2022

Employers' General Knowledge, Social Attitudes, Experience, and Employability of Level 1 Autism Spectrum Disorder Adults

Jennifer C. Kiselica
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Jennifer Corin Kiselica

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Natalie Costa, Committee Chairperson, Psychology Faculty
Dr. Virginia Salzer, Committee Member, Psychology Faculty
Dr. Sandra Street, University Reviewer, Psychology Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2022

Abstract

Employers' General Knowledge, Social Attitudes, Experience, and Employability of Level 1 Autism Spectrum Disorder Adults

by

Jennifer C Kiselica

MPhil, Walden University, 2019

CAGS, Duquesne University, 2008

MS, Duquesne University, 2006

BS, Saint Mary's College, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Developmental Psychology

Walden University

June 2022

Abstract

Autism spectrum disorders (ASD) is a neurodevelopmental disorder which causes an individual to have abnormalities in socialization and communication, and unusual behaviors and interests. Each year about a half million young adults with ASD transition from high school to adulthood; however, only 57% become employed. The current study's purpose was to investigate how general knowledge of ASD and social interactions with those with ASD affected employers' social attitudes and perceptions of those with ASD being employed by them. Social Contact theory employers who have more social interaction with individuals with ASD have more social knowledge about ASD. The population for this quantitative study included 93 employers who completed an online survey consisting of questions about social interactions with individuals with ASD, general knowledge, social attitudes about ASD, and employee perceptions of ASD. Regression and correlation were used to examine the relationship between variables. The results showed a negative association that was not statistically significant between employers' general knowledge about ASD and social attitude about ASD. Furthermore, there was a statistically significant positive correlation between employers' amount of interaction with individuals with ASD and the social attitudes about ASD of employees. Additionally, it demonstrated a nonsignificant positive correlation between employers' social interaction with individuals with ASD and the employers' perceptions. Further research should focus on employers in larger corporations and businesses. The knowledge gained in the current study will lead to positive social change by increasing inclusivity in the workforce.

Employers' General Knowledge, Social Attitudes, Experience, and Employability of Adults with Level 1 Autism Spectrum Disorder

by

Jennifer C Kiselica

MPhil, Walden University, 2019

CAGS, Duquesne University, 2008

MS, Duquesne University, 2006

BS, Saint Mary's College, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Developmental Psychology

Walden University

June 2022

Dedication

I first want to thank my parents for their continued support through this process. I am grateful for them being my sounding boards and well as cheerleaders, especially when times were most difficult. Additionally, I know David has always been by my side providing me the support and encouragement. I also want to thank my dissertation chair who provided me direction on this grueling path and reassured me when I questioned myself. Furthermore, I dedicate this dissertation to all those individuals who have been doubted and told that they could not persevere and achieve at something, but still persisted to reach their goals and aspirations. With God all things are possible.

Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Autism spectrum disorders (ASD) is a neurodevelopmental disorder in which an individual has abnormalities in social, communication, and unusual behaviors and interests. Currently, the prevalence of ASD is one in 68 (Lord, 2018). Of recent studies focused on this population, only 2% have concentrated on adults (Seaman & Cannella-Malone, 2016) and almost no studies focus on the transition from high school to adulthood. Research demonstrated that approximately 500,000 young adults with ASD transition from high school to adulthood each year (Roux et al., 2015); however, only 57% become employed. This leaves a large percentage of young adults with ASD who are not entering the workforce. Although these individuals may be attending college or a vocational school, most of the research shows that these individuals are not entering the workforce due to workforce constraints because of ASD (Roux et al., 2015). Researchers have shown that the deficits related to ASD symptomology negatively impact one's ability to obtain and maintain employment (Elias & White, 2018). In turn, studies have focused on providing supports and accommodations to help those with ASD conform and adapt to society's expectations as an aim at increasing employability of this population. Yet, Scott and colleagues (2019) determined that there is a lack of research regarding environmental factors and social interactions that those with ASD have in the workplace. Previous researchers have gained insight following the immersion of individuals with ASD in the workplace environment over time (Hedley et al., 2018). One aspect of the environment, in particular, that significantly affects hiring and maintaining employment of individuals with ASD is the employers. However, little research has focused on their

knowledge, experiences, and perceptions about ASD and how those things affect the likelihood of employers actually hiring someone with ASD. Researchers have indicated that employers have misperceptions about employing those with ASD (Ju et al., 2013). These misconceptions stem from stigma around the disorder. Nevertheless, current studies have also provided enlightenment that greater knowledge and increased social interactions with the ASD population results in more positive attitudes, increased relationship building, and enhanced acceptance (Nicolas et al., 2019).

The goal of this study was to investigate how general knowledge of ASD and interactions with those with ASD affected employers' social attitude and perceptions of those with ASD being employed by them. In turn, the awareness gained regarding perception of employers with respect to those with ASD will assist in improving employment opportunities for those with ASD transitioning to adulthood. Furthermore, the information gleaned may provide feedback, which can be used in creating ASD specific education training for employers. The knowledge gained in trainings on ASD may lead to employers promoting a more nurturing and inclusive workplace environment and promote positive social change.

In Chapter 1, the background of the study and the problem statement will be explained. The research questions are provided, as well as the theoretical framework and nature of the study, which is discussed in more detail in Chapters 2 and 3. This chapter concludes with a discussion of the limitations and significance of the study

Background

Individuals with ASD are less likely than other disability categories, including Intellectual Disability, Emotional Disability, Learning Disability, and Speech/Language Impairment, to become employed following graduation from high school (Roux et al., 2015). Explicitly, of the half million that graduate each year, less than 60% are employed and less than 10% work fulltime (Lounds Taylor et al., 2015). Of those employed, the majority are in menial jobs (Lounds Taylor et al., 2015). Employment provides financial independence, health insurance, benefits, and social relationships; it increases one's quality of life (Roux et al., 2015). Yet, barriers affect individuals with ASD from obtaining and retaining employment.

Researchers have determined that deficits related to ASD symptomology have negatively affected one's ability to obtain and maintain employment. Elias and White (2018) interviewed those with ASD and their parents, who determined that young adults with ASD struggle with social tasks, maintaining attention, demonstrating emotional regulation, and independent living skills. Additionally, parents and teachers specified that those with ASD lacked self-advocacy and executive function skills (Elias & White, 2018; Elias et al., Muskett, & White, 2019). Furthermore, there are difficulties searching for and applying for jobs due to lack of training (Sosowny et al., 2018; Wei et al., 2014). Although some of these barriers have been related to the individual with ASD, concerns related to the workplace environment have also been linked.

Understanding that the workplace affects employment of ASD, Scott and colleagues (2017) assessed employing adults with ASD, which led to the recommendation to evaluate employers' attitudes toward hiring and employing those with ASD. Even though half of employers hired those with ASD due to social responsibility, they indicated that there was a positive effect in employing those with ASD because it promoted inclusion. In fact, once individuals with ASD are employed, more than 50% of employers indicated that they would rehire them because they observed a higher level of attention to detail, work ethic, and quality of work from those with ASD. However, those with ASD required more supervision and had more instances of miscommunication. A follow-up study by Scott et al. (2019) determined that those with ASD had low absenteeism, high quality of work, prompt task initiation, and strong work ethic. It also specified that there is a lack of interventions related to environmental factors and interactions and that employers and co-workers are overlooked in research.

