

2021

## The Influence of Autism Spectrum Disorder Disclosure on Peer Social Distancing in Higher Education

Hope Marie Sparks  
n01448580@unf.edu

Follow this and additional works at: <https://digitalcommons.unf.edu/etd>

 Part of the [Clinical Psychology Commons](#), [Disability Studies Commons](#), and the [Social Psychology Commons](#)

---

### Suggested Citation

Sparks, Hope Marie, "The Influence of Autism Spectrum Disorder Disclosure on Peer Social Distancing in Higher Education" (2021). *UNF Graduate Theses and Dissertations*. 1079.  
<https://digitalcommons.unf.edu/etd/1079>

This Master's Thesis is brought to you for free and open access by the Student Scholarship at UNF Digital Commons. It has been accepted for inclusion in UNF Graduate Theses and Dissertations by an authorized administrator of UNF Digital Commons. For more information, please contact [Digital Projects](#).  
© 2021 All Rights Reserved

The Influence of Autism Spectrum Disorder Disclosure on Peer Social Distancing in Higher  
Education

Hope Sparks

University of North Florida

Author Note

Hope Sparks, Department of Psychology, University of North Florida

Correspondence should be addressed to Hope Sparks, Department of Psychology,

University of North Florida, 1 UNF Drive, Jacksonville, FL 32225. Email: [Redacted](#)

### **Acknowledgements**

I am incredibly grateful for the opportunities given and lessons learned throughout the past two years. Thank you, Dr. Mann, for taking me on as a graduate student, and for allowing me autonomy and independence throughout this project. Thank you, Dr. Nicholson, for stepping in and being such an inspiring role model. UNF is beyond lucky to have you. Thank you Dr. Phills, for all your stats help, but for also encouraging me to take the chance on changing the project methodology. Thank you to Dr. Witherspoon for being okay with us taking that chance! Thank you both for the valuable feedback and advice. Furthermore, thank you to Dr. Rowe for allowing me to work with you and the THRIVE program for the past two years. The opportunities I have had and friendships I have gained from this experience have changed me as a person and as a researcher.

Abby, Sarah, and Monique- I would not have survived the past two years without you. I have loved every single zoom call, even the study session ones! Becca, I have adored our weekly meetings, and I am so immensely proud to call you a friend. Karl, thank you for being the fashionably late to my panicked early. Thank you for holding me accountable, and for celebrating the small achievements with me.

Finally, thank you to my wonderful family (especially for this last year). Thank you to my father for giving me your particular but dedicated work ethic. Thank you to my mother for your infinite patience with those particularities, and for always reminding me of the bigger picture. Thank you both for telling me “good job”. Thank you, Sara, for being my best friend, and for being the reason this journey began. Thank you to my grandmother, for our weekly bingo games, and for helping me see from a different perspective. None of this would have been possible without you.

**TABLE OF CONTENTS**

	<b>Page</b>
ACKNOWLEDGEMENTS.....	ii
TABLE OF CONTENTS.....	iii
ABSTRACT.....	iv
INTRODUCTION .....	5
LITERATURE REVIEW .....	5
Autism Spectrum Disorder Background.....	5
Transitioning to College .....	7
Identity & Disclosure .....	11
Social Distancing .....	15
PURPOSE & AIMS.....	17
METHOD .....	19
Participants.....	19
Materials .....	21
Procedure .....	24
Data Analysis .....	25
RESULTS .....	25
DISCUSSION .....	27
Limitations, Strengths, and Future Directions .....	31
REFERENCES .....	36
APPENDICES & FIGURES.....	50

### **Abstract**

Students diagnosed with Autism Spectrum Disorder are almost twenty percent less likely than their non-autistic peers to graduate college (White et al., 2017). The diagnosis of Autism Spectrum Disorder, or ASD, can be a significant facet of personal identity for many individuals on the spectrum. Due to this, disclosure of diagnoses can be a deeply personal decision and can be situational. Because college-age students on the spectrum are forming an identity concerning their diagnosis (Bent et al, 2016; Cox et al., 2017), peer social distancing behaviors are an important factor in student confidence and academic success. Researchers completed this study to determine if social distancing behaviors of college students were influenced by a disclosure of Autism Spectrum Disorder. Students from a medium-sized southeastern university were recruited as participants. They rated their perceptions of an ostensible student described as exhibiting behaviors characteristic of Autism Spectrum Disorder and their behavioral intentions towards the student. Participants also indicated their knowledge of and stigma toward Autism Spectrum Disorder. Self-reported social distancing behaviors toward a peer on the spectrum did not depend on diagnosis disclosure. Diagnosis disclosure also did not impact gender identity and knowledge level of participants or social distancing behaviors. Finally, social distancing behaviors or knowledge did not depend on whether participants indicated a self-diagnosis or a close family member or friend's diagnosis. Future research should continue to review social distancing based on disclosure in college populations, and this area of research should prioritize genuine representation and inclusion of individuals with Autism Spectrum Disorder.

*Keywords: autism spectrum disorder, identity development, college students, higher education, educational experiences, diagnosis disclosure*

## **Introduction**

Though most high school students with Autism Spectrum Disorder expect to start and attend university (Anderson et al., 2016), less than half that matriculate into college receive a degree, comparable to a 60% completion rate for all students who had at least one disability, or the overall student population completion rate of 67% (Sanford et al., 2011; Underhill, 2019). The lower graduation rate could be due to a lack of education on Autism Spectrum Disorder, and disability accommodations at large, on college campuses (Barnhill, 2016). However, transition programs for students with Autism Spectrum Disorder have been found to increase both academic and social success for students (Ashbaugh et al., 2017; Wei et al., 2016; White et al., 2017). Although disclosure has been found more recently to be a positive action (O'Connor et al., 2019; Fisher & Choi, 2013) it can still lead to negative stereotypes, underemployment, and stigma (Prince 2017; White et al., 2019; Huws & Jones, 2008). Because of this, the researchers of the current study aimed to determine if social distancing behaviors toward students with Autism Spectrum Disorder are influenced by disclosure of the diagnosis.

## **Autism Spectrum Disorder Background**

Autism Spectrum Disorder is primarily defined by differences from developmental norms in the domains of communication and language, executive functioning, and stereotypic and sometimes repetitive behaviors (Strathearn, 2009; Zwaigenbaum et al., 2009; Geschwind, 2009). Executive Functioning is largely an umbrella term for planning, working memory, mental flexibility, impulse control, and the general initiation of actions (Hill, 2004). Hypotonia and apraxia, both motor difficulties, are also common comorbid diagnoses (Geschwind, 2009). In addition to the previously described impairments, some of the biggest obstacles faced by people

with Autism Spectrum Disorder deal with not fitting into social norms (Antonak & Livneh, 2000).

At present, there remains significant disproportionality in the diagnosis of Autism Spectrum Disorder. The most recent data from The Autism and Developmental Disabilities Monitoring Network has determined that one in fifty-four children who are eight years old will be diagnosed with Autism Spectrum Disorder and that boys were 4.3 times more likely to be diagnosed than girls even though girls make up most of the diagnoses of Autism Spectrum Disorder that are also classified as an “intellectual disability” (Baio et al., 2018). This point could illustrate that girls with Autism Spectrum Disorder who don’t have severe symptoms are being underdiagnosed (Harrop et al., 2015). Black children and Asian/Pacific Islander children have been generally under-identified in diagnoses, and Latinx children have been significantly under-identified in diagnoses (Baio et al., 2018). Researchers believe that as diagnosis disparities (such as race, gender, and ethnicity) decrease, the prevalence of Autism Spectrum Disorder will continue to increase at an even higher rate (Lord & Bishop, 2015).

With recent changes to the Diagnostic Statistical Manual, Fifth Edition (American Psychiatric Association, 2013A) symptom clusters were collapsed into two categories. The first of which being impairments in social-communication, and the second being restrictive, repetitive, and stereotyped behavior (Mandy, 2013) into one umbrella diagnosis – Autism Spectrum Disorder. Severity of the diagnosis can present itself differently for different individuals and can manifest differently across abilities and ages (Gillespie-Smith et al., 2018). While the DSM-V has been found to have stronger construct validity than the DSM-IV (Mandy, Charman & Skuse, 2012), some individuals may have a harder time receiving a diagnosis due to diagnostic specificity being increased. Individuals previously diagnosed with Asperger’s

Disorder, a diagnosis that no longer exists in the DSM-V, may also end up feeling a loss of identity (Bent et al, 2016). The changes in criteria, especially the removal of Asperger's, were found to be concerning to many advocates on the spectrum due to more negative perceptions that an Autism Spectrum Disorder diagnosis has in comparison to the more positively stereotyped Asperger's (Smith & Jones, 2019). Consequently, individuals may choose to retain this diagnostic identity despite the diagnosis's absence from the DSM-V.

### **Transitioning to College**

Approximately 30% of those with Autism Spectrum Disorder will need consistent and additional physical, emotional, and behavioral resources for their entire lives (Waye & Cheng, 2018). The lack of autonomy is often attributed to the uneven and individual developmental patterns youth with Autism Spectrum Disorder can follow (Waye & Cheng, 2018). But this could also be due to a lack of inclusivity in society at large, along with a potential lack of services. The transition to higher education is made especially difficult when the environments that youth on the spectrum find themselves in are not inclusive. Specifically, not providing students testing accommodations when needed or being unaccepting of certain behaviors like stimming can harm students more than help them (Cribb et al., 2019).

Despite this, high school students on the spectrum generally have a positive outlook and expectation for the future. For example, most high school students with Autism Spectrum Disorder expect to achieve typical adulthood "markers" once they graduated high school, like independence, maturity, and personal responsibility. The majority also expected to start and attend university, start full-time careers, move out of their family home, and establish serious relationships (Anderson et al., 2016). Despite these aspirations, high school students who have Autism Spectrum Disorder are less likely to enroll in university when compared to their peers



with another disability, excluding students with multiple disabilities, or intellectual disabilities (Wei et al., 2013). This could be due to bullying that students on the spectrum face within the school environment (Gelbar et al., 2014). Staying enrolled in university and graduation rates can also be impacted because the “safety net” of supports and check-ins for students on the spectrum is a lot weaker in college than it is in high school (Barnhill, 2016).

### **Demands and Difficulties of College**

As stated earlier, although enrollment rates of college students with Autism Spectrum Disorder is increasing, more than 50% of those enrolled students have been found to not complete college (Underhill, 2019). Meanwhile, all students with any disability have a completion rate of 60% (Sanford et al., 2011). Further, all college students have a completion rate of 67% (Sanford et al., 2011). Many college students with Autism Spectrum Disorder have reported feeling isolated, lonely, and unsupported (Cai & Richdale, 2016), which can impact academic performance, involvement at the university, and student wellbeing (Ashbaugh et al., 2017). Additionally, students with Autism Spectrum Disorder identify additional barriers to their success: lacking self-awareness about their disability (meaning a lack of self-awareness about their diagnosis, their identity, or their actual ability), financial struggles, mental health concerns, and a lack of the university understanding the challenges faced by students on the spectrum (Accardo et al., 2019).

Parents and their children who are college students with Autism Spectrum Disorder have disagreed on the level of supports needed, and college students usually self-report higher well-being and higher feelings of support physically, mentally, socially, and academically in comparison with their parents’ perceptions and ratings (Egilson & Ólafsdóttir, 2017). Parents of college students with Autism Spectrum Disorder feel that supports need to be better for their

students transitioning into university settings (Cai & Richdale, 2016). Despite this discrepancy, it seems that students on the spectrum can benefit from accommodations related to supporting social and executive functioning and having access to those social-related accommodations can be the reason students succeed academically (Sarrett, 2018; Gelbar, 2014; Luna et al., 2007). When additional supports or interventions are given to students with Autism Spectrum Disorder, this increases their likelihood of succeeding in college, and that the students with Autism Spectrum Disorder need to take an active role in communicating what those interventions or accommodations need to be (Rowe et al., 2020; Anderson et al., 2019).

It can be a challenge for educators to teach and understand students with Autism Spectrum Disorder because not all students disclose their diagnosis, and because Autism Spectrum Disorder is not generally well understood, making it difficult to pinpoint if someone needs accommodations and, if so, what those accommodations should be (Barnhill, 2016). Having the same standards for both “typically developed” students and students with Autism Spectrum Disorder is likely not beneficial for students with Autism Spectrum Disorder and can be harmful to their well-being and academic success because those standards do not necessarily acknowledge the root issues faced by individuals with Autism Spectrum Disorder, resulting in increased anxiety for those students. (Cribb, 2019). This further emphasizes the need for Autism Spectrum Disorder related training for college educators.

### **Current Supports and Interventions**

Starting transition programs before starting college can help foster independent living skills and social skills while students are still in high school (Wei et al., 2016), and participation in a transition program can help reduce the graduation gap once students are in college (Wei et al., 2016; White et al., 2017). Rates of enrollment for students on the spectrum are significantly

higher when students who have the goal of attending a university can access a transition support program (Wei et al., 2016). Participating in these programs allows students to practice utilizing their self-determination skills (Wei et al., 2016). Examples of self-determination for college students would be taking an active approach to gaining accommodations, choosing certain living situations (Moving out of parent's house, choosing roommates and apartments, etc.), and actively participating in social events or programs (Shogren et al., 2018).

Intervention programs on college campuses for students with Autism Spectrum Disorder focusing on non-academic hurdles largely include student or peer mentors (Lucas & James, 2018). Colleges are encouraged to utilize student mentors because students with Autism Spectrum Disorder have requested them first-hand (Sarrett, 2018). These intervention programs have been shown to increase attendance at campus events, increase the formation of friendships, and increase the likelihood of academic success (Ashbaugh et al., 2017).

A meta-analysis focused on university students with Autism Spectrum Disorder determined that the interventions that are available for those students are largely feasible to implement and join and are appreciated by the students who utilize them (Anderson et al., 2019). However, students with Autism Spectrum Disorder reported that they wished their universities offered more academic interventions, which illustrates the need for future interventions to take the preferences of students with Autism Spectrum Disorder into account, and that supports in higher education need to become more individualized due to disagreement on the need for academic supports between studies and populations (Anderson et al., 2019).

In addition to the interventions focused on students on the spectrum, university community-level interventions are needed to increase support and inclusivity for students on the spectrum. As knowledge about Autism Spectrum Disorder increases, stigma towards individuals

on the spectrum decreases, and university students have a generally high baseline knowledge about Autism Spectrum Disorder, so training could be a great intervention at the university level (Gillespie-Lynch et al., 2015).

