdley, & P. J. Norton (Eds.), *Practitioner's guide to empirically based measures of social skills* (pp. 3-19). New York, NY: Springer.

Naumann, L. P., Vazire, S., Rentfrow, P. J., & Gosling, S. D. (2009). Personality judgments based on physical appearance. *Personality and social psychology bulletin*, *35*(12), 1661-1671.

Neves, M. D. C. L. D., Tremeau, F., Nicolato, R., Lauar, H., Romano-Silva, M. A., & Correa, H. (2011). Facial emotion recognition deficits in relatives of children with autism are not associated with 5HTTLPR. *Revista brasileira de psiquiatria*, *33*(3), 261-267.

O'Sullivan, M., Ekman, P., Friesen, W., & Scherer, K. R. (1985). What you say and how you say it: The contribution of speech content and voice quality to judgments of others. *Journal of Personality and Social Psychology*, *48*(1), 54-62.

Oliver, M. J. (1999). The disability movement and the professions. *British Journal of Therapy and Rehabilitation*, *6*(8), 377-379.

Orsmond, G. I., Krauss, M. W., & Seltzer, M. M. (2004). Peer relationships and social and recreational activities among adolescents and adults with autism. *Journal of autism and developmental disorders*, *34*(3), 245-256.

Owens, G., Granader, Y., Humphrey, A., & Baron-Cohen, S. (2008). LEGO® therapy and the social use of language programme: An evaluation of two social skills interventions for children with high functioning autism and Asperger syndrome. *Journal of autism and developmental disorders*, *38*(10), 1944.

Ozonoff, S., & Miller, J. N. (1995). Teaching theory of mind: A new approach to social skills training for individuals with autism. *Journal of Autism and developmental Disorders*, *25*(4), 415-433.

Palmen, A., Didden, R., & Korzilius, H. (2010). Effectiveness of behavioral skills training on staff performance in a job training setting for high-functioning adolescents with autism spectrum disorders. *Research in Autism Spectrum Disorders*, *4*(4), 731-740.

Pelphrey, K. A., Sasson, N. J., Reznick, J. S., Paul, G., Goldman, B. D., & Piven, J. (2002). Visual scanning of faces in autism. *Journal of autism and developmental disorders*, *32*(4), 249-261.

Pelphrey, K., Adolphs, R., & Morris, J. P. (2004). Neuroanatomical substrates of social cognition dysfunction in autism. *Developmental Disabilities Research Reviews*, *10*(4), 259-271.

Penn, D. L., Roberts, D. L., Combs, D., & Sterne, A. (2007). Best practices: the development of the social cognition and interaction training program for schizophrenia spectrum disorders. *Psychiatric services*, *58*(4), 449-451.

Penn, D., Roberts, D. L., Munt, E. D., Silverstein, E., Jones, N., & Sheitman, B. (2005). A pilot study of social cognition and interaction training (SCIT) for schizophrenia. *Schizophrenia research*, *80*(2), 357-359.

Petrina, N., Carter, M., & Stephenson, J. (2014). The nature of friendship in children with autism spectrum disorders: A systematic review. *Research in Autism Spectrum Disorders*, *8*(2), 111-126.

Philip, R. C. M., Whalley, H. C., Stanfield, A. C., Sprengelmeyer, R., Santos, I. M., Young, A. W., ... & Hall, J. (2010). Deficits in facial, body movement and vocal emotional processing in autism spectrum disorders. *Psychological medicine*, *40*(11), 1919-1929.

Pinkham, A. E., & Penn, D. L. (2006). Neurocognitive and social cognitive predictors of interpersonal skill in schizophrenia. *Psychiatry research*, *143*(2), 167-178.

Pontari, B. A., & Schlenker, B. R. (2000). The influence of cognitive load on self-presentation: Can cognitive busyness help as well as harm social performance?. *Journal of personality and social psychology*, *78*(6), 1092-108.

Rao, P. A., Beidel, D. C., & Murray, M. J. (2008). Social skills interventions for children with Asperger's syndrome or high-functioning autism: A review and recommendations. *Journal of autism and developmental disorders*, *38*(2), 353-361.