Particularly, studies have indicated that employers have had misperceptions about employing those with ASD. Still, research among studies is contradictory. Irvine and Lupart (2008) opined that employers specified that those with ASD are resistant to change, have social skill deficits, show difficulty performing work, require increased safety protocols, and demonstrate behavioral concerns, while Ju et al. (2013) informed that employers have concerns with quality control, reduced productivity, attendance, appearance, and punctuality. Even then, Morgan and Alexander (2005) noted the benefits to employing those with ASD included those with ASD as having regular in

attendance, a long-term tenure, greater work efficiency, being positive role models, and having increased employers' and employees' awareness of ASD through experience and education. Further research in this area is therefore warranted.

A few studies have delved further into understanding employing those with ASD. Through use of virtual reality (O'Sullivan & Kearney, 2018) and employing those with ASD for trial periods (Hedley et al., 2018), there was an increase in empathy and understanding of related to ASD. In addition, they determined environmental factors that positively and negatively affected those with ASD working in an office setting. These included supportive staff and environmental modifications (Hedley et al., 2018).

Relatedly, the amount of general knowledge about ASD positively influences one's view of individuals with ASD. Specifically, an increase in general knowledge from employers regarding ASD developed more positive attitudes about employing those with ASD, increased relationship building, and enhanced awareness and acceptance of ASD (Nicolas et al., 2019). Similarly, Kuzminski et al. (2019) indicated that knowledge about ASD positively influenced attitudes toward ASD. However, they also found that individuals who had direct experience with the disability demonstrated more knowledge about ASD. Additionally, Gillespie-Lynch et al. (2015) determined that an increase in knowledge relates to an increase in attitude, but not always an increase in acceptance of those with ASD. The amount of experience one has with those with ASD is positively correlated with acceptance (Gardiner & Iarocci, 2014). There is also an increase in prosocial skills and acquired knowledge about ASD. Yet,

previous experience, positive or negative, impacts one's decision making (Juliusson et al., 2005).

Although previous studies have focused on employment of those with ASD, few studies have considered how environmental factors and explicitly how employers affect the hiring and retaining of those with ASD. Of those studies, none have specifically been quantitative in nature and considered how knowledge and social interaction of those with ASD influence employment perceptions. Subsequently, I evaluated how general knowledge and experience relate to employers' social attitudes and perceptions of employing individuals with ASD.

Problem Statement

In the next decade, 500,000 youth with ASD will transition to adulthood (Roux et al., 2015). Of those young adults with ASD, a third may never be employed or continue with their education following completion of high school, compared to less than 10% of other disabilities. Only 58% of those with ASD are employed (Roux et al., 2015) and 25% are regularly employed (Lounds Taylor et al., 2016). Ten percent work over 30 hours a week and most work in menial or nonskilled positions (Lounds Taylor et al., 2016). Researchers have gleaned from the individuals with ASD, their parents, and teachers that communication and social impairments affect their ability to get jobs, go to school, and socialize in society (Lounds Taylor et al., 2016). Conversely, being employed improves their quality of life through an increase in income and self-confidence and builds their social network. It gives them a sense of purpose and self-worth (Weir, 2013). There are three levels of severity of ASD ranging from the least severe, which is Level 1,

to needing significant daily support, which is Level 3. A level is ascertained based on the severity of the impairment in one's social function and restrictive and repetitive behavior (American Psychiatric Association, 2013). Most research regarding employment of those with ASD is focused on individuals with Level 1 severity. Young adults with Level 1 ASD are largely reliant on support and assistance, lack self-advocacy, have difficulty managing emotions, and struggle with adaptive skills (Elias & White, 2018), which impacts their ability to become and remain gainfully employed.

Another factor that impacts the unemployment and underemployment of young adults with ASD is that in the workforce, there are negative experiences, stereotypes about ASD, and a lack of appropriate opportunities from employees and employers (Sosowny et al., 2018). Also, there are barriers to accessibility in the workplace, which results in a high turnover of employees with ASD (O'Sullivan, & Kearney, 2018).

In a recent study with young adults with Level 1 ASD, results indicated that a trial period in the workplace resulted into positive support, appropriate feedback, and clear instructions, as well as appropriate accommodations and modifications being implemented (Hedley et al., 2018). Additionally, employees and employers gained knowledge and understanding of ASD after working alongside them (Hedley et al., 2018). Subsequently, the increased social interactions with individuals with ASD resulted in better understanding of characteristics of ASD and their environmental needs in the workforce.

The perspectives of employers, who are influential in the hiring process and fostering an inclusive workplace environment, are overlooked (Scott et al., 2019). One

particular facet that is understudied is related to the negative stereotypes surrounding those with ASD in the workforce, which include people with ASD demonstrating a lack of productivity, a need for extra accommodations and supports, having more illnesses and requiring more sick time, and workforce heterogeneity among other barriers (Scott et al., 2019). This is due to lack of knowledge regarding ASD in general by employers. Knowledge about ASD may be divided into two areas: social attitudes, or the opinions and beliefs held about ASD as a group in regards their behaviors, actions, and expectations of them, and general knowledge, which are facts about ASD. Therefore, this study fills a gap by examining the relationship between general knowledge about ASD, experiences interacting with those with ASD, and employers' social attitudes of ASD, and employability. It evaluated if general knowledge about ASD and amount of social interaction with individuals with ASD predicted employers' social attitude and employability perceptions of those with ASD.

Purpose of the Study

This study is quantitative in nature with the intent to explore the relationship between the level of knowledge about ASD and experiences interacting with individuals with ASD related to the employers' social attitudes and perceptions of employing individuals with ASD. The independent variables are general knowledge and the social interaction an employer has with individuals with ASD. The dependent variables are the employer's social attitude and employment perception of employing those with ASD. This study is unique because it addresses the understudied aspects of employers (Hedley et al., 2018; Scott et al., 2019; Sosowny et al., 2018) and their impact on those with ASD

obtaining and retaining employment (Lounds Taylor et al., 2016; Roux et al., 2015). Previous research had gained insight following the immersion of individuals with ASD in the workplace environment over time (Hedley et al., 2018), but the current study gained insight from a cross section of employers including those who have employees with ASD and those who do not employ individuals with ASD. It compared how knowledge of the diagnosis and experiences associated with social interaction with those with ASD affect their social attitude and perceptions of those with ASD working for them.

Research Questions and Hypotheses

RQ1: To what extent does the level of general knowledge of ASD relate to employers' social attitude of ASD?

$H_0$1: General knowledge of ASD does not significantly relate to employers' social attitude.

$H_1$1: General knowledge of ASD significantly relates to employers' social attitude.

RQ2: To what extent does the amount of social interactions with individuals who have ASD relate to employers' social attitude of ASD?

$H_0$2: The amount of social interactions with individuals who have ASD is not a significant predictor of employers' social attitude.

$H_1$2: The amount of social interactions with individuals who have ASD is a significant predictor of employers' social attitude.

RQ3: To what extent does the amount of social interactions with individuals who have ASD relate to employers' employability perceptions of ASD?