Additionally, university departments (such as the counseling and disability centers) need to work directly with faculty to determine better ways to support and accommodate their students with Autism Spectrum Disorder across campus, not just within specific departments (Accardo et al., 2019). However, it can be difficult for faculty to accommodate college students on the spectrum even after training and increasing the availability of accommodations in part because faculty might not be aware that a student has Autism Spectrum Disorder and might not know the needs of a student as a result (Barnhill, 2016). Which is an argument that supports disclosure being a beneficial action for college students on the spectrum.

## **Identity & Disclosure**

### **Autistic Identity**

There is a substantial amount of discourse between using “identity-first” language (an example being, an autistic person) over “person-first” language (an example being, a person with Autism) when discussing Autism Spectrum Disorder (Cox et al., 2017). Self-advocacy groups for autistic individuals, specifically the Autistic Self Advocacy Network, or ASAN, advocate for the use of identity-first language (Evans, 2020). Self-advocates describe an inability to separate an individual and their identity from Autism Spectrum Disorder, which the group defines as a lifelong neurodevelopmental disorder. Recent updates to the American Psychological Association Guide acknowledge the evolution in the language regarding disability and deems both forms of language acceptable depending on the individuals being discussed and in what context (American Psychological Association [APA], 2019). For this thesis, and consistent with

adherence to current APA guidelines used in developing this thesis, person-first language was used. Within this study, the phrases “High functioning” and “low functioning” were avoided as much as possible due to their inability to describe a disability in an individualistic and respectful manner (American Psychological Association [APA], 2019). Instead, the researchers aimed to discuss Autism Spectrum Disorder on an individual basis of cognitive, behavioral, and social skills throughout this thesis when necessary.

### **Disclosure**

Disclosure is when someone tells another person about an aspect of their identity, or a piece of personal information (Kumazaki et al., 2018). Disclosure is something that should be seen as an ongoing process, matched with cognitive and psychological development (Wiener et al., 2007). Disclosure of diagnoses, especially for children, is largely perceived as controversial and emotional due to the weight of some diagnoses on an individual’s future (Wiener et al., 2007).

The disclosure of Autism Spectrum Disorder for college students usually only occurs to their university disability center after enrollment, and after a significant problem academically or socially arises for the student (Cai & Richdale, 2016; Barnhill, 2016). This delay to disclose could be due in part to the complexity of disclosing with Autism Spectrum Disorder. Someone with Autism Spectrum Disorder might have difficulty in reading others, which can result in social anxiety (Maenner et al., 2014; American Psychiatric Association, 2013B; White & Roberson-Nay, 2009). It can be difficult to know if a disclosure is something that should occur in an environment, and if it should, who should be disclosed to (Johnson & Joshi, 2014). Another reason disclosure is less common in college could be due to Autism Spectrum Disorder being more of a “hidden” or “invisible” disability, meaning that it is not immediately noticeable to

others (Prince, 2017). This combined with the ability that some individuals on the spectrum must learn and follow social norms can make Autism Spectrum Disorder even more “hidden” (Johnson & Joshi, 2014).

While sharing the diagnostic label of Autism Spectrum Disorder can help individuals receive much-needed services, the label can also lead to felt stigma, when an individual fears discrimination from the label, or enacted/actual stigma if the wrong person is disclosed to (Huws & Jones, 2008). Students with Autism Spectrum Disorder generally face more stigma than peers with different psychiatric or neurodevelopmental diagnoses before or without disclosure. (O’Connor et al., 2019). Learning of a diagnosis can lead to less stigma with some individuals and within some environments but can also lead to more stigma in other environments and with other individuals (Huws & Jones, 2008; O’Connor et al., 2019). In other words, the choice to disclose can depend on the situation. For example, first impressions are worse for people who disclose having Autism Spectrum Disorder when compared to their typically developing peers (Sasson & Morrison, 2017). But first impressions of people who do disclose having Autism Spectrum Disorder are better than those who do have Autism Spectrum Disorder but do not disclose, or those who do have Autism Spectrum Disorder but are mislabeled as either being typically developing or having schizophrenia (Sasson & Morrison, 2017).

Disclosure can sometimes be a successful tool in the avoidance of discrimination (O’Connor et al., 2019). But disclosure can also lead to the individual being seen as emotional, or less capable, by their peers (White et al., 2019). This can be the result of positive discriminatory bias, which is common in Autism Spectrum Disorder disclosure, and is when neurotypical individuals believe they are more helpful than they truly are, and less stigmatizing than they truly are (Heasman & Gillespie, 2019)

Although disclosure is becoming more common as society becomes more aware and respectful towards individuals with disabilities, choosing to disclose is still said to be quite risky, especially in the workplace (Prince, 2017). Students who have disabilities are less likely to register with the campus career centers, do not generally participate in career-related organizations, and underutilize experiential learning opportunities like internships (W & Evans, 2014). A study focusing on the employment of adults with Autism Spectrum Disorder determined that individuals who disclosed their diagnosis were three times more likely to be employed than their peers who did not disclose (Ohl et al., 2017). Another study on employer perceptions found that employers who had more knowledge of Autism Spectrum Disorder had more positive perceptions of hypothetical employees when the employee disclosed having Autism Spectrum Disorder, but only if that hypothetical employee did not show stereotypical Autism Spectrum Disorder characteristics (McMahon et al., 2020).

Most vignette-based (hypothetical) studies completed have shown that participant responses are much kinder to those who disclose (O'Connor et al., 2019; Brosnan & Mills, 2015). Vignettes are usually short descriptive stories about a situation or individual (White et al., 2019) and are a common way that stigma towards individuals on the spectrum is studied (O'Connor et al., 2019). A vignette-based study compared the disclosures of Autism Spectrum Disorder, Asperger's syndrome, and schizophrenia, and determined that the responses to all three diagnostic labels were similar, meaning one did not receive more stigma than the other and that the disclosure risk does not lie in the disability label itself. Also, participants reacted more positively to behaviors when they were tied to a disclosure instead of just the behavior (Brosnan & Mills, 2015).

The fact that disclosure can lead to a more positive outcome has been demonstrated in familial research as well. In a previous study, mothers who disclosed that their young child had Autism Spectrum Disorder via a disclosure card were ranked higher in “maternal skill” and were responded to more positively than mothers who did not disclose on behalf of their child (Austin et al., 2016). A disclosure card is a small business card with a brief note about a child’s diagnosis, usually including information about Autism Spectrum Disorder, and is a common way for parents to disclose their child’s disability (Austin et al., 2018). Most parents of children who are diagnosed with disabilities aim to avoid or minimize conversation involving disability and their child, aiming to reduce the stigma that their child faces (Huws & Jones, 2008).

The decision to disclose is a complex one, due to the many different social and environmental factors that can play a role in the decision to self-disclose. Which explains why disclosure most frequently occurs with close friends, romantic partners, and school administrators (Frost et al., 2019). But disclosing can help develop vulnerability and trust within those friendships and can benefit the person who discloses emotionally (Fisher & Choi, 2013).

### **Social Distancing**

Social distancing is the measurement of where an individual is physically and intentionally positioned in relation to others in a group of individuals, or in society at large (Darrin Hodgetts et al., 2011). In light of COVID-19, it is important to note that for the scope of this study, social distancing does not entail explicit recommendations from others on where they should position themselves (Such as the Center for Disease Control), but instead is the measurement of where an individual is physically and intentionally positioned in relation to others in a group of individuals, or in society at large when confounds such as a global pandemic are not present (Darrin Hodgetts et al., 2011).



Social distancing is utilized as a measure of perceptions of individuals, meaning it does not explicitly measure perceptions, but behaviors that are the result of perceptions of others (White et al., 2019; Follmer & Jones, 2017). Social distancing is usually measured in research with vignette-based social distancing scales, which assess how comfortable a participant would be interacting with the target individual described in the study within a variety of settings (Opekitan Afe, Ogunsemi & Oyelekan, 2019; Gillespie-Lynch et al., 2015; White et al., 2019). Although there are established social distancing measures, it can be difficult to mitigate response bias since it has been found that participants respond more positively to vignette-based studies than they would realistically behave (Heasman & Gillespie, 2019).

Social distancing is also dependent on context (Darrin Hodgetts et al., 2011). Social distancing behavior can be influenced by any sort of stigmatizing attitude, and more commonly negatively impacts individuals from oppressed groups, whether that be race or gender (Hebl, Madera, & King, 2008), sexuality (Swim et al., 1999), disabilities like Autism Spectrum Disorder (Durand-Zaleski et al., 2012; Brosnan & Mills, 2015; Hielscher & Waghorn, 2015), individuals with other disorders or mental illnesses (Link & Cullen, 1986; Boysen & Vogel, 2008) or body shape and size (Hebl et al., 2008). Social distancing can also occur in a variety of environments, such as the workplace (Hebl et al., 2008), within classrooms (Schwebel & Cherlin, 1972) and within any other congregations or locations with social groups.

Children have been found to report a preference for more social distancing than adult populations, meaning children have been found to be more likely to have their behaviors influenced by attitudes (Harnum et al., 2007). An additional hypothesized reasoning for children's likelihood to social distance further could be that children potentially have less response or presentation bias than adults.

Social distancing can influence the thoughts, attitudes, and behaviors of individuals (Durand-Zaleski et al., 2012). Resultingly, social distancing behaviors can impact things such as legislation, workplace environments and job performance, emotional and physical wellbeing, and more (Hebl et al., 2008). There is a significant need to continue to examine social distancing, due to how it can be the behavioral result of things like diagnosis disclosure, and the impact it can have on student retention rates, and overall wellbeing for students in the college setting. The meaning of social distancing has changed with the influx in technology over the past two decades, and research needs to re-evaluate how to measure social distancing as a result.

### **Purpose & Aims**

The interaction between knowledge of Autism Spectrum Disorder, perceptions of those who disclose, the behavioral response to those perceptions, and the population of college students lead to the main research question of this study: Does the disclosure of a hypothetical classmate having Autism Spectrum Disorder predict how close a college student would want to be to that classmate? The current research investigated the influence of Autism Spectrum Disorder disclosure from a hypothetical college student on social distancing behaviors of peers. In addition, the current study investigated how peer knowledge about Autism Spectrum Disorder interacts with disclosure to moderate social distancing behavior. The current study also aims to highlight how demographic data relates to perceptions of individuals who disclose having Autism Spectrum Disorder. Furthermore, the study aims to highlight how demographic data relates to knowledge of Autism Spectrum Disorder.

Studies on Autism Spectrum Disorder within the college population are vital because research on Autism Spectrum Disorder largely focuses on children with Autism Spectrum Disorder. The research on disclosure of Autism Spectrum Disorder focuses largely on parents

disclosing their child's diagnosis on their behalf. To create better supports on campus for college students with Autism Spectrum Disorder, researchers need a baseline of which aspects of Autism-related knowledge are strong, and in what facets that knowledge is lacking. Research also needs to address which facets of stigma are present for the college population to target future supports and training to combat the facets that are the most invasive.

Gender has been illustrated to influence not just the stigma towards or the perceptions of others, but behaviors such as helping and caregiving (Mulder et al., 2013; Lee & Tang, 2015). Women have also had to face their own battles with prejudice, whether it be in the workplace (Weber & Zulehner, 2014), in leadership settings (Rudman et al., 2012), in the field of academia (Davis & Maldonado, 2015) and even with children in classrooms (Brinkman et al., 2010). Therefore, the current study will examine possible gender differences in social distancing behaviors and Autism Spectrum Disorder knowledge levels.

### **Hypothesis Based on Gender**

**Hypothesis 1a.** It was hypothesized that self-reported participant gender would influence Autism Stigma and Knowledge Questionnaire scores (ASK-Q) and social distancing behaviors, such that female participants were expected to score higher on the items measuring knowledge of Autism Spectrum Disorder than male participants regardless of the condition they were assigned to read (disclosure vs. non-disclosure), and that female participants would choose to socially distance from Riley less than male participants regardless of the condition they were assigned to read (disclosure vs. non-disclosure).

### **Hypotheses Based on Disclosure & Knowledge**

**Hypothesis 2a.** It was hypothesized that participants who read about a student named Riley who disclosed their diagnosis of Autism Spectrum Disorder would socially distance less from that student than participants who did not read a disclosure statement.

**Hypothesis 2b.** It was further hypothesized that participants who scored higher on the ASK-Q would socially distance from Riley less than participants who scored lower on the ASK-Q.

**Hypothesis 2c.** It was also hypothesized that the pathway between participants' disclosure condition (IV) and social distancing behaviors (DV) would be moderated by ASK-Q scores (ModV), such that participants who were randomly assigned to read the disclosure vignette, who had with higher ASK-Q scores, would socially distance from Riley less than their peers who scored lower on the ASK-Q or were assigned to read the non-disclosure vignette.

### **Hypotheses Based on Participant-Related Diagnoses**

**Hypothesis 3.** It was also hypothesized that the pathway between participant self/family/friend diagnoses and social distancing behaviors would be mediated by ASK-Q scores, such that an indirect effect would exist where participants who noted that they had Autism Spectrum Disorder or a related disability or noted that they had a close family member/friend that had a disability (IV) would score higher on the ASK-Q (MedV) than participants who did not note that they have direct experience with a disability, and this knowledge would explain less social distancing.

## **Method**

### **Participants**

Participants were recruited through the University of North Florida's participant pool. The study was approved by the UNF Institutional Review Board. Participants received research

credit or extra credit for their coursework. Data collection ran from November 2020 to February 2021. The survey was open for data collection until two hundred participants had completed the study. However, the survey sample size was only checked approximately once a week, so slightly more than two hundred participants completed the study. A post-hoc sensitivity analysis was completed after a finalized decision on which statistical tests would be run, and after data collection. The analysis suggested that a sample of 200 provided 80% power to detect effects of at least  $d = .38$ , which is between a small and medium effect size. Participants were in the late teens (age 18) to late forties (age 48) age range. The average participant age was 21.5 years old, and the median participant age was 20 years old. Participants who did not complete the survey, about 6%, were removed from analyses ( $n=14$ ).

Within the final sample of participants that was used for analysis ( $n= 214$ ), 82.71% of participants identified as female ( $n= 177$ ). The most common major of the participants was some form of Psychology ( $n=168$ ), which was marked 78.50% of the time.