Ratto, A. B., Turner-Brown, L., Rupp, B. M., Mesibov, G. B., & Penn, D. L. (2011). Development of the contextual assessment of social skills (CASS): A role play measure of social skill for individuals with high-functioning autism. *Journal of autism and developmental disorders*, *41*(9), 1277-1286.

Reis, H. T., Maniaci, M. R., Caprariello, P. A., Eastwick, P. W., & Finkel, E. J. (2011). Familiarity does indeed promote attraction in live interaction. *Journal of personality and social psychology*, *101*(3), 557-570.

Richard, J. F., & Schneider, B. H. (2005). Assessing friendship motivation during preadolescence and early adolescence. *The Journal of Early Adolescence*, *25*(3), 367-385.

Sadler, P., Ethier, N., Gunn, G. R., Duong, D., & Woody, E. (2009). Are we on the same wavelength? Interpersonal complementarity as shared cyclical patterns during interactions. *Journal of Personality and Social Psychology*, *97*(6), 1005-1020.

Sasson, N. J., & Morrison, K. E. (2019). First impressions of adults with autism improve with diagnostic disclosure and increased autism knowledge of peers. *Autism*, *23*(1), 50-59.

Sasson, N. J., Faso, D. J., Nugent, J., Lovell, S., Kennedy, D. P., & Grossman, R. B. (2017). Neurotypical peers are less willing to interact with those with autism based on thin slice judgments. Scientific reports, 7, 40700.

Sasson, N. J., Morrison, K. E., Pinkham, A. E., Faso, D. J., & Chmielewski, M. (2018). Adults with autism are less accurate at predicting how their personality traits are evaluated by unfamiliar observers. *Journal of autism and developmental disorders*, *48*(6), 2243-2248.

Sasson, N. J., Nowlin, R. B., & Pinkham, A. E. (2013). Social cognition, social skill, and the broad autism phenotype. *Autism*, *17*(6), 655-667.

Sasson, N. J., Pinkham, A. E., Carpenter, K. L., & Belger, A. (2011). The benefit of directly comparing autism and schizophrenia for revealing mechanisms of social cognitive impairment. *Journal of Neurodevelopmental Disorders*, *3*(2), 87-100.

Sasson, N. J., Pinkham, A. E., Weittenhiller, L. P., Faso, D. J., & Simpson, C. (2015). Context effects on facial affect recognition in schizophrenia and autism: behavioral and eye-tracking evidence. *Schizophrenia bulletin*, *42*(3), 675-683.

Savitsky, K., Epley, N., & Gilovich, T. (2001). Do others judge us as harshly as we think? Overestimating the impact of our failures, shortcomings, and mishaps. *Journal of Personality and Social Psychology*, *81*(1), 44.

Schilbach, L. (2015). Eye to eye, face to face and brain to brain: Novel approaches to study the behavioral dynamics and neural mechanisms of social interactions. *Current Opinion in Behavioral Sciences*, *3*, 130-135.

Schriber, R. A., Robins, R. W., & Solomon, M. (2014). Personality and self-insight in individuals with autism spectrum disorder. *Journal of personality and social psychology*, *106*(1), 112-130.

Sedgewick, F., Hill, V., Yates, R., Pickering, L., & Pellicano, E. (2016). Gender differences in the social motivation and friendship experiences of autistic and non-autistic adolescents. *Journal of autism and developmental disorders*, *46*(4), 1297-1306.

Sedikides, C., Campbell, W. K., Reader, G. D., & Elliot, A. J. (1999). The relationship closeness induction task. *Representative Research in Social Psychology*, *23*, 1-4.

Seltzer, M. M., Shattuck, P., Abbeduto, L., & Greenberg, J. S. (2004). Trajectory of development in adolescents and adults with autism. *Developmental Disabilities Research Reviews*, *10*(4), 234-247.

Sheppard, E., Pillai, D., Wong, G. T. L., Ropar, D., & Mitchell, P. (2016). How easy is it to read the minds of people with autism spectrum disorder?. *Journal of autism and developmental disorders*, *46*(4), 1247-1254.

Spek, A. A., Scholte, E. M., & Van Berckelaer-Onnes, I. A. (2010). Theory of mind in adults with HFA and Asperger syndrome. *Journal of Autism and Developmental Disorders*, *40*(3), 280-289.