$H_0$3: The amount of social interactions with individuals who have ASD is not a significant predictor of employers' employability perceptions.

$H_1$3: The amount of social interactions with individuals who have ASD is a significant predictor of employers' employability perceptions.

Theoretical Framework

The study is based on two theories: social cognitive theory and social contact theory. Although more detail is provided in Chapter 2, the main premises of these two theories are described here. Social cognitive theory indicates that learning is a change in human performance because of an individual's interaction with the environment or a change in one's knowledge or behavior due to experience (Bandura, 1986). This is due to triadic reciprocal causation, which indicates that behavior, cognitive, and personal factors interact and influence each other bidirectionally (Bandura, 1989). Subsequently, learning is based on the dynamic and reciprocal interaction of the person, environment, and behavior. An entity of social cognitive theory is social cognition, which is the process of perceiving other people and one's attitude, perceptions, prejudice, stereotypes, self-concept, and discrimination about other people (Frith, 2008). Thus, employers who have more general about ASD and who have interacted more with these individuals may have truer social attitude about ASD and may make more informed and accurate decisions about whether hiring a person with ASD would be appropriate for a position.

Social contact theory explains that when there is interpersonal contact between groups in a cooperative situation, the result is a reduction of discrimination and enhanced interactions among the different group participants (Pettigrew & Tropp, 2006). Therefore,

when different groups can communicate with each other, they develop an understanding of the other group's perspectives. This decreases prior stereotypes and prejudice. In relation to disabilities, studies have established that interactions with individuals who have mental disabilities led to a reduction in prejudicial attitudes and behaviors towards them (Contoure & Penn, 2006). Regarding ASD, attitudes towards ASD improved based on time spent with an individual with ASD (Dachez et al., 2015; Kuzminski et al., 2019).

Nature of the Study

The study is nonexperimental and quantitative with the purpose of determining how general knowledge about ASD and social interaction with individuals with ASD relate to employers' social attitudes and perceptions of their employability. Previous research has been qualitative in nature and relied on interviews to gain perspectives (Elias et al., 2019; Elias & White, 2018; Hedley et al., 2018; O'Sullivan & Kearney, 2018; Sosowny et al., 2018). This study used a multiple regression approach to determine if employers' social attitudes and employability perceptions of ASD are related to employers' knowledge of ASD or the amount of social interaction employers have with individuals with ASD. The goal was to better understand the relationship between the variables and determine how they relate to with each other (Warner, 2013).

A nonprobability sampling method of convenience sampling was used to recruit participants with the target population for the study including employers of retail chain stores in the United States. For general knowledge of ASD, the study used the ASD Knowledge Scale from Hansen (2015). To ascertain the amount of social interaction with people who have ASD, questions were developed similar to those developed by

Zhaoyang et al. (2018). To obtain information pertaining to employer general perceptions of ASD, the Societal Attitudes Toward Autism Scale (Flood, et al., 2011) was used. From that scale, the Social Attitude Factor, which identifies opinions and beliefs of individuals in society regarding the behaviors, actions, and expectation of those with ASD, was availed. To obtain information pertaining to employer employability of ASD, the HR Professionals Perception of Employability of Persons with Intellectual Disabilities (Berry & Kymar, 2012) was used.

Definitions

The following represented the operational definitions of the terms used in this study.

Autism Spectrum Disorders (ASD): A neurodevelopmental disorder of variable severity that is characterized by difficulties in social interaction, communication, and restricted or repetitive patterns of thought and behavior (National Institute of Mental Health, 2018).

Employability: The quality of being suitable for paid work (Scott et al., 2017).

Perception: A way of regarding, understanding, or interpreting something; a mental impression (Yaniv, 2004).

General Knowledge: Information related to a subject that is acquired through reading about a topic in books, articles, and journals and being taught about it in classes or trainings. It also occurs when one is immersed in the topic by directly working within the community related to the topic of interest to learn about characteristics, causes, assessments, and treatment pertaining to it (Milton, 2014).

Interaction: communication or direct involvement with someone or something (Allport, 1954).

Social Interaction: talking to someone in person, by phone, or online (Zhaoyang et al., 2018).

Level 1 ASD: The least significant level of ASD, in which the individual needs support to assist in observable impairments that include difficulty initiating social interactions and showing minimal interest in social interactions, displaying inflexibility, having organization and planning deficits (American Psychological Association, 2013).

Social Attitude: The collective knowledge produced through relationships and connections within a particular group (Moussaid et al., 2009).

Stigma: The disapproval of, or discrimination against, a person based on perceivable characteristic that distinguishes the individual from other members of a society (Francis, 2012).

Assumptions

A few assumptions impacted the study. The first assumption is that the participants answered all questions accurately and honestly. It was also assumed that participants contextually understood each question asked and answered it appropriately.

Scope and Delimitations

The scope of this study is dedicated to determining how employers' general knowledge and amount of social interactions that they have had with individuals with ASD relate to social attitudes and employability perceptions of those with Level 1 ASD. Although there is previous research on employing those with ASD and the

environmental factors that affected those with ASD and their coworkers (Scott et al., 2019; Hedley et al., 2018; O'Sullivan & Kearney (2018), the current study looked specifically at employers and their impact. Ultimately, the goal was to better understand how to increase employability of those with ASD by shedding light on how knowledge and social interaction influences employers' perceptions.

While the current study focused on individuals with Level 1 ASD, the same premise may extend to individuals with other developmental disabilities, and the catalysts and barriers that affect their employability. The employment rate for people with developmental disabilities is below 25%, which is less than a third of the rate for people without disabilities (Centers for Disease Control and Prevention, 2019). Yet, like those with ASD, there are differing levels of severity across developmental disabilities. Considering individuals with Level 1 ASD need some support to demonstrate daily living independence, these findings may be extended to those individuals with developmental disabilities with similar characteristics.

Delimitations of the study were considered, as well. First, even though the study provides beneficial knowledge to expand the research of ASD, the findings may not be applied to those individuals with Level 2 and 3 ASD. These individuals require more intensive support and display less independence (American Psychiatric Association, 2013), which is needed for employability. Furthermore, the study used employers from retail businesses to gain knowledge. Because of this aspect, the findings may not be extended to other types of employment and areas of the work industry. Additionally, this study used employers of adults with and without ASD. Understandably, because

adolescents are experiencing both body and brain development that is different than adults, the research gathered my not be applied to adolescents with ASD, who are just beginning to learn about employment.

Limitations

An important threat to validity to consider is that the research was gathered solely through questionnaires. This may result in lack of understanding from the participants, accessibility from the population, and personability, as well as fatigue due to completing multiple questionnaires, among other concerns (Eaden et al., 1999). However, the questionnaires used had previously been found to be reliable and valid in previous studies. The questionnaires were available on the internet and participants accessed them at any time that was convenient for them to complete them. The questionnaires also provided user friendly wording with direction and questions. To avoid incomplete questionnaires being submitted, a feature was employed that did not allow participants to skip questions. Additionally, considering the questionnaires took no more than 30 minutes, this alleviated the concern for fatigue. With the goal of making participation simple, it is believed that the study precluded common pitfalls when using questionnaires.