Most participants were from Florida ( $n=173$ ), which was marked 80.84% of the time. The most common political identity of the participant group was Democrat ( $n=89$ ), which was marked 41.59% of the time, followed by Independent ( $n = 49$ ; 22.9%). Demographic information on political identity was collected due to the researcher wanting to do future exploratory analyses on how political identity relates to social distancing behaviors.

Only 6 participants, or 2.80% of the sample, disclosed that they had been diagnosed with Autism Spectrum Disorder or a related disability (examples including Asperger's Syndrome, Childhood disintegrative disorder, Rett syndrome, or other developmental disorders or disabilities). But 42% of the sample marked that they had a close family member or friend who had been diagnosed with Autism Spectrum Disorder or a related disability ( $n=94$ ). When asked

further to disclose who the person was that had the disability, close friend was marked as the most common response ( $n=34$ ), which was marked 36.17% of the time, followed by close cousin ( $n = 32$ ; 34.04%) and other family member/friend ( $n = 27$ ; 28.72%).

## **Materials**

An online survey was created on Qualtrics, and distributed through SONA, which is an online software utilized by the university that allows students to participate in research being conducted by faculty and students within the Psychology department. The survey consisted of a short vignette about a hypothetical classmate who would potentially work with the participant on a teamwork activity, a modified version of the Social Distance Scale, the Inclusion of Other in the Self Scale, an Autism Stigma and Knowledge Questionnaire, and demographic questions (age, gender identity, major, political identity, and what state the student is from) The entire survey can be found in Appendix A, and had a total of 88 or 89 questions, depending on if participants marked that they had a family member who had a disability. If the participant marked yes, an additional question about which family member it was showed up for the participant.

**Vignette.** Participants read a modified version of a vignette used by White et al. (2019). The vignette introduced a student named Riley and their interests. The vignette was originally utilized for young adults within two age groups: Ages 11-12 and ages 14-16 (White et al., 2019). The vignette also introduced Riley's siblings, Riley's personal interests and personality, and Riley's college experience and class interests. There were two versions of the vignettes. A "Disclosure" version, and a "Non-disclosure" condition. Both were identical except for one sentence at the end of the vignette, where Riley disclosed a diagnosis of Autism Spectrum Disorder within the "Disclosure" vignette, which is removed in the "Non-disclosure" version.

The changes included taking the information presented in the vignette and creating “questions” that fit the information presented, therefore allowing for the vignette to be presented as a completed personality survey, instead of a third-party observational vignette. Additional changes included removing pictures and changing the ages and names of individuals discussed or presented.

**Riley gender and race.** The second portion of the survey included two brief multiple-choice questions that asked about Riley’s gender and race. The first question asked, “Which do you think is your partner’s gender?” and gave three options: Male, Female, or Nonbinary/Other. The second question asked, “Which do you think is your partner’s race?” and gave six options: American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or other Pacific Islander, or White. Participants were only able to select one option.

**Modified social distance scale.** The third portion of the survey was a modified Social Distance scale used by White et al. (2019), and Gillespie-Lynch et al. (2015), (Cronbach’s  $\alpha = .90$ ). The reasoning for including this scale was to measure self-reported social distancing behaviors of participants and their hypothetical partner presented in the earlier section of the survey. Social distance scales have been found to typically have high internal consistency, along with construct validity (Gillespie-Lynch et al., 2015). An additional question about sharing a dorm room with Riley was added by the researcher of the current study, due to the lack of Riley’s gender being disclosed. The questions were formatted in a multiple-choice option and were on a 5-point Likert scale with 1 being “Strongly disagree”, 2 being “Disagree”, 3 being “Not sure”, 4 being “Agree”, and 5 being “Strongly agree”. The scale had a total of 9 questions discussing Riley. The topics covered academics, for example “I’d be happy to work on a group

project with Riley”, and personal life, for example “I’d never go to Riley for help with a personal problem”. Out of the 9 questions, 4 were reverse scored during analysis. Scoring lower on the scale meant that a participant would want to social distance less from Riley. Scoring higher on the scale meant that a participant would want to social distance more from Riley. Scores could range from 9 to 45.

**Inclusion of other and the self scale.** To assess participant self-reported closeness in relationships, participants completed the Inclusion of Other and the Self Scale by selecting which of 7 options best represented their relationship with their best friend, and their relationship with Riley. The scale was scored as a 7-point Likert, where 1 was “Entirely Separated” and 7 was “Extremely Combined”. Scoring lower on the scale meant that participants viewed themselves as generally less close or influenced by the relationships discussed in the questions and scoring higher on the scale meant that participants viewed themselves as being closer or more influenced by the relationships discussed in the questions.

**Autism stigma and knowledge questionnaire.** To assess participant knowledge levels, participants completed the Autism Stigma and Knowledge Questionnaire (ASK-Q). Participants were asked 55 questions covering 4 subscales of stigma and knowledge related to Autism Spectrum Disorder: Diagnosis, etiology, treatment, and stigma. The internal consistency for the questionnaire is high, with a Cronbach’s alpha of  $\alpha = .88$ . Each question had a related citation found by the team of researchers who created the scale (Harrison et al., 2017) who continued to do follow-up research in 2019 on the scale’s internal consistency across cultures (Harrison et al., 2019). Results of the follow-up study showed that the scale was found to have adequate internal consistency across cultures, with the Cronbach’s alpha being  $\alpha = .72$ . Example questions included “With the proper treatment, most children diagnosed with autism eventually outgrow



the disorder” or “Traumatic experiences very early in life can cause autism”. Scoring of the scale removed the stigma subscale from analyses due to the scoring sheet provided by the researchers not including the subscale. Scores could range from 0 to 55. Groupings of subscale scores have been broken down into either “adequate” or “inadequate” in previous research (Stronach, Wiengand & Mentz, 2019). The three subscales reviewed within the current study consisted of diagnosis (0-10 inadequate; 11-18 adequate), etiology (0-10 inadequate; 11-16 adequate), and treatment (0-9 inadequate; 10-14 adequate; Stronach et al., 2019; Harrison et al., 2017). Previous utilization of the ASK-Q has determined that participants scored highest on the diagnosis subsection, and lowest on the etiology subsection, but each subscale was answered correctly by more than 50% of their sample (Harrison et al., 2017).

**Participant demographics.** The final portion of the survey was composed of basic demographic questions about the participant, such as “What is your college major?”, “What is your age?”, “What is your gender identity?” and “Do you have any close family members or friends who have Autism Spectrum Disorder, or a related disability such as Asperger’s Syndrome, Childhood disintegrative disorder, Rett syndrome, or other developmental disorders or disabilities?”

## **Procedure**

First participants viewed the recruitment materials. Then, if they opted into the study, they were taken to the informed consent page of the study. Once the participant consented to the study, the page changed, and they were randomly assigned a vignette that they were asked to read where Riley either disclosed or did not disclose having Autism Spectrum Disorder depending on the vignette assigned. After reading the vignette they were given the 88 (Or 89, depending on response) questions in the order elucidated in the Materials. Once the survey was

completed participants were taken to a brief debrief page and thanked for their time. Participants took on average 28 minutes to complete the survey in its entirety.

### **Data Analysis**

Responses to the Vignette questions, Riley's gender and race questions, Inclusion of Other and the Self Scale, Modified Social Distance Scale, ASK-Q, and Demographic questions were inserted into the Statistical Package for the Social Sciences (SPSS Version 25). Hayes' Process Macro for mediation and moderation were also utilized to analyze the models within the study at hand. ASK-Q and Modified Social Distance scale scores were calculated following the scoring instructions provided by the scale creators for further data analysis.

**Preliminary analyses.** The scores of the ASK-Q ranged from 1 to 47 within the sample. Previous examination of the ASK-Q determined that participants had generally high baseline knowledge scores across all ASK-Q subscales (Harrison et al., 2017). The scores of the Social Distancing Scale ranged in scores from 25 to 45 in the current study. Assumptions of homogeneity of variance, linearity, multicollinearity, and normality were tested on the data to ensure a minimized chance of Type I and Type II errors. These tests also allow for a closer estimation of effect size and overall significance. All assumptions were met, sparing a normal distribution of gender.

## **Results**

### **Hypothesis Based on Gender**

**Hypothesis 1a.** To test the hypothesis that gender would influence ASK-Q scores and social distancing behaviors, two exploratory independent-samples *t*-tests were conducted. All assumptions of a *t*-test were examined for this analysis, and gender was found to be skewed due to having a majority of female participants which was expected given the population being

sampld from. The first independent samples *t*-test was conducted to compare the ASK-Q scores of participants who self-identified as female with the ASK-Q scores of participants who self-identified as male  $t(208)=-1.29, p=0.197, d=-.245, 95\% \text{ CI } [-.617, .127]$ . There was not a significant difference in the ASK-Q scores between participants who self-identified as female ( $M=29.92, SD=8.36$ ) and participants who self-identified as male ( $M=31.91, SD=6.72$ ). The second independent-samples *t*-test was conducted to compare the social distancing behaviors of participants who self-identified as female with the social distancing behaviors of participants who self-identified as male,  $t(208)=1.04, p=0.298, d=.198, 95\% \text{ CI } [-.174, .570]$ . There was not a significant difference in the social distancing behaviors of participants who self-identified as female ( $M=34.36, SD=3.99$ ) and participants who self-identified as male ( $M=33.58, SD=3.65$ ).

### **Hypotheses Based on Disclosure & Knowledge**

**Hypothesis 2a - 2c.** To test the hypothesis that social distancing behaviors were impacted by disclosure condition and ASK-Q scores, a simple moderation analysis was conducted (Hayes, 2013). A visual model of this analysis is included as Figure 1 (Appendix D). The independent variable of disclosure condition ( $t(211)=-0.877, p=0.382, 95\% \text{ CI } [-5.955, 2.288]$ ), and moderation variable of ASK-Q scores ( $t(211)=-1.636, p=0.103, 95\% \text{ CI } [-0.173, 0.016]$ ), were entered in the first step of the regression analysis. Both disclosure condition (IV) and ASK-Q scores (ModV) were not significant predictors of the dependent variable, social distancing behaviors. In the second step of the regression analysis, the interaction ( $t(211)=1.15, p=0.253, 95\% \text{ CI } [-0.055, 0.208]$ ) between disclosure condition (IV) and ASK-Q scores (ModV) was entered and illustrated that there was no significant impact of disclosure condition interacting with ASK-Q scores on the participant social distancing scores (DV),  $\Delta R^2 = .017, F(1, 211) = 1.24, p=0.298$ .

### Hypotheses Based on Personal Relationship

**Hypothesis 3.** To test the hypotheses that participants who had a self/family/friend diagnosis or participants who had a higher score on the ASK-Q, would social distance less than peers who had a lower score on the ASK-Q or who did not have a self/family/friend diagnosis, a simple mediation analysis was conducted (Hayes, 2013). A visual model of this analysis is included as Figure 2 (Appendix D). The independent variable of self/family/friend diagnoses ( $t(211)=5.869, p < .001, 95\% \text{ CI } [4.004, 8.055]$ ), did illustrate a significant relationship with the outcome/mediation variable of ASK-Q scores when reviewed as a subsection of the overall model,  $\Delta R^2 = 0.139, F(1, 211) = 34.449, p < .001$ , such that individuals with self/family/friend diagnoses were found to have higher ASK-Q scores. However, the overall mediation model with both the (IV) self/family/friend diagnosis ( $t(211)=1.628, p = 0.105, 95\% \text{ CI } [-0.197, 2.072]$ ), and (MedV) ASK-Q scores ( $t(211)=-1.778, p = 0.077, 95\% \text{ CI } [-0.134, 0.007]$ ), did not illustrate a significant impact on the model's overall dependent variable, participant social distancing scores. The estimate of the indirect effect (ASK-Q scores x social distancing behavior = -0.382) was not significantly different from zero,  $95\% \text{ CI } [-0.813, -0.009]$ .  $\Delta R^2 = 0.02, F(1, 211) = 2.122, p = 0.122, 95\% \text{ CI } [-0.197, 2.072]$ .

### Discussion

The current study investigated how disclosure of Autism Spectrum Disorder impacts the social distancing behaviors of college students. The study also aimed to determine how the knowledge levels that college students had on Autism Spectrum Disorder impacted the social distancing behaviors of those students.

The first hypothesis expected female participants to social distance less and have higher ASK-Q scores. But the analyses completed in the current study illustrate that participant sex did

not significantly influence ASK-Q scores or social distancing behaviors, most likely due to the lack of power in this sample. Only 37 participants identified as male in the study sample of 214 students (or 17% of the sample). However, this could be considered reflective of the gender disparity in both the field of psychology (White et al., 2020), where women make up most of the field.

The second hypothesis expected social distancing behavior to be impacted by disclosure condition read by participants. The hypothesis also suggested social distancing behavior would be impacted by knowledge level of participants, and that the disclosure condition read by participants would be moderated by their knowledge level, resulting in differences in social distancing behavior. Results indicated that disclosure condition was not moderated by participant ASK-Q scores, and neither were found to have a significant impact on participant social distancing behaviors.

The third hypothesis expected personal diagnoses or relationships to play a role in social distancing behaviors. Participants who had a disability, or a close relationship with someone with a disability, were expected to social distance less than participants who did not have that personal facet. These personal relationships were also hypothesized to be mediated by participant ASK-Q scores, meaning participants who had those close relationships were expected to have higher knowledge scores. Personal relationships were found to have a significant impact on ASK-Q scores, which illustrates that the individuals who have personal knowledge and experiences surrounding disability resultingly have more academic knowledge about disability.

Future research investigating all the hypotheses of interest in this study as well as the interactions between the variables are encouraged with a variety of alterations, the first of which involves sample size. The sensitivity analysis determined the statistical power is too low to

detect the effects in the current study, which furthers the argument that future research should utilize larger samples. Given the power of the study, effects of size  $d = .38$  or larger were able to be detected. Many of the predicted effects were found to be larger than  $d = .1$ , which is quite small. However, at least one reported effect was larger than  $d = .2$ , which is still small, but is usually considered meaningful in the field. Consequently, a type II error is possible in the current study due to low power.

Future research should also actively seek out more diverse samples in terms of gender, race, and major. For example, 75% of psychology students are female (APA, 2016). Women being the majority in the field could interact or compound with the prejudices faced by women firsthand (Weber & Zulehner, 2014; Rudman et al., 2012; Davis & Maldonado, 2015; Brinkman et al., 2010). Although significant statistical differences between gender were not found in the current study, the trend of women being the majority in the field could impact the data at hand, due to the current study's sample being 82.71% female, and potentially result in data not being generalizable to male populations. Although race of participants was not collected, approximately 70% of students in the field of psychology are white (APA, 2016). This again could negatively impact the generalizability and diversity of the data if the current study's sample followed the trend of the field.