Steinmetz, J., Sezer, O., & Sedikides, C. (2017). Impression mismanagement: People as inept self‐presenters. *Social and Personality Psychology Compass*, *11*(6).

Stevanovic, M., Henttonen, P., Koski, S., Kahri, M., Voutilainen, L., Koskinen, E., ... & Perakyla, A. (2017). On the Asperger experience of interaction: Interpersonal dynamics in dyadic conversations. *Journal of Autism*, *4*(1), 2.

Taylor, J. L., Henninger, N. A., & Mailick, M. R. (2015). Longitudinal patterns of employment and postsecondary education for adults with autism and average-range IQ. *Autism*, *19*(7), 785-793.

Tobin, M. C., Drager, K. D., & Richardson, L. F. (2014). A systematic review of social participation for adults with autism spectrum disorders: Support, social functioning, and quality of life. *Research in Autism Spectrum Disorders*, *8*(3), 214-229.

Todorov, A., Olivola, C. Y., Dotsch, R., & Mende-Siedlecki, P. (2015). Social attributions from faces: Determinants, consequences, accuracy, and functional significance. *Annual review of psychology*, *66*, 519-545.

Turner-Brown, L. M., Perry, T. D., Dichter, G. S., Bodfish, J. W., & Penn, D. L. (2008). Brief report: Feasibility of social cognition and interaction training for adults with high functioning autism. *Journal of autism and developmental disorders*, *38*(9), 1777-1784.

Tyler, J., & Feldman, R. (2004). Cognitive demand and self-presentation efforts: The influence of situational importance and interaction goal. *Self and Identity*, *3*(4), 364-377.

Uljarevic, M., & Hamilton, A. (2013). Recognition of emotions in autism: a formal meta-analysis. *Journal of autism and developmental disorders*, *43*(7), 1517-1526.

Usher, L. V., Burrows, C. A., Messinger, D. S., & Henderson, H. A. (2018). Metaperception in Adolescents With and Without Autism Spectrum Disorder. *Journal of autism and developmental disorders*, *48*(2), 533-548.

Usher, L. V., Burrows, C. A., Schwartz, C. B., & Henderson, H. A. (2015). Social competence with an unfamiliar peer in children and adolescents with high functioning autism: Measurement and individual differences. *Research in autism spectrum disorders*, *17*, 25-39.

Vazire, S., & Carlson, E. N. (2010). Self‐Knowledge of Personality: Do People Know Themselves?. *Social and Personality Psychology Compass*, *4*(8), 605-620.

Verhoeven, E. W. M., Smeekens, I., & Didden, R. (2013). Brief report: Suitability of the Social Skills Performance Assessment (SSPA) for the assessment of social skills in adults with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 43*, 2990-2996.

Vohs, K. D., Baumeister, R. F., & Ciarocco, N. J. (2005). Self-regulation and self-presentation: regulatory resource depletion impairs impression management and effortful self-presentation depletes regulatory resources. *Journal of personality and social psychology*, *88*(4), 632-657.

Wainer, A. L., Block, N., Donnellan, M. B., & Ingersoll, B. (2013). The broader autism phenotype and friendships in non-clinical dyads. *Journal of autism and developmental disorders*, *43*(10), 2418-2425.

West, T. V., & Kenny, D. A. (2011). The truth and bias model of judgment. *Psychological review*, *118*(2), 357-378.

White, S. W., Keonig, K., & Scahill, L. (2007). Social skills development in children with autism spectrum disorders: A review of the intervention research. *Journal of autism and developmental disorders*, *37*(10), 1858-1868.

Whitehouse, A. J., Durkin, K., Jaquet, E., & Ziatas, K. (2009). Friendship, loneliness and depression in adolescents with Asperger's Syndrome. *Journal of adolescence*, *32*(2), 309-322.

Wiggins, J. S. (1982). Circumplex models of interpersonal behavior in clinical psychology. *Handbook of research methods in clinical psychology*, 183-221.

Wilkinson, G. S. (1993). *WRAT-3: Wide range achievement test administration manual*. Wide Range, Incorporated.

Willis, J., & Todorov, A. (2006). First impressions: Making up your mind after a 100-ms exposure to a face. *Psychological science*, *17*(7), 592-598.