Another limitation is the sampling of participants. The study relied on nonprobability sampling. This can result in an oversampling of a particular group of individuals, which leads to bias because the sample is not randomized (Kirchner & Charles, 2018). The sampling was confined to one aspect of the industry, retail. In addition, those that participated were from the United States, a Western culture, so it did not consider cross-cultural differences related to employability of ASD. Plus, although

the study used an appropriate sample size to have statistical power, the sample size remains small compared to the population of employers at large, which may have affected generalizability. Another challenge is participants' social desirability bias in not wanting to be open and honest about their experiences and perceptions regarding ASD. Although these concerns were noted, it was the objective of the study to be inclusive of all employers regardless of their background. Considering the study was relying on a convenience sampling, the researchers did not have control of demographics.

Significance

The results of this study provide understanding of employers' social attitudes and perceptions employability of individuals with ASD and how these perceptions are related to their general knowledge and experiences interacting with this population. In turn, this helps in better understanding why those with ASD are underemployed and unemployed. Few studies have looked at the environmental factors and barriers in the workforce and specifically employers' perceptions of ASD to date. Subsequently, the awareness gained regarding perception of employers about those with ASD assist corporations and businesses in improving employment opportunities within the company for those with ASD transitioning to adulthood. Furthermore, the information gleaned may provide specific employers and supervisors of chain stores with the awareness of how the levels of knowledge and experiences result in different perceptions. This may better prepare them and their staff to decrease stigma through increased understanding. This information may be used to create ASD specific education training for employers, and thus the

knowledge gained in trainings on ASD may lead to them promoting a more inclusive workplace environment.

With the awareness about ASD, social attitudes, and general knowledge about ASD within the workplace, individuals with ASD will have greater opportunities to flourish in the work environment. Additionally, the work experience will promote purpose and empowerment as part of adulthood. The work experience will likewise help those with ASD develop independence, improved self-concept, and self-advocacy, as well as social interaction and emotional regulation.

Summary

Young adults with ASD who are transitioning from high school are affected from underemployment and unemployment more than any other disability category. Although research has emphasized providing supports and accommodations to the individual to help them conform to society's expectations, few studies have considered environmental factors. One particular environmental factor is the employer. Because of this, and the stigma that surrounds ASD, this study evaluated how employers' social attitudes and perceptions of employing those with ASD are affected by their general knowledge and previous experiences interacting with individuals with ASD. In Chapter 1, the problem statement was identified along with the background information related to ASD, employment, perceptions, knowledge, social attitude, and social interactions. I also defined the research questions, explained the nature of the study, and its limitations. Constructs were defined, and the scope of the study was described.

In Chapter 2, I review current literature related to ASD, prognosis, transition, employment, stigma, perception, knowledge, social attitude, and experience. I explain how social cognitive and social contact theories are related to the study. I also address the research gap related to employing those with ASD by extending to the current literature related to the environmental factor of employers.

Chapter 2: Literature Review

In the United States, each year 50,000 adolescents with ASD graduate from high school resulting in an influx of a half million youth with ASD that will transition to adulthood in the next decade (Roux et al., 2015). Of those young adults with ASD, 37% are never employed or persist with education following high school. Therefore, only 58% are employed (Roux et al., 2015) and 25% are consistently employed (Lounds Taylor et al., 2016). Of those employed, only 9.6% work more than 30 hours a week and most job opportunities are entry level or nonskilled positions (Lounds Taylor et al., 2016).

Employment improves quality of life and provides income, which in turn increases self-confidence and builds social networks. It gives one a sense of purpose and self-worth (Weir, 2013). Yet, employers are reluctant to employ individuals with ASD due to misperceptions of general knowledge and social attitudes about ASD (Ju et al., 2013). Alternatively, researchers have determined that employers gain knowledge and understanding of ASD after working alongside individuals with ASD (Hedley et al., 2018) due to increased social interactions with individuals with ASD. Subsequently, this results in more positive attitudes regarding ASD (Dachez et al., 2015), and a better understanding their environmental needs in the workforce (Hedley et al., 2018). However, further research is needed to examine the relationship between general knowledge about ASD, experiences interacting with those with ASD, and employers' social attitudes of ASD, and employability of those with ASD. Therefore, in this study, I evaluated how general knowledge about ASD and the amount of social interaction one

has with individuals with ASD predict employers' social attitudes and employability perceptions of those with ASD.

This chapter begins with a discussion of social cognitive and social contact theories. I will also review research on how the theories are applied to increase understanding of how knowledge and contact affect perception of ASD. Diagnosis, characteristics, and prevalence of ASD are explained. Additionally, Chapter 2 contains an analysis of the factors related to employers' perceptions of individuals with ASD, which are comprised of general knowledge, social attitude, experience, and employability of individuals with ASD.

Literature Search Strategy

The research strategy employed accessed Walden University Library's multiple databases, Google Scholar, and the World Wide Web. Research was ascertained from resources that consist of scholarly journals and articles, textbooks, and online databases including Educational Resources Information ERIC, PsycInfo, Medline, Social Science Citations, and Education Source. Additionally, articles were retrieved from websites such as the American Psychiatric Association, Centers of Disease Control and Prevention, and National Institute of Mental Health.

The Boolean system of linking keywords and connectors like "and" or "or" was used to obtain focused and narrowed outcomes related to my dissertation. Search terms consisted of*:* Autism spectrum disorders, employment, jobs, work, young adults, adaptive living skills, perspectives, transition, barriers, obstacles, challenges, work environment, workplace, knowledge about, societal perception, employers, interactions, experiences,

stigma, accessibility, universal design, accommodations, developmental disabilities, employability, lived experience, socialization, and contact. A total of about 1,000 articles were obtained and included subjects of autism spectrum disorders, prognosis, transition, employment, stigma, perception, knowledge, social knowledge, social attitudes, and experience. Pertinent research spanned 15 years with the exception of a few seminal studies.

Theoretical Foundation

Social Cognitive Theory

In social cognitive theory, Bandura (1986) described individuals as active agents who both influence and are influenced by their environment. Development is not a monolithic process. The theory posits that learning, which is an internal mental process, is a result of an individual's interaction with the environment or a change in one's knowledge or behavior due to experience (Bandura, 1986). This change is due to triadic reciprocal causation, which indicates that behavior, cognitive, and personal factors interact and influence each other bidirectionally (Bandura, 1989). Subsequently, learning is based on the dynamic and reciprocal interaction of the person, environment, and behavior.

There are three main factors in the social cognitive theory, known as the triadic reciprocal causation. They are a combination of personal factors like beliefs and expectations, one's behavior, and the external environment. Although behavior may be conditioned through consequences, at the same time, the behavior impacts the environment (Bandura, 1989). However, reciprocal causation results in multiple sources

influencing at different strengths and not all simultaneously (Bandura, 1989). The interactive effects are considered mutually influencing.

One of the three aspects of the triad is personal beliefs. It is one's expectations, beliefs, self-perceptions, goals, and intentions that influence and manage behavior (Bandura, 1989). Personal influences assist one in sustaining motivation (Schunk & Usher, 2019). In addition, researchers found that values strongly relate to an individual's decision making (Wigfield, Tonks, & Klauda, 2016). However, the effects from external sources of one's actions, in part, influence one's thoughts and emotions, as well. Personal beliefs also incorporate biological aspects. Consequently, the result is that everyone emerges as unique based on beliefs and the environment interacting.