Lastly, student major and knowledge levels are something that needs to be further examined. Psychology students have exposure to courses that discuss Autism Spectrum Disorder and are more likely to pursue jobs or internships in this area because they relate back to their major. As a result, this sample likely knew more about Autism Spectrum Disorder and would be more willing to work with someone who disclosed Autism Spectrum Disorder than a sample of university students from a broader number of majors. For example, only a small minority of the

participants of the current study ( $N < 10$ ) had scores below a 50% knowledge level on the ASK-Q, similar to previous research (Harrison et al., 2017). Students in this field are potentially more familiar with these forms of measurement, and the fact that the survey was completed through their university may lead to them participating in some response bias. Students in this field are also exposed to conversations surrounding mental health more frequently in their classrooms and could be more likely to seek mental health treatment than other majors as a result.

All three of these population issues could be circumvented by utilizing samples outside of the typical WEIRD (Western, Educated, Industrialized, Rich, Democratic) samples (Gosling et al., 2010). However, the study at hand aimed to specifically analyze college students, so this suggestion is better suited for future similar research in the field rather than any replications.

The hypotheses of the current study were made in part due to the previous literature illustrating that social distancing decreased with disclosure (Huws & Jones, 2008; O'Connor et al., 2019; Brosnan & Mills, 2015), which is interesting in contrast to the study at hand, due to there being no significant difference. What is even more interesting is the fact that participants who scored higher on the ASK-Q trended although not significantly ( $p = .1033$ ) to socially distance from their vignette partner more ( $d = .38$ ). This could potentially be due to stereotypes of some of Riley's preferences or behaviors, or because of Riley's un-disclosed gender or race.

An important facet of vignette-based studies to remember is that participants are found to respond more favorably when reading a vignette-based study (Heasman & Gillespie, 2019). It is also important to examine how the results of the current study align with other vignette-based research on disclosure and social distancing. The current study modified a vignette from a previous study (White et al., 2019) which also found that overall social distancing behaviors (broken down into both social and emotional distances by the previous researchers) were not

impacted by a diagnosis disclosure. The previous study concluded that disclosure was not something that the researchers could strongly recommend, but it also was not something they would encourage students to avoid. However, this previous study examined a different population from the one at hand. The previous study reviewed students in a secondary school in the United Kingdom. The study at hand reviewed students in a university setting in America. Therefore, some of the aspects of the vignette that were translated could potentially come across as immature or out-of-touch with the current interests of college students. This potential disconnect could be minimized in future research by creating an updated vignette specifically for college students, or an updated vignette that could be easily altered between age ranges.

Other studies have also found that disclosure does not always influence social distancing behaviors (O'Connor et al., 2019) or perceptions of individuals who disclose (Brosnan & Mills, 2015). This could be because the participants in vignette studies prefer having a disclosure that acts as a potential explanation for an individual's behaviors (Brosnan & Mills, 2015). Most of the research that discourages disclosure of Autism Spectrum Disorder focuses on employment, and even that has illustrated that disclosure can lead to being more likely to be employed (Ohl et al., 2017). Based on this pool of literature, and the results represented in the current study, it could be argued that disclosure does not have a substantial negative impact on social distancing behaviors of peers.

### **Limitations, Strengths, & Future Directions**

There are multiple limitations within the current study that should be acknowledged when interpreting a lack of differences within these results. The largest limitation within the study was the sample size and statistical power. The sensitivity analysis demonstrated that the study did not have the statistical power to detect the effects present in the study. Future studies could complete



data collection for even longer, which would allow for more participants and therefore more power for studies on this topic in future. It is important to acknowledge the difficulties in collecting large samples, so any sample sizes larger than the one at hand would be beneficial additions to this area of study, especially when acknowledging that even small effects can have a large societal impact (Greenwald, Banaji, & Nosek, 2015). The results of the current study are comparable to similar results illustrated with the Implicit Association Test (Greenwald et al., 2015), which has a substantial impact in the field.

The population utilized for this study was highly educated, since all participants were enrolled in college at the time of data collection. Because of that, data is not generalizable across all education levels, and scores on the ASK-Q may be slightly skewed. Future research questions should aim to focus on other participant disciplines to potentially mediate this limitation.

In addition, most participants within this sample were in their twenties, which was warranted for the scope of the study but is still important to acknowledge. Because of that, there might be generational effects playing a role. Although some generational challenges, like substance use, are decreasing with younger generations, the struggle with mental health, and seeking out care or treatment for those mental health issues, is becoming much more common (Kruisselbrink Flatt, 2013; Patalay & Gage, 2019). This would resultingly lead to much higher awareness of mental health across cohorts. Students face a variety of issues on college campuses (Academic pressure, accessibility, financial burden and responsibility, etc.) and are also facing additional challenges with the rapid pace of technological changes, and discrepancies in who on their campuses are having conversations surrounding campus diversity (Kruisselbrink Flatt, 2013; Patalay & Gage, 2019). Because of this, these results may not be fully generalizable across generations, which is not an issue for the study at hand, but again is important to acknowledge.

The vignette was originally created for younger adults between the ages of 11 and 16, which could also impact how participants responded to this modified version of the vignette, as most of the details were not altered for the study at hand, and developmental periods differ greatly between the sample utilized in the original vignette and the study at hand (White et al., 2019). Resultingly, the original vignette's population and the population at hand may have differences in what they consider appealing about a peer's interests or behaviors.

The population of the study also had an imbalance in marked disability. Many participants stated that they did not have a disability, or a close family member/friend with one, and the majority of those who did listed a close friend as their connection to someone with a disability. This study could have mitigated potential confounds with this by asking participants to complete the Inclusion of Other and the Self scale after collecting their disability demographic information and including an additional question about how close they considered their relationship to be with the person they marked as having the disability.

Finally, a potential limitation could be the COVID-19 pandemic, which took place during this study's data collection. This could be a limitation because the study at hand examined social distancing behaviors, and participant responses on the social distancing scale could have resulted in a potential floor effect due to the emphasis on social distancing during this timeframe.

Although there were definite limitations in the current study, there were also some strengths and benefits. The first of which being that this study has increased the research on this topic in the field. Research on the disclosure for adults is lacking outside of the focus on employment and high school students and is especially lacking in the examination of the interaction between disclosure and college students. This study also helped pave the path for more active-style vignettes in this area of research. This could arguably be creating stronger

ecological validity within this topic of study, due to measuring participant's actual behaviors instead of what they would imagine their behaviors to be. Future studies should continue to examine how formatting vignettes in an active approach can alter responses of participants, if at all.

This thesis has shared descriptive information on the current state of disclosure research and has helped develop a new path in research by looking at the relation between disclosure, social distancing, and knowledge all in one experiment completed by college students. Future studies could use a wider range of ages, and a wider range of college populations. This study adds to the growing literature where the impact of disclosure is being acknowledged and examined outside of the scope of employment.

This research is valuable for multiple groups of people. Firstly, this area of research is valuable for family members, due to being an opportunity to start the discussion on disclosure, and how it interacts with identity for family members. This area of study is also vital for college faculty and staff, due to the impact it can have on academic success, retention rates, and student well-being. Finally, this topic of research is vital for individuals who have Autism Spectrum Disorder due to beginning to examine how disclosure can interact with identity and college success. Disclosure is something that is deeply personal, and research increasing on this topic is an opportunity for individuals with Autism Spectrum Disorder to get background on what disclosure has looked like in past, and what it could mean for them in different settings. More research on this topic and field is needed and should be strongly encouraged. This area of research also needs to utilize similar methodology as the one in the current study, and other methodologies that allow individuals with Autism Spectrum Disorder more of a genuine and active role in research.

Future disclosure research should continue to review college student and other adult populations. There is also a need for standardized measures focusing on knowledge that can be altered or formatted for a variety of knowledge levels and populations, and a need for more established measures on social distancing behaviors with the specific focus on Autism Spectrum Disorder disclosure in mind. Future research should aim to focus on recruiting more male participants, and if focusing on college students, should aim to recruit from disciplines outside of psychology. In addition, more research is needed on close relationships and family relationships when one member of the relationship has a disability, and the differentiation between those two types of relationships.

In conclusion, future research needs to consider the perspective of the individuals with disabilities and needs to continue the shift towards a critical disability theory approach. A big flaw in the research on Autism Spectrum Disorder disclosure and interventions is the lack of perspectives and insight from individuals who have Autism Spectrum Disorder (Huws & Jones, 2008). Utilizing this approach would allow for the acknowledgment of how a disclosure can relate back to an individual's identity in different spheres, such as family and romantic relationships, career, academia, and friendships. Overall, this area of research is moving in the right direction, but still requires more exploration.

### References

- Accardo, A. L., Kuder, S. J., & Woodruff, J. (2019). Accommodations and support services preferred by college students with autism spectrum disorder. *Autism*, 23(3), 574–583.  
<https://doi.org/10.1177/1362361318760490>
- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3<sup>rd</sup> ed.).
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4<sup>th</sup> ed.).
- American Psychiatric Association. (2013A). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- American Psychiatric Association. (2013B). *DSM-5 autism spectrum disorder fact sheet* [Fact sheet]. <https://www.psychiatry.org/psychiatrists/practice/dsm/educational-resources/dsm-5-fact-sheets>
- American Psychological Association. (2016). *Summary report, graduate study in psychology 2017: Student demographics*. <http://www.apa.org/education/grad/survey-data/2017-student-demographics>
- American Psychological Association. (2019). *Publication manual of the American psychological association* (7th ed.).
- Anderson, K. A., McDonald, T. A., Edsall, D., Smith, L. E., & Taylor, J. L. (2016). Postsecondary expectations of high-school students with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 31(1), 16–26.  
<https://doi.org/10.1177/1088357615610107>

- Anderson, A. H., Stephenson, J., Carter, M., & Carlon, S. (2019). A Systematic literature review of empirical research on postsecondary students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 49(4), 1531–1558. <https://doi.org/10.1007/s10803-018-3840-2>
- Antonak, R. F., & Livneh, H. (2000). Measurement of attitudes towards persons with disabilities. *Disability and Rehabilitation: An International, Multidisciplinary Journal*, 22(5), 211–224. <https://doi.org/10.1080/096382800296782>
- 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. <https://doi.org/10.1037/0022-3514.63.4.596>
- Ashbaugh, K., Koegel, R. L., & Koegel, L. K. (2017). Increasing social integration for college students with autism spectrum disorder. *Behavioral Development Bulletin*, 22(1), 183–196. <https://doi.org/10.1037/bdb0000057>
- Austin, J. E., Zinke, V. L., & Davies, W. H. (2016). Influencing perception about children with autism and their parents using disclosure cards. *Journal of Autism and Developmental Disorders*, 46(8), 2764–2769. <https://doi.org/10.1007/s10803-016-2821-6>
- Austin, J. E., Galijot, R., & Davies, W. H. (2018). Evaluating parental autism disclosure strategies. *Journal of Autism and Developmental Disorders*, 48(1), 103–109. <https://doi.org/10.1007/s10803-017-3302-2>
- Baio, J., Wiggins, L., Christensen, D. L., Maenner, M. J., Daniels, J., Warren, Z., Kurzius-Spencer, M., Zahorodny, W., Robinson Rosenberg, C., White, T., Durkin, M. S., Imm, P., Nikolaou, L., Yeargin-Allsopp, M., Lee, L. C., Harrington, R., Lopez, M., Fitzgerald, R. T., Hewitt, A., Pettygrove, S., ... Dowling, N. F. (2018). Prevalence of autism spectrum

- disorder among children aged 8 years - autism and developmental disabilities monitoring network, 11 Sites, United States, 2014. *Morbidity and mortality weekly report. Surveillance summaries (Washington, D.C.: 2002)*, 67(6), 1–23.  
<https://doi.org/10.15585/mmwr.ss6706a1>
- Barnhill, G. P. (2016). Supporting students with asperger syndrome on college campuses: Current practices. *Focus on Autism and Other Developmental Disabilities*, 31(1), 3–15.  
<https://doi.org/10.1177/1088357614523121>
- Bent, C.A., Barbaro, J. & Dissanayake, C. Change in autism diagnoses prior to and following the introduction of DSM-5. *Journal of Autism and Developmental Disorders*, 47, 163–171 (2017). <https://doi.org/10.1007/s10803-016-2942-y>
- Brinkman, B.G., Jedinak, A., Rosen, L.A. and Zimmerman, T.S. (2011), Teaching children fairness: Decreasing gender prejudice among children. *Analyses of Social Issues and Public Policy*, 11(1), 61-81. <https://doi.org/10.1111/j.1530-2415.2010.01222.x>
- Brogan, C. A., & Knussen, C. (2003). The disclosure of a diagnosis of an autistic spectrum disorder: Determinants of satisfaction in a sample of Scottish parents. *Autism*, 7(1), 31–46. <https://doi.org/10.1177/1362361303007001004>
- Brosnan, M., & Mills, E. (2015). The effect of diagnostic labels on the affective responses of college students towards peers with ‘asperger’s syndrome’ and ‘autism spectrum disorder.’ *Autism*, 20(4), 388–394. <https://doi.org/10.1177/1362361315586721>
- Brown, L. (2020). Identity-First language. Autistic Self Advocacy Network.  
<https://autisticadvocacy.org/about-asan/identity-first-language/>