BIOGRAPHICAL SKETCH

Kerrianne Elizabeth Morrison attended The Ohio State University from 2010 – 2014, where she majored in Psychology and minored in Neuroscience. There she completed her honors thesis with Dr. Laura Wagner studying the pragmatic language abilities of adults with autism. She also worked for three years as a research assistant at the Nisonger Center where she assisted with clinical appointments for children with autism and ADHD. She graduated summa cum laude with honors in 2014 before beginning UT Dallas's doctoral program. During her time at UT Dallas, she has managed the Development of Social Cognition Lab under the mentorship of Dr. Noah Sasson and continued to study adults with autism. She received her Master of Science in Applied Cognition and Neuroscience in 2016, and has published five peer-reviewed papers. She will receive her doctoral degree with a focus in cognition.

CURRICULUM VITAE

Kerrianne E. Morrison

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EDUCATION

2019 (Expected)	Ph.D. School of Behavioral and Brain Sciences, Psychological Sciences The University of Texas at Dallas – Richardson, TX Advisor: Dr. Noah Sasson
2016	M.S. School of Behavioral and Brain Sciences, Applied Cognition and Neuroscience The University of Texas at Dallas - Richardson, TX
2014	B.S. in Arts and Sciences with Honors Research Distinction The Ohio State University - Columbus, OH

RESEARCH EXPERIENCE

2014-Present	**Graduate Research Assistant** Development of Social Cognition Lab, The University of Texas at Dallas Richardson, TX (Noah Sasson, Ph.D.)
2011-2014	**Research Assistant** Developmental Language and Cognition Lab, The Ohio State University Columbus, OH (Laura Wagner, Ph.D.) Honors Thesis: A Quantitative Analysis of Pragmatic Language in Adults with High-Functioning Autism
2011-2014	**Research Assistant** Nisonger Center, The Ohio State University Columbus, OH (Luc Lecavalier, Ph.D.)

TEACHING EXPERIENCE

UNDERGRADUATE LEVEL

2017 Research Design and Analysis, Co-Instructor, 35 undergraduate students, Summer term

2015 Introduction to Psychology, Teaching Assistant, 130 undergraduate students, Spring term
2014 Research Design and Analysis, Teaching Assistant, 70 undergraduate students, Fall term

GRADUATE LEVEL

2016 Research Methods Part 2, Teaching Assistant, 16 graduate students, Spring term
2015 Research Methods Part 1, Teaching Assistant, 10 graduate students, Fall term

PUBLICATIONS

PEER-REVIEWED

Morrison, K. E., Pinkham, A. E., Kelsven, S., Ludwig, K., Penn, D. L., & Sasson, N. J. (2019). Psychometric evaluation of social cognitive measures for adults with autism. *Autism Research.*

*Sasson, N. J. & **Morrison, K. E.** (2019). First impressions of adults with autism are affected by diagnostic disclosure. *Autism*, 23, 50 - 59.

*Nominee as one of the "scientific advances that represent significant progress in the field" by the Department of Health and Human Services Interagency Autism Coordinating Committee

Morrison, K. E., Chambers, L. K., Faso, D. J., & Sasson, N. J. (2018). The content and function of interests for individuals with and without the broad autism phenotype. *Research in Autism Spectrum Disorders,* 49*,* 25 - 33.

Sasson, N. J., **Morrison, K. E.**, Pinkham, A. E., Faso, D. J., & Chmielewski, M. (2018). Adults with autism are less accurate at predicting how their personality traits are evaluated by unfamiliar observers. *Journal of Autism and Developmental Disorders,* 48, 2243 - 2248.

Morrison, K. E., Pinkham, A. E., Penn, D. L., Kelsven, S., Ludwig, K., & Sasson, N. J. (2017). Distinct profiles of social skill in adults with autism spectrum disorder and schizophrenia. *Autism Research*, 10, 878 - 887.

MANUSCRIPTS IN SUBMISSION

Morrison, K. E., DeBrabander, K. M., Faso, D. J., & Sasson, N. J. (in press). Variability in first impressions of autistic adults made by neurotypical raters is driven more by characteristics of the rater than by characteristics of autistic adults.