As stated above, an individual learns by observing others in the external environment. It is through the observations of models that an individual's perceptions and actions influence one's cognitive development (Bandura, 1986). One learns specific behaviors or actions through modeling, which is when another individual demonstrates a behavior (Tudge & Winterhoff, 1993). There are three types of modeling: a live model, verbal instruction model, and a symbolic model. While a live model demonstrates a behavior, a verbal instruction model is when the behavior is explained in detail. Symbolic modeling occurs when a model in the media demonstrates a new form of behavior (Tudge & Winterhoff, 1993). Influences in the environment like social models affect an individual's motivation and effects (Schunk, 2012). To learn a behavior, once modeling occurs, it relies on attention, retention, reproduction, and motivation of the individual

(Bandura, 1986). The individual is also reliant on self-regulation in order to maintain attention, remember, and replicate a behavior

Learning is internal, and a goal directed behavior. Learning a new behavior is dependent on a reinforcer, or motivation (Bandura 1986). There are 3 forms of reinforcers: direct reinforcement, vicarious, and self-enforcement. Bandura (1986) described direct reinforcement as the learner experiencing the reinforcement directly. Thus, one will most likely display actions that lead to desirable result (Schunk & DiBenedetto, 2020). On the other hand, vicarious reinforcement is the observed consequences of a behavior of the model. Self-reinforcement is the feelings of satisfaction or displeasure for behavior based on the individual's personal performance standards.

Accordingly, individuals conjure varying responses from the social environment based on their physical characteristics including one's size, sex, race, and age, which may be different than their actions (Lerner, 1982). There is an initiation of specific social reactions based on social roles and status. Consequently, different cultures have different cultural influences on an individual (Chiu & Klassen, 2010). As a result, environmental factors to a certain extent, establish the behaviors to be developed and displayed.

Considering one learns from society, one's views are screwed by society. These views, known as social perceptions or knowledge occur when the brain forms impressions. The process is subjective because it is impacted by characteristics of the person that one is observing, the context of the situation, and one's own personal traits and paste experiences. It is also affected by social norms as to what is expected (Bargh et

al., 1996). Plus, it relies significantly on the obvious and novel aspects of the situation as it assimilates the new information with what has previously been perceived. Yet, it is through the observations of others that one revises beliefs and judgements and change behaviors (Moussaid et al., 2009).

One significant aspect of perception is social categorization. This requires one to group different people based on common characteristics. This process occurs spontaneously and effortlessly. However, this process allows one to make judgements, but it can lead to errors, misjudgments, stereotyping, and prejudice (Bargh et al., 1996). These subsequently affect how one accepts individuals that they meet.

Social influence is important in self-organization of the world and development of perceptions. When faced with beliefs, opinions, and judgments of others, one filters and integrates the new information and changes are made as a result (Yaniv, 2004). Subsequently, one can change opinions, beliefs, or behaviors due to social interactions (Moussaid et al., 2013). These perceptions can be tainted with incorrect information and may result in stigma

Stigma is the disapproval of, or discrimination against, a person based on perceivable characteristic that distinguishes the individual from other members of a society (Francis, 2012). It is demonstrated through knowledge, attitude and behavior of ignorance, prejudice, and discrimination (Kuzminski et al., 2019). The general public displays ignorance of disabilities as a whole, and specifically ASD (Csiernik et al., 2007), which leads to stigma associated with disability (Phillips et al., 2019). This stigma impacts all aspects of one’s life.

Societal perceptions and beliefs regarding ASD have been examined. The researchers, Payne and Wood (2016), indicated that the majority of neurotypical individuals recognized that individuals with ASD display characteristics associated with communication, atypical behavior, and socialization. However, they also made negative judgments regarding a hypothetical individual's leadership skills, likability among peers, social maturity, and intelligence. The study provides understanding that fundamental emotions or responses are based on perceptions and beliefs connected to individuals with ASD. Another study by Matthews et al., (2015) found that when individuals are made aware of a diagnosis of ASD, they demonstrated an increase in acceptance and more positive cognitive and behavioral attitudes. Yet, they did not feel differently toward the individual. These studies show how through observations an individual's perceptions and actions influence one's cognition. Social perceptions are formed and categorized based on one's previous experiences, behaviors, and beliefs towards individuals with ASD. Considering this, the current study considered how the amount of social contact affects supervisors' perceptions of individuals with ASD and their employability.

Social Contact Theory

Social contact theory suggests that when there is interpersonal contact between groups in a cooperative situation, the result is a reduction of discrimination and enhanced interactions among the different group participants (Pettigrew & Tropp, 2006). Because of this, it has also been identified as "prejudice reduction." The basis of the theory is that when groups are provided with a chance to communicate with each other, there is the

development of understanding of the other group's life and perspective, which interchanges prior stereotypes and prejudice.

Allport (1954) specified that there may be a drop in prejudice between groups when they experience contact with each other and when both have a desire to reach common goals unless the prejudice is profoundly engrained in an individual's character. Allport went on to identify that when there is support by established laws and custom, which emphasizes positive altruistic perceptions. Therefore, contact alone is not enough.

Researchers have provided evidence that contact between members of ethnic groups tends to produce changes in attitude between these groups. However, the type of the change and its amount is largely due to circumstances of the contact (Pate, 1995). When a situation is favorable, there is a reduction in prejudice between the groups. Yet, when there are unfavorable conditions, prejudice may increase (Pate, 1995). Unfortunately, the decrease in prejudice does not change an individual's attitude. It also may not generalize beyond a single environment to other environments.

Conditions that reduce prejudice have been studied. It has been determined that when there is equal status contact between the members of the various groups, there is more positive outcomes. Additionally, when there is encouragement and implementations by higher status members or authority figures of the groups, other members of the groups are apt to follow suit (Pate, 1995). This also affect the social climate and promotes intergroup contact.

Unfortunately, not all contact results favorably. Researchers have identified conditions that strengthen prejudice. On such situation is when contact is based on

competition between the groups. Furthermore, when contact is forced and involuntary, there may be an increase in prejudice and dissent. Plus, when members of the groups feel inadequate, there may be an increase in prejudice. In addition, prejudice may rise if moral or ethnic standards if a group are intolerable by the other group (Pate, 1995).

In a recent study, Klein and colleagues (2018) evaluated how contact between two groups with significant animosity affected their prejudice and attitudes towards each other. Klein et al. found that the there is an intricate relationship between contact and attitudes. Nevertheless, more positive contact between the groups led to an increase in positive attitudes and perceptions. In general, the researchers of Klein et al. found that there was an increase in tolerance due to contact and a positive correlation between frequency of meetings and overall attitudes.

This research has extended to individuals with disabilities. Specifically, researchers have determined that social interactions with individuals who have mental disabilities led to a reduction in prejudicial attitudes and behaviors towards them (Contoure & Penn, 2006; Graves et al., 2011). The authors found that the more familiar one is with individuals who have significant mental disabilities, the less likely one is to engage in stigmatizing attitudes and behaviors. They also determined that the perception of danger decreased. Discrimination of a group can be moderated as a result of sustained contact.