- Cage, E., & Troxell-Whitman, Z. (2019). Understanding the reasons, contexts and costs of camouflaging for autistic adults. *Journal of Autism and Developmental Disorders*, 49(5), 1899–1911. <https://doi.org/10.1007/s10803-018-03878-x>
- Cai, R. Y., & Richdale, A. L. (2016). Educational experiences and needs of higher education students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 46(1), 31–41. <https://doi.org/10.1007/s10803-015-2535-1>
- Cox, B. E., Thompson, K., Anderson, A., Mintz, A., Locks, T., Morgan, L., Edelstein, J., & Wolz, A. (2017). College experiences for students with autism spectrum disorder: Personal identity, public disclosure, and institutional support. *Journal of College Student Development*, 58(1), 71–87. <https://doi.org/10.1353/csd.2017.0004>
- Cribb, S., Kenny, L., & Pellicano, E. (2019). ‘I definitely feel more in control of my life’: The perspectives of young autistic people and their parents on emerging adulthood. *Autism*, 23(7), 1765–1781. <https://doi.org/10.1177/1362361319830029>
- Davidson, J., & Henderson, V. L. (2010). ‘Coming out’ on the spectrum: Autism, identity and disclosure. *Social & Cultural Geography*, 11(2), 155–170. <https://doi.org/10.1080/14649360903525240>
- Davis, D. R., & Maldonado, C. (2015). Shattering the glass ceiling: The leadership development of African American women in higher education. *Advancing Women In Leadership*, 35, 48-64. [http://advancingwomen.com/awl/awl\\_wordpress/](http://advancingwomen.com/awl/awl_wordpress/) ISSN 1093-7099
- Durand-Zaleski, I., Scott, J., Rouillon, F., Leboyer, M. (2012). A first national survey of knowledge, attitudes and behaviours towards schizophrenia, bipolar disorders and autism in France. *BMC Psychiatry*, 12(128). <https://doi.org/10.1186/1471-244X-12-128>



- Egilson, S. T., Ólafsdóttir, L. B., Leósdóttir, T., & Saemundsen, E. (2017). Quality of life of high-functioning children and youth with autism spectrum disorder and typically developing peers: Self- and proxy-reports. *Autism, 21*(2), 133–141. <https://doi.org/10.1177/1362361316630881>
- Findler, L., Vilchinsky, N., & Werner, S. (2007). The multidimensional attitudes scale toward persons with disabilities (MAS): Construction and validation. *Rehabilitation Counseling Bulletin, 50*(3), 166–176. <https://doi.org/10.1177/00343552070500030401>
- Fisher, N., & Choi, S. I. (2013). What are college students afraid of disclosing and to whom? An adaptation and extension of the self-disclosure index. *Journal of Asia Pacific Counseling, 3*(2), 113–130. <https://doi.org/10.18401/2013.3.2.1>
- Follmer, KB, Jones, KS. (2017). Stereotype content and social distancing from employees with mental illness: The moderating roles of gender and social dominance orientation. *Journal of Applied Social Psychology, 47*(9), 492– 504. <https://doi.org/10.1111/jasp.12455>
- Frost, K. M., Bailey, K. M., & Ingersoll, B. R. (2019). “I just want them to see me as...Me”: Identity, community, and disclosure practices among college students on the autism spectrum. *Autism in Adulthood, 1*(4), 268–275. <https://doi.org/10.1089/aut.2018.0057>
- Gelbar, N. W., Smith, I., & Reichow, B. (2014). Systematic review of articles describing experience and supports of individuals with autism enrolled in college and university programs. *Journal of Autism and Developmental Disorders, 44*(10), 2593–2601. <https://doi.org/10.1007/s10803-014-2135-5>
- Geschwind, D. H. (2009). Advances in autism. *Annual Review of Medicine, 60*(1), 367–380. <https://doi.org/10.1146/annurev.med.60.053107.121225>

- Gillespie-Lynch, K., Brooks, P. J., Someki, F., Obeid, R., Shane-Simpson, C., Kapp, S. K., Daou, N., & 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. <https://doi.org/10.1007/s10803-015-2422-9>
- Gillespie-Smith, K., Ballantyne, C., Branigan, H. P., Turk, D. J., & Cunningham, S. J. (2018). The I in autism: Severity and social functioning in autism are related to self-processing. *British Journal of Developmental Psychology*, 36(1), 127–141. <https://doi.org/10.1111/bjdp.12219>
- Gosling, S. D., Sandy, C. J., John, O. P., & Potter, J. (2010). Wired but not WEIRD: The promise of the internet in reaching more diverse samples. *Behavioral and Brain Sciences*, 33(2-3), 94-5. <https://dx.doi.org/10.1017/S0140525X10000300>
- Greenwald, A. G., Banaji, M. R., & Nosek, B. A. (2015). Statistically small effects of the implicit association test can have societally large effects. *Journal of Personality and Social Psychology*, 108(4), 553–561. <https://doi.org/10.1037/pspa0000016>
- Harnum, Marsha & Duffy, Jim & Ferguson, Duncan. (2007). Adults' versus children's perceptions of a child with autism or attention deficit hyperactivity disorder. *Journal of autism and developmental disorders*. 37(7), 1337-1343. <https://doi.org/10.1007/s10803-006-0273-0>
- Harrison, A. J., Bradshaw, L. P., Naqvi, N. C., Paff, M. L., & Campbell, J. M. (2017). Development and psychometric evaluation of the autism stigma and knowledge questionnaire (ASK-Q). *Journal of Autism and Developmental Disorders*, 47(10), 3281–3295. <https://doi.org/10.1007/s10803-017-3242-x>

- Harrison, A. J., Paff, M. L., & Kaff, M. S. (2019). Examining the psychometric properties of the autism stigma and knowledge questionnaire (ASK-Q) in multiple contexts. *Research in Autism Spectrum Disorders*, 57, 28–34. <https://doi.org/10.1016/j.rasd.2018.10.002>
- Harrop, C., Shire, S., Gulsrud, A., Chang, Y. C., Ishijima, E., Lawton, K., & Kasari, C. (2015). Does gender influence core deficits in ASD? An investigation into social-communication and play of girls and boys with ASD. *Journal of autism and developmental disorders*, 45(3), 766–777. <https://doi.org/10.1007/s10803-014-2234-3>
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.
- Heasman, B., & Gillespie, A. (2019). Participants over-estimate how helpful they are in a two-player game scenario toward an artificial confederate that discloses a diagnosis of autism. *Frontiers in Psychology*, 10, 1349. <https://doi.org/10.3389/fpsyg.2019.01349>
- Hielscher, E., & Waghorn, G. (2015). Managing disclosure of personal information: An opportunity to enhance supported employment. *Psychiatric Rehabilitation Journal*, 38(4), 306–313. <https://doi.org/10.1037/prj0000127>
- Hill, E. L. (2004). Executive dysfunction in autism. *Trends in Cognitive Sciences*, 8(1), 26–32. <https://doi.org/10.1016/j.tics.2003.11.003>
- Hodgetts, D., Stolte, O., Radley, A., Leggatt-Cook, C., Groot, S., & Chamberlain, K. (2011). ‘Near and far’: Social distancing in domiciled characterisations of homeless people. *Urban Studies*, 48(8), 1739–11753. <https://doi.org/10.1177/0042098010377476>
- Huws, J. C., & Jones, R. S. P. (2008). Diagnosis, disclosure, and having autism: An interpretative phenomenological analysis of the perceptions of young people with autism.

- Journal of Intellectual & Developmental Disability*, 33(2), 99–107.  
<https://doi.org/10.1080/13668250802010394>
- Jackson, S. L. J., Hart, L., & Volkmar, F. R. (2018). Preface: Special issue—college experiences for students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 48(3), 639–642. <https://doi.org/10.1007/s10803-018-3463-7>
- Johnson, T. D., & Joshi, A. (2014). Disclosure on the spectrum: Understanding disclosure among employees on the autism spectrum. *Industrial and Organizational Psychology*, 7(2), 278–281. <https://doi.org/10.1111/iops.12149>
- Kruisselbrink Flatt, A. (2013). A suffering generation: Six factors contributing to the mental health crisis in North American higher education. *College Quarterly*, 16(1).  
<https://files.eric.ed.gov/fulltext/EJ1016492.pdf>
- Kumazaki, H., Warren, Z., Swanson, A., Yoshikawa, Y., Matsumoto, Y., Takahashi, H., Sarkar, N., Ishiguro, H., Mimura, M., Minabe, Y., & Kikuchi, M. (2018). Can robotic systems promote self-disclosure in adolescents with autism spectrum disorder? A pilot study. *Frontiers in Psychiatry*, 9, 36. <https://doi.org/10.3389/fpsy.2018.00036>
- Lee, Y., & Tang, F. (2015). More caregiving, less working: Caregiving roles and gender difference. *Journal of Applied Gerontology*, 34(4), 465–483.  
<https://doi.org/10.1177/0733464813508649>
- Lord, C., & Bishop, S. L. (2015). Recent advances in autism research as reflected in DSM-5 criteria for autism spectrum disorder. *Annual Review of Clinical Psychology*, 11(1), 53–70. <https://doi.org/10.1146/annurev-clinpsy-032814-112745>

- Lucas, R., & James, A. I. (2018). An evaluation of specialist mentoring for university students with autism spectrum disorders and mental health conditions. *Journal of Autism and Developmental Disorders*, 48(3), 694–707. <https://doi.org/10.1007/s10803-017-3303-1>
- Luna, B., Doll, S. K., Hegedus, S. J., Minshew, N. J., & Sweeney, J. A. (2007). Maturation of executive function in autism. *Biological Psychiatry*, 61(4), 474–481. <https://doi.org/10.1016/j.biopsych.2006.02.030>
- Maenner, M. J., Rice, C. E., Arneson, C. L., Cunniff, C., Schieve, L. A., Carpenter, L. A., Van Naarden Braun, K., Kirby, R. S., Bakian, A. V., & Durkin, M. S. (2014). Potential impact of DSM-5 criteria on autism spectrum disorder prevalence estimates. *JAMA Psychiatry*, 71(3), 292. <https://doi.org/10.1001/jamapsychiatry.2013.3893>
- Mandy, W. P. L., Charman, T., & Skuse, D. H. (2012). Testing the construct validity of proposed criteria for DSM-5 autism spectrum disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, 51(1), 41–50. <https://doi.org/10.1016/j.jaac.2011.10.013>
- Mandy, W (2013) Upcoming changes to autism spectrum disorder: evaluating DSM-5. *Neuropsychiatry* 3(2), 127–130. <https://www.jneuropsychiatry.org/peer-review/upcoming-changes-to-autism-spectrum-disorder-evaluating-dsm5-neuropsychiatry.pdf>
- Mayes, S. D., Black, A., & Tierney, C. D. (2013). DSM-5 under-identifies PDDNOS: Diagnostic agreement between the DSM-5, DSM-IV, and checklist for autism spectrum disorder. *Research in Autism Spectrum Disorders*, 7(2), 298–306. <https://doi.org/10.1016/j.rasd.2012.08.011>
- McMahon, C. M., Henry, S., & Linthicum, M. (2020). Employability in autism spectrum disorder (ASD): Job candidate’s diagnostic disclosure and ASD characteristics and

- employer's ASD knowledge and social desirability. *Journal of Experimental Psychology: Applied*, 27(1), 142-157. <https://doi.org/10.1037/xap0000282>
- O'Connor, C., Burke, J., & Rooney, B. (2020). Diagnostic disclosure and social marginalisation of adults with ASD: Is there a relationship and what mediates it? *Journal of Autism and Developmental Disorders*, 50(9), 3367–3379. <https://doi.org/10.1007/s10803-019-04239-y>
- Ohl, A., Grice Sheff, M., Small, S., Nguyen, J., Paskor, K., & Zanjirian, A. (2017). Predictors of employment status among adults with autism spectrum disorder. *Work*, 56(2), 345–355. <https://doi.org/10.3233/WOR-172492>
- Opekitan Afe, T., Ogunsemi, O., & Oyelekan, A. (2019) Social distancing toward gays and lesbians among college students in Lagos, Nigeria. *Journal of Gay & Lesbian Social Services*, 31(4), 546-557, DOI: [10.1080/10538720.2019.1654424](https://doi.org/10.1080/10538720.2019.1654424)
- Patalay, P., & Gage, S. H. (2019). Changes in millennial adolescent mental health and health-related behaviours over 10 years: A population cohort comparison study. *International Journal of Epidemiology*, 48(5), 1650–1664. <https://doi.org/10.1093/ije/dyz006>
- Prince, M. J. (2017). Persons with invisible disabilities and workplace accommodation: Findings from a scoping literature review. *Journal of Vocational Rehabilitation*, 46(1), 75–86. <https://doi.org/10.3233/JVR-160844>
- Rowe, T. R., Charles, T. C., & DuBose, H. (2020). Supporting students with ASD on campus: What students may need to be successful. *Journal of Postsecondary Education and Disability*, 33(1), 97-101. [https://higherlogicdownload.s3.amazonaws.com/AHEAD/38b602f4-ec53-451c-9be0-5c0bf5d27c0a/UploadedImages/JPED/JPED\\_Vol\\_33/33\\_issue\\_1/JPED\\_33\\_1.pdf](https://higherlogicdownload.s3.amazonaws.com/AHEAD/38b602f4-ec53-451c-9be0-5c0bf5d27c0a/UploadedImages/JPED/JPED_Vol_33/33_issue_1/JPED_33_1.pdf)

- Rudman, L. A., Moss-Racusin, C. A., Phelan, J. E., & Nauts, S. (2012). Status incongruity and backlash effects: Defending the gender hierarchy motivates prejudice against female leaders. *Journal of Experimental Social Psychology*, 48(1), 165-179.  
<https://doi.org/10.1016/j.jesp.2011.10.008>
- Russo, F. (2018). The costs of camouflaging autism. *Spectrum: Autism Research news*.  
<https://www.spectrumnews.org/features/deep-dive/costs-camouflaging-autism/>
- Sanford, C., Newman, L., Wagner, M., Cameto, R., Knokey, A.-M., and Shaver, D. (2011). The post high school outcomes of young adults with disabilities up to 6 years After high school. Key findings from the national longitudinal transition study-2 (NLTS2) (NCSE 2011-3004). Menlo Park, CA: SRI International.  
<https://ies.ed.gov/ncser/pubs/20113004/pdf/20113004.pdf>
- Sarrett, J.C. (2018). Autism and accommodations in higher education: Insights from the autism community. *Journal of Autism and Developmental Disorders* 48, 679–693.  
<https://doi.org/10.1007/s10803-017-3353-4>
- Sasson, N. J., & Morrison, K. E. (2017). First impressions of adults with autism improve with diagnostic disclosure and increased autism knowledge of peers. *Autism*, 23(1), 50–59.  
<https://doi.org/10.1177/1362361317729526>
- Sell, N. K., Giarelli, E., Blum, N., Hanlon, A. L., & Levy, S. E. (2012). A comparison of autism spectrum disorder DSM-IV criteria and associated features among African American and white children in Philadelphia County. *Disability and Health Journal*, 5(1), 9–17.  
<https://doi.org/10.1016/j.dhjo.2011.08.002>
- Shogren, K. A., Wehmeyer, M. L., Shaw, L. A., Grigal, M., Hart, D., Smith, F. A., & Khamisi, S. (2018). Predictors of self-determination in postsecondary education for students with