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CONFERENCE PRESENTATIONS

ORAL PRESENTATIONS

Morrison, K. E., DeBrabander, K. M., Faso, D. J., Sasson, N. J. (2018). *The Effect of Diagnostic Terminology on First Impressions*. Talk presented at the Sixty-Fourth Annual Convention for the Southwestern Psychological Association, Houston, TX.

Faso. D. J., **Morrison, K. E.**, & Sasson, N. J. (2017). *Identifying Subgroups of Adults with Autism Spectrum Disorder Using Correspondence Analysis to Examine First Impression Ratings*. Talk presented at the Sixty-Third Annual Convention for the Southwestern Psychological Association, San Antonio, TX.

Sasson, N. J., **Morrison, K. E.**, & Pinkham, A. E. (2016). *Comparing Social Skills Between Adults with ASD and Schizophrenia*. Talk presented at the Fifteenth Annual International Meeting for Autism Research, Baltimore, MD.

Morrison, K. E., Sasson, N. J., & Pinkham, A. E. (2016). *Comparing Social Skills Between Adults with ASD and Schizophrenia*. Talk presented at the Sixty-Second Annual Convention for the Southwestern Psychological Association, Dallas, TX.

Faso, D. J., **Morrison, K. E.**, Chambers, L. K., Pinkham, A. E., & Sasson, N. J. (2016). *Evaluating People's First Impressions of Adults with Autism Using Correspondence Analysis*. Talk presented at the Sixty-Second Annual Convention for the Southwestern Psychological Association, Dallas, TX.

SELECTED POSTER PRESENTATIONS

DeBrabander, K. M., **Morrison, K. E.**, & Sasson, N. J. (2018). *Autistic Person or Person with Autism? The Effect of Diagnostic Terminology on First Impressions*. Poster presented at the Seventeenth Annual International Society for Autism Research Meeting, Rotterdam, Netherlands.

Morrison, K. E., Pinkham, A. E., Sasson, N. J. (2018). *Social Cognition Contributes to Social Functioning in Adults with Autism*. Poster presented at the Seventeenth Annual International Society for Autism Research Meeting, Rotterdam, Netherlands.

Sasson, N. J., **Morrison, K. E.**, & Pinkham, A. E. (2018). *Evaluating the Psychometric Properties of Social Cognitive Tasks for Adults with Autism*. Poster presented at the Seventeenth Annual International Society for Autism Research Meeting, Rotterdam, Netherlands.

DeBrabander, K. M., **Morrison, K. E.**, & Sasson, N. J. (2018). *Predictors of Stigma Towards Autism*. Poster presented at the Sixty-Fourth Annual Convention for the Southwestern Psychological Association, Houston, TX.

Morrison, K. E., Pinkham, A. E., & Sasson, N. J. (2017). *Using Social Behavior Profiles to Predict Autism and Schizophrenia Diagnoses*. Poster presented at the Sixteenth Annual International Meeting for Autism Research, San Francisco, CA.

Sasson, N. J., **Morrison, K. E.**, & Pinkham, A. E. (2017). *Social Cognitive Profiles of Adults with Autism and Schizophrenia*. Poster presented at the Sixteenth Annual International Meeting for Autism Research, San Francisco, CA.

Sasson, N. J., Pinkham, A. E., Faso, D. J., **Morrison, K. E.**, & Chmielewski, M. (2017). *How Accurate are Adults with Autism in Gauging How Their Personality Traits are Evaluated by Others?* Poster presented at the Sixteenth Annual International Meeting for Autism Research, San Francisco, CA.

Faso, D. J., **Morrison, K. E.**, Chamber, L. K., & Sasson, N. J. (2016). *How Social Others Form First Impressions of Adults with Autism Spectrum Disorder*. Poster presented at the Fifteenth Annual International Meeting for Autism Research, Baltimore, MD.

Morrison, K. E., Chambers, L. K., Faso, D. J., & Sasson, N. J. (2016). *The Content and Function of Interests in the Broad Autism Phenotype*. Poster presented at the Fifteenth Annual International Meeting for Autism Research, Baltimore, MD.

Chambers, L. K., **Morrison, K. E.**, Faso, D. J., & Sasson, N. J. (2016). *Interests for Individuals With and Without the Broad Autism Phenotype*. Poster presented at the Sixty-Second Annual Convention for the Southwestern Psychological Association, Dallas, TX.