Researchers have also found a positive impact in the attitudes toward individuals with disabilities using social contact theory. Lawson et al. (2017) used contact theory by having college students participate in direct contact with individuals with disabilities over the course of semester. This increased acceptance and decreased prejudice of those with

disabilities. By participating in the study, students with no prior contact with individuals with disabilities showed increased positive attitudes.

In relation to ASD, research has shown that an increase in social contact decreases stigma. Kuzminski and colleagues (2019) determined that attitudes towards ASD improved based on time spent with an individual with ASD. These results echoed the findings of Dachez et al. (2015), which showed that individuals who had social contact with individuals with ASD had more positive attitudes than those who have never had any contact.

Autism Spectrum Disorders

Autism spectrum disorders (ASD) is an innately based neurodevelopmental disorder in which an individual has abnormalities in social, communication, and unusual behaviors and interests. Currently, the prevalence of ASD is 1 in 68. The global prevalence is 1% and in developing countries it is 1.5% (Lord, 2018). This rate is comparable across all races and ethnic group (Campisi et al., 2018). ASD affects an individual's socialization, communication, and emotions for others. The individual also presents with restrictive and repetitive stereotypical behaviors (DSM-V). ASD occurs across a lifetime and in all settings (National Institute of Mental Health, 2018). In relation to the DSM-V, an individual must display a pattern of particular deficits for a diagnosis of ASD.

The first criterion of ASD is that the individual displays persistent deficits in social communication and interaction across multiple contexts (American Psychiatric Association, 2013). They include a range of difficulties related to speech delays,

echolalia, monotonous speech, and pronoun reversals (Campisi et al., 2018). The deficits may affect social-emotional reciprocity, affect, and failure to initiate or respond to social interactions (Lord et al., 2018). Specifically, the individual may show poor communication of spoken language, demonstrate poor eye contact, and struggle to understand body gestures and facial expressions of others. Plus, they lack an interest in social interactions, struggle to regulate emotions and behavior to fit different situations and will avoid initiating conversations (Campisi et al., 2018). These characteristics are all known as aspects of pragmatic language skills, or the social language.

Secondly, an individual with ASD has restricted, repetitive patterns of behaviors, interests, or activities. These may be observed as stereotyped or repetitive motor movements, use of objects, or speech. They include stereotypical motor movements, repetitive use of toys and objects, and echolalia (Campisi et al., 2018). Additionally, there is a need of obsessiveness of sameness, inflexible adherence to routines, ritualized patterns, or verbal nonverbal behavior (Lord et al., 2018). Furthermore, those with ASD present as being fixated on specific interests and perseverating on those interests (Luciano, 2016).

Moreover, the DSM-V describes individuals with ASD as having hyperactivity or hyporeactivity to sensory input or unusual interests in sensory aspects of the environment. Similarly, they may display a sensory dominance, or hypersensitivity, which is a focus on certain types of sensory input (Robertson & Baron-Cohen, 2017). In fact, sensory processing has been found as a primary characteristic of ASD starting in infancy due to sensory dedicated neural circuitry differences in an individual on the

spectrum compared to neurotypical peers (Robertson & Baron-Cohen, 2017). In turn, these sensory differences affect how individuals with ASD relate to their environment.

Levels of Severity of ASD

There are three levels of severity for ASD identified by the DSM-V. It categorizes ASD by allocating level 1, 2, or 3 based on two of the domains of symptoms. The two symptoms that are evaluated are the impairment in one's social function and restrictive and repetitive behavior (DSM-V). A level is ascertained based on the severity of these symptoms. They range from mild to severe and identified with numbers 1, 2 and 3. The DSM-5 denotes that an individual at the Level 3 is considered severe and requires very substantial support, a Level 2 requires substantial support, and a Level 1 is considered mild and specifies that the individual needs less extensive support. The extent of support is described.

The extent of the deficits one has results in one's effectiveness of getting needs met. An individual at a Level 3 has significant deficits that cause one to struggle significantly to get basic needs met. Alternatively, an individual with Level 2 of ASD often requires assistance, but has some degree of independence in daily living conditions. The least significant level of ASD, Level 1, specifies that these individuals need support. Supports are in place to assist in observable impairments that include difficulty initiating social interactions and showing minimal interest in social interactions, they display inflexibility regarding transitioning between activities and have organization and planning deficits. Social, communication, and behavioral impairments impact independence (American Psychiatric Association, 2013). Although individuals at a Level

1 demonstrate more independence, they still struggle due to deficits in adaptive skills (Pathak et al., 2019) specifically related to social deficits (Nevill et al., 2017). Evidence suggests adaptive behavior is more closely related to social functioning and independent living than intellectual ability (Kanne et al., 2011). Thus, one's communication skills and adaptive profile impact one's independence.

Understandably, the level of ASD determines the rate of growth trajectory and expectations for that individual. Venker et al. (2014) explained that identifying different rates of growth in receptive and expressive language skills as well as early deficits in nonverbal thinking and adaptive skills were predictive of a persistent and severe trajectory of the level of ASD severity. The results echoed those of Gotham et al. (2012), which also determined that levels of trajectory remained stable based on the ASD severity over multiple years. They determined that differences in language and daily living skills are substantially associated with different trajectories of the level of ASD severity (Gotham et al., 2012). Overall, both studies show that there is stability in ASD severity, which aid in determining expectations of individuals with ASD.

ASD and Adaptive Skills

ASD is considered an early-onset and a lifelong disorder that has been found to be stable over time (Baghdadli et al., 2019). There is no cure for ASD, and treatment varies for each individual with ASD (Luciano, 2016). Because the clinical presentations vary widely, outcomes diverge from individuals with ASD remaining non-verbal to those who live independently and are employed. Therefore, prognosis is based on an individual's cognitive ability, adaptive skills, and communication and language acquisition. Acquiring

speech has been determined to impact later life of those with ASD. In fact, adults with ASD who had acquired useful speech by the age 5 are more social and required fewer residential support services than those who had not (Howlin et al., 2004). Speech and language acquisition are just one aspect of adaptive functioning, which significantly impact success in life for individuals with ASD is their adaptive skills. Adaptive skills are social and practical skills that one needs to perform everyday tasks (Pathak et al., 2019). In other words, they are abilities needed to meet the demands of the environment. They include practical, conceptual, social, and linguistic skills (Nevill et al., 2017). Adaptive skills are developed through interaction with one's environment. Due to the difficulty that individuals with ASD have with social interactions, they have high rates of deficits in their adaptive skills (Nevill et al., 2017). Compared to other disabilities, those with ASD have overall weaker adaptive skills than individuals with intellectual disabilities, mood disorders, personality disorders, Attention Deficit Hyperactivity Disorders, and those with learning disabilities (Mouga et al., 2015).

The developmental trajectory of individuals diagnosed with ASD is not promising when considering their adaptive functioning. One aspect that impacts achieving independence is the severity of symptoms. There is a correlation between the severity of ASD symptoms and lower adaptive functioning (Matson, et al., 2009; Nevill et al., 2017). Additionally, those diagnosed earlier in life are found to have more severity with symptoms (Baghdadli et al., 2019). However, no matter one's cognitive ability, as an individual ages, there is a negative correlation with one's adaptive skill level (Mouga et al., 2015; Pathak et al., 2019; Pugliese et al., 2015).