- intellectual and developmental disabilities. *Education and Training in Autism and Developmental Disabilities*, 53(2), 146-159.
- Smith, O., & Jones, S. C. (2019). 'Coming out' with autism: Identity in people with an asperger's diagnosis after DSM-5. *Journal of Autism and Developmental Disorders*, 50(2), 592–602. <https://doi.org/10.1007/s10803-019-04294-5>
- Stein, A., Dalton, L., Rapa, E., Bluebond-Langner, M., Hanington, L., Stein, K. F., Ziebland, S., Rochat, T., Harrop, E., Kelly, B., Bland, R., Betancourt, T., D'Souza, C., Fazel, M., Hochhauser, D., Kolucki, B., Lowney, A. C., Netsi, E., Richter, L., & Yousafzai, A. (2019). Communication with children and adolescents about the diagnosis of their own life-threatening condition. *The Lancet*, 393(10176), 1150–1163. [https://doi.org/10.1016/S0140-6736\(18\)33201-X](https://doi.org/10.1016/S0140-6736(18)33201-X)
- Strathearn, L. (2009). The elusive etiology of autism: Nature and nurture? *Frontiers in Behavioral Neuroscience*, 3(11), 1-3. <https://doi.org/10.3389/neuro.08.011.2009>
- Stronach, S., Wiegand, S., & Mentz, E. (2019). Brief report: Autism knowledge and stigma in university and community samples. *Journal of autism and developmental disorders*, 49(3), 1298-1302. <https://doi.org/10.1007/s10803-018-3825-1>
- Underhill, J. C., Ledford, V., & Adams, H. (2019). Autism stigma in communication classrooms: Exploring peer attitudes and motivations toward interacting with atypical students. *Communication Education*, 68(2), 175–192. <https://doi.org/10.1080/03634523.2019.1569247>
- W, B. L., & Evans, G. E. (2014). In their own words: The career planning experiences of college students with ASD. *Journal of Vocational Rehabilitation*, 40(3), 195–202. <https://doi.org/10.3233/JVR-140684>



- Waye, M. M. Y., & Cheng, H. Y. (2018). Genetics and epigenetics of autism: A review. *Psychiatry and Clinical Neurosciences*, 72(4), 228–244.  
<https://doi.org/10.1111/pcn.12606>
- Weber, A., & Zulehner, C. (2014). Competition and gender prejudice: Are discriminatory employers doomed to fail?: Competition and gender prejudice. *Journal of the European Economic Association*, 12(2), 492–521. <https://doi.org/10.1111/jeea.12048>
- Wei, X., Yu, J. W., Shattuck, P., McCracken, M., & Blackorby, J. (2013). Science, technology, engineering, and mathematics (STEM) participation among college students with an autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 43(7), 1539–1546. <https://doi.org/10.1007/s10803-012-1700-z>
- Wei, X., Wagner, M., Hudson, L., Yu, J. W., & Javitz, H. (2016). The effect of transition planning participation and goal-setting on college enrollment among youth with ASD spectrum disorders. *Remedial and Special Education*, 37(1), 3–14.  
<https://doi.org/10.1177/0741932515581495>
- White, R., Barreto, M., Harrington, J., Kapp, S. K., Hayes, J., & Russell, G. (2019). Is disclosing an autism spectrum disorder in school associated with reduced stigmatization? *Autism*, 24(3), 744–754. <https://doi.org/10.1177/1362361319887625>
- White, S. W., Elias, R., Salinas, C. E., Capriola, N., Conner, C. M., Asselin, S. B., Miyazaki, Y., Mazefsky, C. A., Howlin, P., & Getzel, E. E. (2017). Students with autism spectrum disorder in college: Results from a preliminary mixed methods needs analysis. *Research in Developmental Disabilities*, 56, 29–40. <https://doi.org/10.1016/j.ridd.2016.05.010>

- White, S. W., & Roberson-Nay, R. (2009). Anxiety, social deficits, and loneliness in youth with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39(7), 1006–1013. <https://doi.org/10.1007/s10803-009-0713-8>
- White, SW, Xia, M, Edwards, G. (2020). Race, gender, and scholarly impact: Disparities for women and faculty of color in clinical psychology. *Journal of Clinical Psychology*, 77, 78– 89. <https://doi.org/10.1002/jclp.23029>
- Wiener, L., Mellins, C. A., Marhefka, S., & Battles, H. B. (2007). Disclosure of an HIV diagnosis to children: History, current research, and future directions: *Journal of Developmental & Behavioral Pediatrics*, 28(2), 155–166. <https://doi.org/10.1097/01.DBP.0000267570.87564.cd>
- Zwaigenbaum, L., Bryson, S., Lord, C., Rogers, S., Carter, A., Carver, L., Chawarska, K., Constantino, J., Dawson, G., Dobkins, K., Fein, D., Iverson, J., Klin, A., Landa, R., Messinger, D., Ozonoff, S., Sigman, M., Stone, W., Tager-Flusberg, H., & Yirmiya, N. (2009). Clinical assessment and management of toddlers with suspected autism spectrum disorder: Insights from studies of high-risk infants. *Pediatrics*, 123(5), 1383–1391. <https://doi.org/10.1542/peds.2008-1606>

## Appendix A Survey Materials

### Peer Social Distancing Behaviors in Higher Education

---

#### Start of Block: IRB Consent



Q114

#### **Informed Consent to Participate in Research**

##### **Information to Consider Before Taking Part in this Research Study IRB Study # 1538324-**

**1** You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. We encourage you to talk with your family and friends before you decide to take part in this research study. No risks, inconveniences, or discomforts are anticipated to result from this study. We are asking you to take part in a research study called: **Peer Social Distancing Behaviors in Higher Education** The person who is in charge of this research study is Hope Sparks, a graduate student in the psychology department. This person is called the Principal Investigator. The research will be conducted online. In particular, participants will be recruited through a university-sponsored online software tool that the majority of undergraduate students at the college have access to. Participants will be able to complete the study in a location of their choosing, and in a time-frame of their choosing.

**Purpose of the study** The purpose of this study is to: Learn more about peer perceptions of classmates, their social distancing, and their knowledge and stigma levels. This research is being conducted by a student as part of their thesis.

**Study Procedures** If you take part in this study, you will be asked to: · Participate in a one-time survey that asks for demographic information, and how you would respond to a short matching that should take approximately 20 minutes of your time. · Survey completion is expected to take place at a location of your choosing.

**Eligibility Criteria** In order to participate in this research study, you must be at least 18 years of age, fluent in English, and be a current undergraduate student at the University of North Florida.

**Alternatives** You do not have to participate in this research study.

**Benefits** The potential benefits of participating in this research study include: · A chance for reflection about your learning experiences · Providing the field with a better understanding of peer perceptions, social distancing, and knowledge and stigma levels

**Risks or Discomfort** This research is considered to be minimal risk. That means that the risks

associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

**Compensation** No compensation will be provided for your participation.

**Privacy and Confidentiality** We will keep your study records private and confidential. Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

- The research team, including the Principal Investigator and Co-Principal Investigator.
- Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety.
- Any agency of the federal, state, or local government that regulates this research. This includes the Department of Health and Human Services (DHHS) and the Office for Human Research Protection (OHRP).
- The UNF Institutional Review Board (IRB) and its related staff who have oversight responsibilities for this study, staff in the UNF Office of Research and Sponsored Programs (ORSP), and other UNF offices who oversee this research.

We may publish what we learn from this study. If we do, we will not include any identifiable information such as your name. In addition, no private or confidential information will be collected in and all responses will be anonymized. We will not publish anything that would let people know who you are.

**Voluntary Participation / Withdrawal** You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study, however, that may remove you from the survey's data analysis.

**New information about the study** During the course of this study, we may find more information that could be important to you. This includes information that, once learned, might cause you to change your mind about being in the study. We will notify you as soon as possible if such information becomes available.

**You can get the answers to your questions, concerns, or complaints** If you have any questions, concerns or complaints about this study, or experience an adverse event or unanticipated problem, call Hope Sparks at 727-452-3166, or email [n01448580@unf.edu](mailto:n01448580@unf.edu). If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, call the UNF IRB at 904-620-2455.

**Statement of Person Obtaining Informed Consent** We have carefully explained to the individual taking part in this study what they can expect from their participation. I hereby certify that when this person clicks “next”, to the best of my knowledge, that they understand • What

the study is about; · What procedures will be used; · What the potential benefits might be; and · What the known risks might be.

☐ Next- I consent (1)

☐ I do not consent (2)

End of Block: IRB Consent

---

Start of Block: Participant Matching Questions

Q113 Timing

First Click (1)

Last Click (2)

Page Submit (3)

Click Count (4)

-----

Q93 Please answer the following questions in a sentence or two. We will use your answers to match you with another participant. You will be given the option to work with the participant we match you with on a task later on.

-----



Q96 What do you do for fun?

\_\_\_\_\_

-----



Q97 Tell us about your family. Do you consider your family large or small? Do you have siblings/ If so, describe your relationship with them.

\_\_\_\_\_

-----



Q98 What are your academic interests? What do you study?

---



Q99 What are you like as a student and classmate?

---



Q100 Tell us about your style. Is your style classic? Conservative? Trendy?

---



Q101 Tell us about your eating habits. Are you an adventurous eater? A picky eater? Do you have any special dietary constraints?

---



Q102 What are you like as a friend?

---



Q103 Is there anything else you think your potential partner should know about you?

---

**End of Block: Participant Matching Questions**

---

**Start of Block: Participant Matching- A**

Q112 Timing  
First Click (1)  
Last Click (2)  
Page Submit (3)  
Click Count (4)

---

**Q107 We've matched you with a possible partner, named Riley! Please read their responses to the previous questions below, and then decide if you want to work with them on the upcoming task, or if you would like to be matched with someone else. What do you like to do for fun?** I enjoy playing strategy/war games, going go-karting, riding my bike, and watching Star Trek. I'm a big Star Trek fan, I saw the movie 8 times in the theaters. **Tell us about your family. Do you consider your family large or small? Do you have siblings? If so, describe your relationship with them.** I'm part of a big, extended family. I've got a step-sister who's seven. She can be annoying because she'll borrow my things and mess up my room, and I like to keep things organized. I get worried if she moves my stuff out of place and I can't find it. I also have an older brother who I get along well with, but he's busier than usual this year because of school. **What are your academic interests? What do you study?** I'm academically interested in astronomy and space science. **What are you like as a student and classmate?** I'd consider myself smart in the areas that interest me (astronomy and space science). I can focus on certain topics for hours, which can help with academics. I hand in my homework on time, but I'm not a big extrovert in the classroom. School can be overwhelming sometimes because it's so noisy and full of people. **Tell us about your style. Is your style classic? Conservative? Trendy?** I'm not that interested in fashion. I dress more for comfort than for style. **Tell us about your eating habits. Are you an adventurous eater? A picky eater? Do you have any special dietary constraints?** I don't have any dietary constraints, but I am a picky eater. I don't really like green foods, and I don't like when different foods touch each other on the plate. **What are you like as a friend?** I make my friends laugh a lot, so I think I'm funny. We all play war games and go-kart together. I also help them with their science homework. But if they say something that I know is incorrect I have to correct them. Sometimes they can get bored when I talk about space for too long. **Is there anything else you think your potential partner should know about you?** No

---



**Q108 Do you want to work with this person on the upcoming task, or would you like to be matched with someone else?**

- ☐ Work with this person (1)
- ☐ Matched with someone else (2)

---

**End of Block: Participant Matching- A**

---

**Start of Block: Participant Matching - B**

Q111 Timing

First Click (1)

Last Click (2)

Page Submit (3)

Click Count (4)

---

**Q110 We've matched you with a possible partner, named Riley! Please read their responses to the previous questions below, and then decide if you want to work with them on the upcoming task, or if you would like to be matched with someone else. What do you like to do for fun?** I enjoy playing strategy/war games, going go-karting, riding my bike, and watching Star Trek. I'm a big Star Trek fan, I saw the movie 8 times in the theaters. **Tell us about your family. Do you consider your family large or small? Do you have siblings? If so, describe your relationship with them.** I'm part of a big, extended family. I've got a step-sister who's seven. She can be annoying because she'll borrow my things and mess up my room, and I like to keep things organized. I get worried if she moves my stuff out of place and I can't find it. I also have an older brother who I get along well with, but he's busier than usual this year because of school. **What are your academic interests? What do you study?** I'm academically interested in astronomy and space science. **What are you like as a student and classmate?** I'd consider myself smart in the areas that interest me (astronomy and space science). I can focus on certain topics for hours, which can help with academics. I hand in my homework on time, but I'm not a big extrovert in the classroom. School can be overwhelming sometimes because it's so noisy and full of people. **Tell us about your style. Is your style classic? Conservative? Trendy?** I'm not that interested in fashion. I dress more for comfort than for style. **Tell us about your eating habits. Are you an adventurous eater? A picky eater? Do you have any special dietary constraints?** I don't have any dietary constraints, but I am a picky eater. I don't really like green foods, and I don't like when different foods touch each other on the plate. **What are you like as a friend?** I make my friends laugh a lot, so I think I'm funny. We all play war games and go-kart together. I also help them with their science homework. But if they say something that I know is incorrect I have to correct them. Sometimes they can get bored when I talk about space for too long. **Is there anything else you think your potential partner should know about you?** I have Autism Spectrum Disorder.

---





Q109 Do you want to work with this person on the upcoming task, or would you like to be matched with someone else?

- ☐ Work with this person (1)
- ☐ Matched with someone else (2)

**End of Block: Participant Matching - B**

---

**Start of Block: Riley**



Q115 Which do you think is your partner's gender?

- ☐ Male (1)
- ☐ Female (2)
- ☐ Nonbinary/Other (3)



Q116 Which do you think is your partner's race?

- ☐ American Indian or Alaska Native (1)
- ☐ Asian (2)
- ☐ Black or African American (3)
- ☐ Hispanic or Latino (4)
- ☐ Native Hawaiian or other Pacific Islander (5)
- ☐ White (6)

**End of Block: Riley**

---

**Start of Block: Social Distance Scale**

Q85 Timing  
First Click (1)  
Last Click (2)  
Page Submit (3)  
Click Count (4)

---

Q5 Please click a number to show how much you agree with the following sentences about Riley.