Morrison, K. E., Sasson, N. J., & Pinkham, A. E. (2016). *Comparing Social Skills Between Adults with Autism Spectrum Disorder and Schizophrenia*. Poster presented at the 2016 Texas Autism Research Conference, Austin, TX.

Morrison, K. E., Shasteen, J. R., Faso, D. J., Sasson, N. J., & Pinkham, A. E. (2015). *Context Effects on Facial Affect Recognition in Autism and Schizophrenia*. Poster presented at the Fourteenth Annual International Meeting for Autism Research (IMFAR), Salt Lake City, UT.

Morrison, K. E., & Wagner, L. (2014). *A Quantitative Analysis of Pragmatic Language in Adults with High-functioning Autism*. Poster presented at the Thirteenth Annual International Meeting for Autism Research (IMFAR), Atlanta, GA.

Jindal, S. K., **Morrison, K. E.**, and Wagner, L. (2013). *The Deictic Center in Children's Understanding of Time Relations.* Poster presented at the biennial meeting of the Society for Research in Childhood Development (SRCD), Seattle, WA.

Morrison, K. E., & Wagner, L. (2012). *An Analysis of Hierarchical Event Structure in Children's Books*. Poster presented at the Denman Undergraduate Research Forum, Columbus, OH.

DEPARTMENTAL TALKS

Morrison, K. E., Pinkham, A. E., Penn, D. L., Kelsven, S., Ludwig, K., & Sasson, N. J. (2016). *A Comparison of Social Skills between Adults with Autism Spectrum Disorder and Schizophrenia*. Invited talk at the Developmental, Cognitive, and Social-Personality Lecture Series, School of Behavioral and Brain Sciences, The University of Texas at Dallas, Richardson, TX.

Boyer, B. P. & **Morrison, K. E.** (2016). The Reader Expectation Approach. Invited talk at the Developmental, Cognitive, and Social-Personality Lecture Series, School of Behavioral and Brain Sciences, The University of Texas at Dallas, Richardson, TX.

Morrison, K. E., & Wagner, L. (2014). *The Use of Conversational Discourse Markers in Adults with High-Functioning Autism*. Invited talk at the Developmental, Cognitive, and Social-Personality Lecture Series, School of Behavioral and Brain Sciences, The University of Texas at Dallas, Richardson, TX.

GRANTS AND AWARDS

2018	International Society for Autism Research Student/Trainee Award
2018	University of Texas at Dallas Office of Graduate Studies Small Grant Award for Dissertation Research
2016 - Present	University of Texas at Dallas Mariel Peterson Research Fellowship
2015 - 2018	University of Texas at Dallas Graduate Studies Committee Travel Award for travel to the International Meeting for Autism Research
2014	Honorable Mention in Psychology for *A Quantitative Analysis of Pragmatic Language in Adults with High-functioning Autism* at the Richard J. and Martha D. Denman Undergraduate Research Forum, Ohio State University
2014	Ohio State University Psychology Department Alkire Research Award
2013 - 2014	Ohio State University College of Arts & Sciences Research Scholarship
2013	Ohio State University Undergraduate Research Office Summer Research Fellowship
2013	Ohio State University College of Social and Behavioral Sciences Research Grant for travel to the Society for Research in Childhood Development (SRCD) conference
2013	Ohio State University Psychology Department Conference Presentation Award for travel to SRCD
2013	Honorable Mention in Psychology for *Point of Reference in Understanding Children's Temporal Reasoning* at the Richard J. and Martha D. Denman Undergraduate Research Forum, Ohio State University

PROFESSIONAL AFFILIATIONS

2016 - Present	International Society for Autism Research Student Member
2014 - Present	Phi Beta Kappa Honor Society

UNIVERSITY/DEPARTMENTAL SERVICE

2018	Dean of Behavioral and Brain Sciences Search Committee, UT Dallas
2016 - Present	Psychological Sciences Professional Development Committee, UT Dallas
2015 - 2018	Psychological Sciences Social Committee, UT Dallas
2015 - 2018	Psychological Sciences Doctoral Student Recruitment Committee, UT Dallas