Even when individuals with ASD do not have cognitive impairments, they still have deficits in adaptive skills. Kanne et al. (2011) determined that socialization scores on the Vineland Adaptive Behavior Scale were two standard deviations below the norm. This indicates that individuals with ASD perform at or better than one individual out of one hundred assessed at their same age in interpersonal relationships, choosing and initiating play and leisure activities, and demonstrating appropriate coping skills. Furthermore, their communication and daily living skills were one and a half standard deviations below the norm. This indicates that they perform better than less than ten individuals their same age on tasks of receptive and expressive language, written activities, domestic skills, hygiene, and navigating the community. These results were replicated by Pugliese et al. (2015). Without these skills, individuals struggle to achieve independence.

Transition into Adulthood

In the next decade, a half million youth with ASD will enter adulthood: with each year 50,000 graduating from high school (Roux et al., 2015). However, there are no federal mandates to provide supportive services in adulthood to those with ASD although over half of them received services in high school (Roux et al., 2015). Of those with ASD, communication and social impairments affect their abilities to get jobs, go to school, and socialize. Realizing this, two separate studies were conducted to evaluate how those with ASD fare in adulthood. Roux et al. (2015) determined of those who have graduated, 37% never obtained a job or continued with education after high school compared to only 8% of other disabilities. Fifty-eight percent worked outside the home

for pay, but 4 out of 10 never worked (Roux et al., 2015). More specifically, two-thirds of individuals with average cognitive functioning were engaged in employment, but only 25% was consistently engaged in employment (Lounds Taylor et al., 2016). Less than 10% (9.6%) were engaged consistently is over 30 hours a week (Lounds Taylor et al., 2016). The average hours worked per week is 24.1 hours even though 52.3% preferred fulltime work (Wei et al., 2014). Of those employed, 70% of the employers were aware of the diagnosis of ASD and of those 30% received accommodations (Roux, et al., 2015).

Regarding attending postsecondary education, 54% attended. Of those that attended postsecondary education, 57.9% were minimally or unemployed (Lounds Taylor et al., 2016). Most were in entry level or non-skilled positions like cleaning or food preparation. In the six years following graduation, those with ASD experience multiple variations between full and part time employment and hold a job an average of 24 months (Wei et al., 2014). Those that shift to a new job occur mainly due to the previous one being temporary. Additionally, those with ASD are less likely to quit than comparison groups (Wei et al., 2014). Also, those with ASD typically only earn 80% of the income of what is made by their general population counterparts (Newman et al., 2011).

Consequently, individuals who displayed more behavioral concerns have more difficulty keeping a job and are more apt to be unemployed. Alternatively, as conversation skills increased, so did the percentage of those who were employed (Roux et al., 2015). Moreover, being female and from a lower socioeconomic status negatively impacted the ability to obtain and maintain a job (Lounds Taylor et al., 2016).

In interviewing young adults with ASD, they indicated that a significant barrier for finding and keeping work was social communication difficulties. They specified that they lack eye contact and may not say things appropriately (Sosowny et al., 2018). This was reiterated by parents of young adults who stated that young adults with ASD struggle with social tasks like making and maintaining friendships and negotiating social interactions (Elias & White, 2018). Young adults with ASD were described by both parents and pervious high school teachers as largely reliant on support and assistance and lacked self-advocacy (Elias et al., 2019; Elias & White, 2018). In addition, parents and teachers specified concerns with executive function skills, which impacted the individuals' with ASD ability to initiate and solve problems independently, manage time, organize, and use a schedule (Elias et al., 2019; Elias & White, 2018). Plus, parents identified that their young adults have difficulty maintaining attention and managing emotions, especially in stressful situations.

Those with ASD have been found to face challenges in job searching. They were less likely to find a job solely on their own merits. Instead, they rely on teachers and employment agencies for help (Wei et al., 2018) and parents also contribute assistance in the job search (Sosowny et al., 2018). Young adults with ASD even stated that they needed more training on basics of searching for jobs (Sosowny et al., 2018). This leads to more time seeking employment and they are less likely to find employment (Wei et al., 2018). Even though they are more likely to access assistance, they are still less likely to be employed after high school.

Another concern in relation to transition to adulthood from a perspective of young adults with ASD is that they feel that the stereotypes of ASD made employers reluctant to hire them (Irvine & Lupart, 2008; Morgan & Alexander, 2005). In response, they suggested providing training to the workplaces on ASD. The most successful experiences occurred when the workplace fit the individual's preferences and those that provided accommodations (Sosowny et al., 2018).

Research has shown that employers have had misperceptions about employing those with ASD (Irvine & Lupart, 2008). These have been that those with ASD are resistant to change, have social skill deficits, have difficulty performing work, require increased safety protocols, and behavioral concerns (Irvine & Lupart, 2008). Employers have also expressed concerns with quality control, reduced productivity, attendance, appearance, and punctuality (Ju et al., 2013). Yet, employers noted that benefits to employing those with ASD are that they are regularly in attendance, have a long-term tenure, have greater work efficiency, are positive role models, and increased employers' and employees' awareness of ASD through experience and education (Irvine & Lupart, 2008; Morgan & Alexander, 2005). Considering the two studies indicate opposite finding, it is unclear where most employers' fall regarding employing those with ASD.

Unfortunately, stigma affects those with ASD. Negative stigma comes from misperception (John et al., 2018). Myths or misinformation from the lay public leads to stigma related to ASD. Stigma is inaccurate information about a group (Csiernik et al., 2007) that cause bullying, shunning, and loneliness for individuals with ASD (Cappadocia & Weiss, 2011). John et al. (2018) identified that lay individuals believe at

those with ASD have a disinterest in developing social relationships, do not like to be touched, are introverts, unable to notice social rejection, have special talents or are savants, are dangerous, and mad. These misconceptions come from what people see on television, in movies, and through the media (Daisha, 2009). In turn, there is an oversimplification of how ASD presents in individuals and a lack of understanding of the heterogeneity (John et al., 2018). Myths about characteristics of ASD misrepresent those individuals and cause stigma.

Explicitly, ignorance about ASD affects social acceptance of individuals with ASD by neurotypicals. Petri (2018) determined that there was significant difference between social acceptance and friendships between neurotypicals and those with ASD. This led to negative outcomes with social participation because they were included less than neurotypicals. This shows that "disability phobia" (Yazbeck et al., 2004) negatively influences the wellbeing of individuals with ASD, which subsequently adversely affects their emotional wellbeing and quality of life (Cappadocia & Weiss, 2011).

In addition, research identifies that employment contributes to quality of life. It provides financial independence, health insurance, benefits, and social relationships (Roux et al., 2015). Going to work meant developing independence, self-efficacy, and engaging in the community (Sosowny et al., 2018). Yet, individuals with ASD have lower qualities of life than neurotypicals and those individuals with other disabilities (Barneveld et al., 2014). They have less financial security, job satisfaction, family life, health, and safety.