---



Q2 I could be friends with Riley

- ☐ 1 - Strongly Disagree (4)
  - ☐ 2 - Disagree (5)
  - ☐ 3 - Not Sure (6)
  - ☐ 4 - Agree (7)
  - ☐ 5 - Strongly Agree (8)
- 



Q7 I wouldn't want Riley in my class

- ☐ 1 - Strongly Disagree (4)
  - ☐ 2 - Disagree (5)
  - ☐ 3 - Not Sure (6)
  - ☐ 4 - Agree (7)
  - ☐ 5 - Strongly Agree (8)
-



Q8 If I saw Riley in the hall by our class I'd avoid him

- ☐ 1 - Strongly Disagree (4)
  - ☐ 2 - Disagree (5)
  - ☐ 3 - Not Sure (6)
  - ☐ 4 - Agree (7)
  - ☐ 5 - Strongly Agree (8)
- 



Q9 I'd be happy to spend time with Riley out of school

- ☐ 1 - Strongly Disagree (4)
  - ☐ 2 - Disagree (5)
  - ☐ 3 - Not Sure (6)
  - ☐ 4 - Agree (7)
  - ☐ 5 - Strongly Agree (8)
- 



Q10 I wouldn't introduce Riley to my friends

- ☐ 1 - Strongly Disagree (4)
  - ☐ 2 - Disagree (5)
  - ☐ 3 - Not Sure (6)
  - ☐ 4 - Agree (7)
  - ☐ 5 - Strongly Agree (8)
- 



Q11 I'd be happy to work on a group project with Riley

- ☐ 1 - Strongly Disagree (4)
  - ☐ 2 - Disagree (5)
  - ☐ 3 - Not Sure (6)
  - ☐ 4 - Agree (7)
  - ☐ 5 - Strongly Agree (8)
- 



Q12 I'd never go to Riley for help with a personal problem

- ☐ 1 - Strongly Disagree (4)
- ☐ 2 - Disagree (5)
- ☐ 3 - Not Sure (6)
- ☐ 4 - Agree (7)
- ☐ 5 - Strongly Agree (8)



Q13 If Riley was in trouble I'd help him

- ☐ 1 - Strongly Disagree (4)
  - ☐ 2 - Disagree (5)
  - ☐ 3 - Not Sure (6)
  - ☐ 4 - Agree (7)
  - ☐ 5 - Strongly Agree (8)
- 



Q14 I would be willing to share a dorm room with Riley

- ☐ 1 - Strongly Disagree (4)
- ☐ 2 - Disagree (5)
- ☐ 3 - Not Sure (6)
- ☐ 4 - Agree (7)
- ☐ 5 - Strongly Agree (8)

End of Block: Social Distance Scale

---

Start of Block: IOS Scale

Q84 Timing

First Click (1)

Last Click (2)

Page Submit (3)

Click Count (4)

---

Q20 Please review the next image before answering the following questions.

---

Q16

---



Q17 Please select which one of these options you feel relates best to you and your best friend.

- ☐ 1 - No overlap (1)
  - ☐ 2 - Little overlap (2)
  - ☐ 3 - Some overlap (3)
  - ☐ 4 - Equal overlap (4)
  - ☐ 5- Strong overlap (5)
  - ☐ 6- Very strong overlap (6)
  - ☐ 7- Most overlap (7)
- 



Q18 Please select which one of these options you feel relates best to you and Riley.

- ☐ 1 - No overlap (1)
- ☐ 2 - Little overlap (2)
- ☐ 3 - Some overlap (3)
- ☐ 4 - Equal overlap (4)
- ☐ 5- Strong overlap (5)
- ☐ 6- Very strong overlap (6)
- ☐ 7- Most overlap (7)

End of Block: IOS Scale

---

Start of Block: ASK-Q

Q83 Timing

First Click (1)

Last Click (2)

Page Submit (3)

Click Count (4)

-----

Q21 Please select if you agree, disagree, or don't know about each of the statements below.

-----



Q22 I have prior knowledge of autism

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
-



Q23 Autism exists only in childhood

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q24 Some children with autism may lose acquired speech

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q25 Autism tends to run in families

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 





Q26 There is a negative opinion towards children diagnosed with autism in some communities

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q27 Children with autism may have strange reactions to the way things smell, taste, look, feel, or sound

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q28 Many children with autism have trouble understanding facial expressions

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q29 We now have treatments that can cure autism

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q30 It is important that all children diagnosed with autism receive some form of special education services at school

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q31 Some children with autism do not talk

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q32 Medication can alleviate the core symptoms of autism

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q33 There is currently no cure for autism

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q34 Autism happens mostly in middle class families

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q35 Autism is preventable

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q36 Many children with autism have trouble tolerating loud noises or certain types of touch

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
-



Q37 Autism is more frequently diagnosed in males than in females

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q38 I have prior knowledge of autism

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q39 Children with autism can grow up to live independently

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q40 All children with autism usually have problems with aggression

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q41 Autism affects people of all races and ethnicities

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q42 Children with autism need extra help to learn

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q43 Children with autism are never too old to benefit from treatment

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q44 The earlier treatment of autism starts, the more effective it tends to be

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q45 Children with autism do not enjoy the presence of others

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q46 Most children with autism are also intellectually disabled

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q47 Many children with autism show the need for routines and sameness

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q48 Vaccinations cause autism

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q49 Most children with autism are extremely impaired and cannot live independently as adults

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q50 Most children with autism may not look at things when you point at them

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q51 Some children with autism show intense interest in parts of objects

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q52 Autism holds a social stigma in some communities

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 





Q53 In some communities, people would feel ashamed if someone in their family was showing symptoms of autism

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q54 Autism is a result of a curse or evil eye put upon/inflicted on the family

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q55 All children with autism usually have problems with aggression

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q56 Genetics plays an important role in the development of autism

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q57 Many children with autism repeatedly spin objects or flap their arms

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q58 Autism is a communication disorder

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q59 Autism occurs more commonly among higher socio-economic and educational levels

- ☐ Agree (1)
  - ☐ Disagree (2)
  - ☐ Don't know (3)
- 



Q60 Autism is a developmental disorder

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q61 Behavior therapy is an intervention most likely to be effective for children with autism

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q62 Early intervention can lead to significant gains in children with autism's social and communication skills

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q63 Autism can be diagnosed as early as 18 months

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q64 A lot of children with autism have problems with being aggressive or hyperactive

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q65 Children with autism cannot learn any social skill

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q66 Many times children with autism get excessively focused on one thing

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q67 Many children with autism have difficulty using everyday language to communicate their needs

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q68 Early intervention demonstrates no additional benefit to children with autism

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q69 There is currently no medical test to diagnose autism

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q70 Traumatic experiences very early in life can cause autism

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q71 The number of diagnosed cases of autism has increased over the past 10 years

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q72 With the proper treatment, most children diagnosed with autism eventually outgrow the disorder

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)



Q73 Autism is something that is very rare

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q74 Autism is caused by God or a supreme being

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q75 Autism is a brain-based disorder

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q76 The cause of autism is not yet known for sure

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q77 Many children with autism get upset if their routine is changed

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)
- 



Q78 Autism is due to cold, rejecting parents

- ☐ Agree (1)
- ☐ Disagree (2)
- ☐ Don't know (3)

**End of Block: ASK-Q**

---

**Start of Block: Demographics**

Q80 Timing

First Click (1)

Last Click (2)

Page Submit (3)


Click Count (4)

---



Q82 What is your age?

18 26 34 43 51 59 67 75 84 92 100

Age ()	
--------	--



Q87 What is your major?

---



Q81 What state are you from?

---



Q88 What is your gender identity?

☐ Man (1)

☐ Woman (2)

☐ Nonbinary/Other (3)



Q90 What is your political identity?

- ☐ Democrat (1)
  - ☐ Independent (2)
  - ☐ Republican (3)
  - ☐ Other/No political identity (4)
- 



Q91 Do you have Autism Spectrum Disorder, or a related disorder or disability such as Asperger's syndrome, Childhood disintegrative disorder, or Rett syndrome?

- ☐ Yes (1)
  - ☐ No (2)
  - ☐ Don't Know (3)
  - ☐ Prefer not to answer (4)
- 



Q92 Do you have any close family members or friends who have Autism Spectrum Disorder, or a related disorder or disability such as Asperger's syndrome, Childhood disintegrative disorder, or Rett syndrome?

- ☐ Yes (1)
  - ☐ No (2)
  - ☐ Don't know (3)
  - ☐ Prefer not to answer (4)
-

*Display This Question:*

*If Do you have any close family members or friends who have Autism Spectrum Disorder, or a related d... = Yes*



Q95 Which one of your close family members or friends has Autism Spectrum Disorder, or a related disorder or disability such as Asperger's syndrome, Childhood disintegrative disorder, or Rett syndrome?

- ☐ Mother (1)
- ☐ Father (2)
- ☐ Brother (3)
- ☐ Sister (4)
- ☐ Close Cousin (5)
- ☐ Close Aunt (6)
- ☐ Close Uncle (7)
- ☐ Close Friend (8)
- ☐ Other (9)
- ☐ Click to write Choice 10 (10)

**End of Block: Demographics**

---

## Appendix B

### Institutional Review Board Expedited Application



#### Attachment B - Request for Exempt Review

**Please note:** This attachment is required for all submission packages involving research with human participants for which an *exempt review* is requested. Please see the [Documents Checklist for Exempt Projects](#) to ensure all of the required documents are submitted. Please note that in addition to completing this document, the North Florida - IRB Protocol application within IRBNet will also need to be completed and submitted. For directions on how to find that document within IRBNet, please refer to the [UNF IRBNet FAQs](#).

Exemption from further IRB review may be granted for research that presents no more than minimal risk to human participants or others if that research fits into one or more of the exempt categories listed in the federal regulations ([45 CFR 46.101](#)). Please select the exempt category or categories that you believe apply to your project (select all that apply). If none of the below categories apply to your project, the project will not qualify for exempt review. The categories are described here using the language found in [45 CFR 46.101\(b\)](#). If you have questions about how your proposed study might fit one of these categories, please contact Research Integrity staff.

1. ☒ Research conducted in established or commonly accepted educational settings and involving *normal educational practices*, such as
  - i. research on regular and special education instructional strategies; or
  - ii. research on the effectiveness of or comparison among instructional techniques, curricula, or classroom management methods.
2. ☒ \*Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior *unless*:
  - i. information obtained is recorded in such a manner that human subjects can be identified, directly or indirectly (e.g., through the use of identifiers) *and*
  - ii. any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

**\*Exempt category 2 cannot be used for research involving children unless the only activities involve educational tests or observations of public behavior where the researchers do not participate in the activities being observed.**
3. ☐ Research involving the use of educational tests, survey procedures, interview procedures, or observation of public behavior if:
  - i. the subjects are elected or appointed public officials or candidates for public office; or
  - ii. federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
4. ☐ Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified directly or through identifiers linked to the subject.
5. ☐ Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine:
  - i. Public benefit or service programs;
  - ii. procedures for obtaining benefits or services under those programs;
  - iii. possible changes in or alternatives to those programs or procedures; *or*
  - iv. possible changes in methods or levels of payment for benefits or services under those programs.
6. ☐ Taste and food quality evaluation and consumer acceptance studies if,
  - i. wholesome foods without additives are consumed or
  - ii. if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

**Special Note:** The exemptions stated on the previous page do not apply to research involving prisoners. However, the exemptions can apply to research involving pregnant women. As noted above, some elements of exempt category 2 (i.e., survey procedures, interviews, or observations of public behavior) can *not* apply to minors. Other research that includes vulnerable populations may not qualify for exempt review and may instead fall into one or more of the [expedited review categories](#) or require full IRB review, depending on level of risk.

### 1. Participants Population(s)

a. Describe the participant population(s) including gender, ethnicity, and age range. If any population will be specifically targeted (e.g., UNF students, minors, UNF employees) please state as such.

No population specifically targeted besides undergraduate UNF students.

b. Is your study likely to include non-English speaking individuals?

- ☐ Yes  
☒ No

### 2. Potential for Undue Influence or Coercion

Indicate whether or not you intend to include study populations that may be vulnerable to undue influence or coercion. Common examples of populations vulnerable to undue influence or coercion include, but are not limited to, students for which researchers have responsibility, employees who report to the researcher or an affiliate of the researcher, and patients or individuals who receive services from the researcher, the researcher's organization, or an affiliate of the researcher.

☒ There are no foreseeable instances of undue influence or coercion based on study population (skip to item 3).

☐ Participants may be vulnerable to undue influence or coercion. (Explain the nature of the undue influence or coercion and how this will be minimized.)

### 3. Study Procedures

Describe the proposed study procedures, including the sequence and timing of all activities. In your response please also describe the data collection setting (e.g., in person, one-on-one, small groups, large groups, online). If the research involves study of existing samples/records, describe how authorization to access samples/records will be obtained.

The study is a survey that will be run fully online. None of the survey sections are timed. First participants will view the recruitment materials on the SONA homepage. Then, if they opt into the study, they will be taken to the informed consent page of the study. Once the participant consents to the study, the page will change and they will be randomly assigned to one of two vignette conditions to read. Both vignettes will focus on a character named Riley. One condition of the vignette, the "disclosure" condition will include a sentence disclosing that Riley has Autism Spectrum Disorder. The other vignette condition, the "non-disclosure" condition, will be the exact same vignette as the disclosure condition, except the sentence disclosing that Riley has Autism Spectrum Disorder will be removed. After reading the vignette the participants will complete a modified version of the Social Distance Scale, the Inclusion of Other and the Self Scale, an Autism Stigma and Knowledge Questionnaire, and demographic questions. Once all of those sections are completed the survey will finish, and participants will be thanked for their time.

### 4. Study Materials

List the names of all study materials that will or may be used in your study (e.g., titles of survey instruments that will be used in study). It will also be necessary to submit copies of all study materials to the UNF IRB for review and approval. If you plan to utilize copyrighted information, permission from copyright owner may be necessary.

#### *Vignette*

The first section of the survey consists of a short vignette that has been modified by the researcher of the current study, originally created by White et al., 2019. The changes include adding details about the main characters siblings, removing pictures, changing the ages and names of individuals involved, and referencing the Coronavirus pandemic and online learning. The first portion of the vignettes introduce a student named



Riley, his younger sister Sara, and his older brother Michael in detail. The second portion of the vignettes introduce Riley's interests and his personality, and the third portion of the vignettes introduce his college experience and class interests. There are two versions of the vignettes. A "Disclosure" version, and a "Non-disclosure" condition. Both are identical except for one sentence disclosing that Riley had Autism Spectrum Disorder the "Disclosure" vignette, and that sentence being removed in the "Non-disclosure".

### ***Modified Social Distance Scale***

The second portion of the survey is composed of a modified social distance scale, modified from Social Distance scales created by White et al., 2019, and Gillespie-Lynch et al., 2015. An additional question about sharing a dorm room with Riley has been added by the researcher of the current study. The questions are formatted in a multiple choice option and are on a 5-point Likert scale with 1 being "Strongly disagree", 2 being "Disagree", 3 being "Not sure", 4 being "Agree", and 5 being "Strongly agree". The scale has a total of 9 questions discussing Riley. The topics cover academics, for example "I'd be happy to work on a group project with Riley", and personal life, for example "I'd never go to Riley for help with a personal problem". Out of the 9 questions, questions 1, 4, 6, and 8 will be reverse scored during analysis. Scoring lower on the scale will mean that a participant would want to social distance less from Riley. Scoring higher on the scale means that a participant would want to social distance more from Riley. Scores can range from 9 points to 45 points.

### ***Inclusion of Other and the Self Scale***

The third portion of the survey is composed of the Inclusion of Other and the Self Scale. Participants will be shown the image from the Inclusion of Other and the Self Scale and will be asked to pick which option out of the 7 options shown in the survey represents their relationship with their best friend, Riley, and Riley's brother Michael. Participants will be given a moving scale with 7 points to correspond with each of the 7 options shown on the survey. The scale will scored by the researcher of the current study as a 7 point Likert, where 1 will be "Entirely Separated" and 7 will be "Extremely Combined". Scoring lower on the scale means that participants will view themselves as generally less close or influenced by the relationships discussed in the questions, and scoring higher on the scale means that participants will view themselves as being closer or more influenced by the relationships discussed in the questions. The Inclusion of Other and the Self Scale created by Aron, Aron, and Smollan was created and was published in the Journal of Personality and Social Psychology in 1992. Total scores for the 3 questions can range from 3 to 21.

### ***Autism Stigma and Knowledge Questionnaire***

The fourth portion of the survey is composed of the Autism Stigma and Knowledge Questionnaire. Participants will be asked 55 questions covering 4 subscales of stigma and knowledge related to Autism Spectrum Disorder: Diagnosis, etiology, treatment, and stigma. Each question has a related citation found by the team of researchers who created the scale (Harrison et al., 2017), who continued to do follow-up research in 2019 on the scale's internal consistency across cultures (Harrison et al., 2019). Results of the follow-up study showed that the scale was found to have adequate internal consistency across cultures.

### ***Participant Demographics***

The final portion of the survey will be composed of basic demographic questions about the participant, such as "What is your college major", and "Do you have any close family members or friends who have Autism Spectrum Disorder, or a related disability such as Asperger's Syndrome, Childhood disintegrative disorder, Rett syndrome, or other developmental disorders or disabilities?" The questions within this section have been formatted as either fill in the blank or multiple choice.

## **5. Risk/Benefits Analysis & Compensation**

### **a. Risk/Benefit Analysis**

Briefly describe the expected benefits and foreseeable risks of research participation and the ratio of risks to benefits. Risks to research participants should be justified by the anticipated benefits to the participants, a scholarly discipline, or society.

This study is considered to be minimal risk, meaning the risks associated with this study are the same as what participants would face daily. There are no additional risks to those who take part in the study. However, the potential

benefits of participating in this research study include providing the field with a better understanding of peer perceptions, social distancing, and knowledge on disability.

**b. Compensation/Incentive**

- ☒ Participants will *not* be compensated or incentivised in any way.

Participants will be compensated/incentivised\* Describe below (e.g., extra credit toward course grade, reimbursement for travel expenses). \*Please note that monetary compensation may require collection of name, ☐ social security number, and address be reported to UNF controller's office if value of compensation is \$100 or more. Collection of aforementioned information may affect whether and how subjects are identified.

**6. Data and Safety Monitoring**

**a. Confidentiality/Anonymity**

Data will be anonymous. In the space below, please explain *how* you will ensure that data will be anonymous. If you are collecting data through an online data collection program such as Qualtrics, please note that data may not automatically be collected anonymously so you will need to take steps to ensure identifiers are not associated with responses (i.e. select "Anonymize Response" in the Survey Options section of Qualtrics. If you will send the survey via email using Qualtrics, you will also need to use the "Anonymous Link" option under Advanced Options in the Distribute Survey tab in Qualtrics). For more information, please contact a research integrity administrator.



Data will be marked in Qualtrics as "anonymize response". No surveys will be sent via email. No identifying information such as N-numbers or names will be collected.

- ☒ Data will be confidential. In the space below, please describe the procedures for protecting confidentiality of data collected and stored. Be sure to state whether any limits to confidentiality exist and identify any external agencies (e.g. study sponsor) that will have access to the data.

Data will be collected and stored electronically on the UNF Microsoft Drive. Only the primary researcher and the study sponsor will have access to the shared Microsoft Drive file

- ☐ Data will be identifiable (i.e., identifiers will be included in publications, presentations, or reports). If additional explanation is needed, please provide below.

**b. Data Storage, Security, and Monitoring**

Check all that apply. Please see [UNF IRB Guidance on Secure Data Storage](#) for information on best practices in data storage. *\*Any breach in data safety and all unexpected problems involving risk must be reported to UNF's IRB immediately (within 3 business days or as soon as practicable).*

- ☒ Data will be stored electronically, on a secure server (UNF I-drive, dedicated secure server space etc.). *The UNF IRB recommends this as the most secure option.*
- ☐ Data will be stored in a locked cabinet in a secure UNF office/laboratory.
- ☐ Data will be stored on a personal computer.
- ☐ Data will be encrypted using [TrueCrypt](#) or another UNF approved encryption mechanism.
- ☐ Data will be protected by a [strong password](#)
- ☐ Other (describe below). Be sure to identify where data will be stored, who will have access to the data, the security of this location, and how data will be monitored.

--

**c. Safety Monitoring**

Describe your plan for monitoring your participants and identifying any adverse effects they may experience during and (if necessary) after data collection.

Qualtrics will be recording how long participants take on each section of the survey in order to monitor. However, no follow-up will be necessary due to the nature of the study, and the minimal risk of adverse effects.
--



## Appendix C

### Institutional Review Board Informed Consent



#### Informed Consent to Participate in Research

#### Information to Consider Before Taking Part in this Research Study

#### IRB Study #

---

---

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. We encourage you to talk with your family and friends before you decide to take part in this research study. No risks, inconveniences, or discomforts are anticipated to result from this study.

We are asking you to take part in a research study called: Peer Perceptions in Higher Education

The person who is in charge of this research study is Angela Mann. This person is called the Principal Investigator. Hope Sparks, graduate student in psychology, is a Co-Principal Investigator on this study.

The research will be conducted online. In particular, participants will be recruited through a university-sponsored online software tool that the majority of undergraduate students at the college have access to. Participants will be able to complete the study in a location of their choosing, and in a time-frame of their choosing.

---

---

### **Purpose of the study**

The purpose of this study is to:

- Learn more about peer perceptions of classmates, their social distancing, and their knowledge on disabilities.
- This research is being conducted by a student as part of their thesis.

### **Study Procedures**

If you take part in this study, you will be asked to:

- Participate in a one-time survey that asks for demographic information, and how you would respond to a short vignette example that should take approximately 20 minutes of your time.
- Survey completion is expected to take place at a location of your choosing.

### **Eligibility Criteria**

In order to participate in this research study, you must be at least 18 years of age, fluent in English, and be a current undergraduate student at the University of North Florida.

**Alternatives**

You do not have to participate in this research study.

**Benefits**

The potential benefits of participating in this research study include:

- A chance for reflection about your learning experiences
- Providing the field with a better understanding of peer perceptions, social distancing, and knowledge on disability.

**Risks or Discomfort**

This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

**Compensation**

No compensation will be provided for your participation.

**Privacy and Confidentiality**

We will keep your study records private and confidential. Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

- The research team, including the Principal Investigator and Co-Principal Investigator.

- Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety.
- Any agency of the federal, state, or local government that regulates this research. This includes the Department of Health and Human Services (DHHS) and the Office for Human Research Protection (OHRP).
- The UNF Institutional Review Board (IRB) and its related staff who have oversight responsibilities for this study, staff in the UNF Office of Research and Sponsored Programs (ORSP), and other UNF offices who oversee this research.

We may publish what we learn from this study. If we do, we will not include any identifiable information such as your name. We will not publish anything that would let people know who you are.

### **Voluntary Participation / Withdrawal**

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study, however, that may remove you from the survey's data analysis.

### **New information about the study**

During the course of this study, we may find more information that could be important to you. This includes information that, once learned, might cause you to change your mind about being in the study. We will notify you as soon as possible if such information becomes available.

**You can get the answers to your questions, concerns, or complaints**

If you have any questions, concerns or complaints about this study, or experience an adverse event or unanticipated problem, call Dr. Angela Mann at 904-620-1633.

If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, call the UNF IRB at 904-620-2455.

**Statement of Person Obtaining Informed Consent**

We have carefully explained to the individual taking part in this study what they can expect from their participation. I hereby certify that when this person clicks “next”, to the best of my knowledge, that they understand

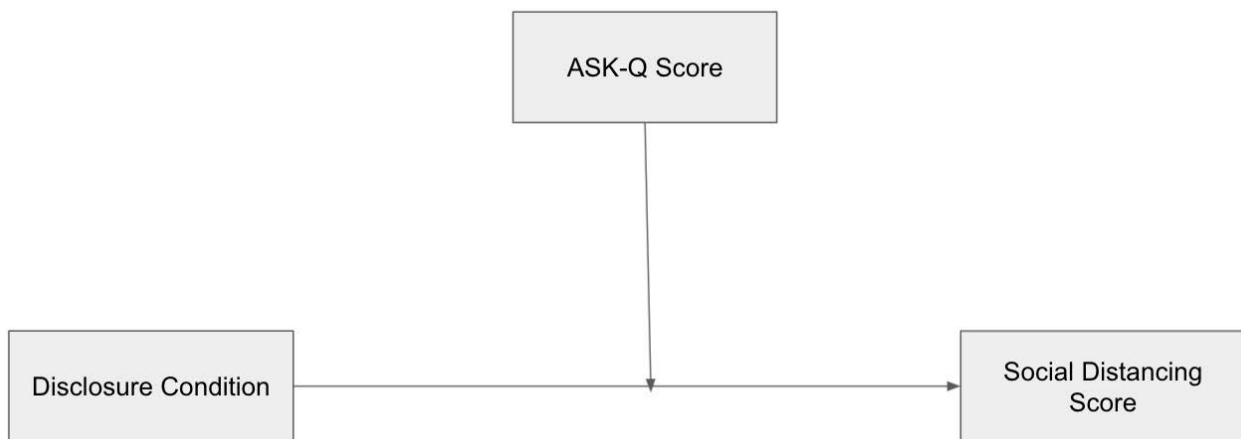
- What the study is about;
- What procedures will be used;
- What the potential benefits might be; and
- What the known risks might be.

I can confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in the appropriate language. Additionally, this subject reads well enough to understand this document or, if not, this person is able to hear and understand when the form is read to them. This subject does not have a medical/psychological problem that would compromise comprehension and therefore makes it hard to understand what is being explained and can, therefore, give legally effective informed consent. This subject is not under any type of anesthesia or analgesic that may cloud their judgment or make it hard to understand what is being explained and, therefore, can be considered competent to give informed consent.

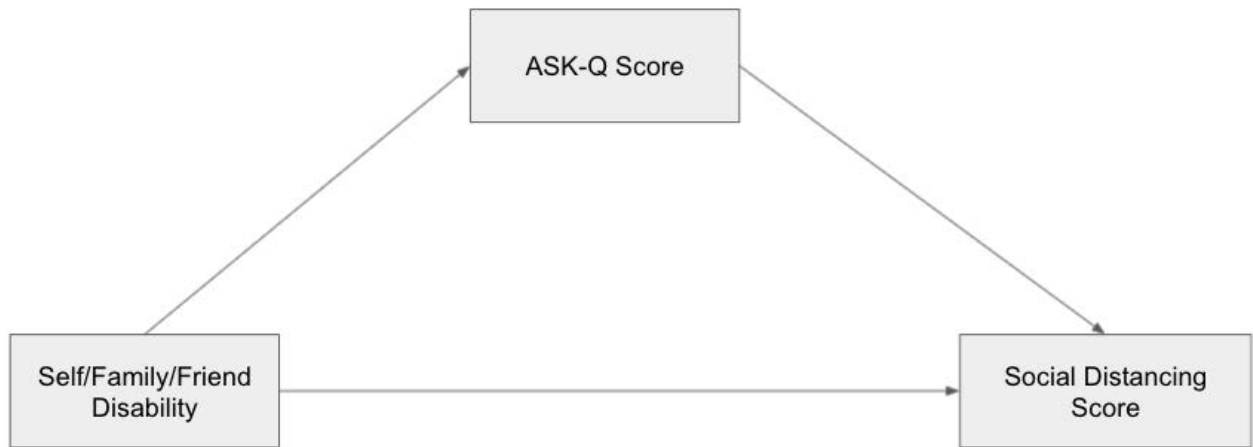
## Appendix D

### Figures of Analyses

The figures below illustrate the moderation and mediation analyses completed for hypotheses 2 and 3. The figures were included to allow for clearer visualization of the analyses, and their results.



**Figure 1.** The figure above is for the second group of hypotheses/analyses. The figure illustrates a simple moderation analysis, and illustrates how disclosure condition (IV) was hypothesized to be moderated by ASK-Q score (ModV), and that moderation was further hypothesized to impact social distancing behaviors/scores of participants (DV),  $\Delta R^2 = .017$ ,  $F(1, 211) = 1.24$ ,  $p = 0.298$ .



**Figure 2.** The figure above is for the third group of hypotheses/analyses. The figure illustrates a simple mediation analysis, and illustrates how a self/family/friend disability diagnosis (IV) was hypothesized to be mediated by ASK-Q scores (MedV), such that participants with a personal disability diagnosis were expected to score higher on the ASK-Q. This mediation was further hypothesized to impact social distancing behaviors/scores of participants (DV),  $\Delta R^2 = 0.02$ ,  $F(1, 211) = 2.122$ ,  $p = 0.122$ , 95% CI [-0.197, 2.072].