In particular, workplace accommodations were the main enablers to successful employment while difficulty with employment was related to a lack of appropriate opportunities, negative experiences causing those with ASD to refuse to return, a lack of personal relationships, and lack of preparation for the work environment prior to going (Sosowny et al., 2018). Yet, in a study by Nicolas et al. (2019), employers who participated in an on-site work experience with individuals with ASD, and who were provided with an education of ASD, increased their knowledge and attitudes regarding ASD. Particularly, the increase in general knowledge increased more positive attitudes about employing those with ASD, led to relationship formation, and also increased employers' awareness and acceptance of employing individuals with ASD.

General Knowledge

On significant aspect related to employers' attitudes about ASD is their general knowledge, or information related to ASD that they have acquired from various mediums. General knowledge is acquired through reading about a topic in books, articles, and journals and being taught about it in classes or trainings (Milton, 2014). It also occurs when one is immersed in the topic by directly working within the community related to the topic of interest to learn about characteristics, causes, assessments, and treatment pertaining to it (Milton, 2014). On the other hand, Kuzminski et al. (2019) determined that stigma is partially based on the lack of knowledge about a specific topic or area. Subsequently, they found that knowledge about ASD positively influenced attitudes toward ASD. However, experience was intricately linked to knowledge. Individuals who had direct experience with the disability demonstrated more knowledge about ASD.

Understanding that knowledge influences attitudes, Mitchell and Locke (2015) determined that in the United States and Canada most lay individuals knew that ASD is diagnosed in early childhood. However, half incorrectly labeled certain characteristics as related to or not related to the diagnosis including demonstrating intense restricted interests, an inability to make and retain friendships, and fidgeting and squirming continuously. Additionally, they found that non-white individuals were more likely to receive their information from the media and endorsed illogical thinking in relation to ASD. Furthermore, those with a college education were more likely to have learned about ASD in their education. In addition, those whose family was directly affected by ASD, and those within the childcare field had greater knowledge of ASD.

Voelkel et al., (2013) studied the amount of knowledge the Hispanic lay population had about those with ASD. The study indicated that 90% of Hispanics knew something about ASD and 52% knew someone affected by the disability. In another study in Japan, (Miyasaka et al., 2018) only half could identify characteristics of ASD. Furthermore, Obeid et al. (2015) determine that Lebanese had lower levels of knowledge, as measured by the Autism Awareness Survey, than individuals in United States. They were more likely than those in the US to endorse common misconceptions.

As it relates to ASD**,** it has been determined that attitudes and behaviors towards those with ASD can be positively affected when neurotypicals are educated about the disability. In fact, elementary children who were provided descriptive and explanatory information about their peers with ASD had more positive attitudes and behaviors toward them (Campbell et al., 2004). Additionally, adolescents who had frequent contact with

individuals with ASD had more knowledge about the disability (Mavropoulou & Sideridis, 2014).

Of college students that were asked about their knowledge and acceptance of peers with ASD, 80% indicated that they were knowledgeable about the diagnosis, but only 48.8% would 'hang out' with an individual on the spectrum (Gardiner, & Iarocci, 2014). They also were less willing to have a romantic relationship with an individual with ASD. Furthermore, the greater the cognitive deficit, the less likely neurotypicals are in wanting to interact with those on the spectrum (Gillespie-Lynch et al., 2015). As a result, an increase in knowledge translates into an increase in attitude, but not always an increase in acceptance of those with ASD.

Research specifically related to employer' general knowledge of ASD has yet to be conducted. Yet, in researching employers' general knowledge regarding employees with disabilities, it has been determined that there has been the misperception that employees with disabilities are undereducated or unqualified, unproductive, and expensive to hire (United States Department of Labor, 2014b). As previously stated, these include the individual with a disability being resistant to change, having social skill deficits, difficulty performing work, requiring increased safety protocols, and having behavioral concerns (Irvine & Lupart, 2008). There were additional concerns with quality control, reduced productivity, attendance, appearance, and punctuality (Ju et al., 2013). Because of this lack of knowledge or misinformation, 43% of employees with disabilities reported experiencing discrimination within the workforce (United States Department of Labor, 2014b).

Social Attitude

Social attitude occurs when the brain forms impressions. The process is subjective because it is impacted by characteristics of the person that one is observing, the context of the situation, and one's own personal traits and paste experiences. It is also affected by social norms as to what is expected (Bargh et al., 1996). Plus, it relies significantly on the obvious and novel aspects of the situation as it assimilates the new information with what has previously been perceived. Yet, it is through the observations of others that one revises beliefs and judgements and change behaviors (Moussaid et al., 2009). Social influence is important in self-organization of the world and development of knowledge. When faced with beliefs, opinions, and judgments of others, one filters and integrates the new information and changes are made as a result (Yaniv, 2004). Subsequently, one can change opinions, beliefs, or behaviors due to social interactions (Moussaid et al., 2013). These knowledges can be tainted with incorrect information.

On group that has been affected negatively by social attitude is ASD. There is less favorable knowledge related to individuals with ASD than their neurotypical peers. In fact, neurotypicals indicate greater reluctance to socially interact with individuals on the spectrum (Sasson & Morrison, 2017). Those with ASD are described by neurotypical peers as less likeable, more awkward, and less attractive (Sasson et al., 2017). This negative social attitude leads to less opportunities for socialization and a decrease in the likelihood of inclusion, which impacts their chances to accomplish personal and professional goals (Cage et al., 2018). However, when observers are more knowledgeable about ASD (Gillespie-Lynch et al., 2015) or they are told that the individuals have ASD

(Sasson & Morrison, 2017), their social attitude of the individual improves. Thus, knowledge is not only based on the social observation of individuals with ASD, but likewise the characteristics of the neurotypicals.

A recent study by Morrison et al. (2019) examined how characteristics of neurotypicals affect their knowledge of those with ASD during first impressions. It indicated that the individuals who had stigma-related beliefs of ASD had a less favorable first impression of the individuals with ASD. Additionally, when those neurotypicals were provided with the knowledge that the individual has ASD, it caused even more negative first impressions. Another aspect of the study was that when neurotypicals had more knowledge about ASD, they had a more positive attitude of the individuals with ASD and were more inclusive and accepting of the individuals with ASD.

Experience

Socialization is a continuous process and those with less experience have the challenge of determining the pertinent characteristics of an individual, group or organization (Feldman, 1976). Individuals encounter new features, seek out sources of information, and need to learn what features are relevant and develop an understanding of the environment (Louis et al., 1983). As they gain experience, specific aspects and resources of information become relevant as individuals adapt and learn.

Regarding ASD, research has determined that as one's experiences increased with individuals with ASD, the individual was more likely to be accepting of those with ASD (Gardiner & Iarocci, 2014). Additionally, the individual tended to demonstrate an

increase in prosocial skills, as well as, acquired knowledge and understanding of the disorder. Thus, as there is gained experience, the individual adapts to the environment.

In fact, studies have indicated that those who have lived experience interacting with those with ASD specify that the knowledge and understanding of the diagnosis and how it affects a specific individual is expanded (Angell et al., 2012). The lived experience increases their understanding that ASD causes communication and appropriate behavior to be a challenge (Hwang & Charnley, 2010). In turn, this leads to a drive to educate others so there is a perception of ASD from society that is accurate (Leedham et al., 2020).

In general, the experiences of interacting with those with ASD has not only increased knowledge about the disability, but has resulted in acceptance of differences in general (Leedham et al., 2020). With more experience interacting with those with ASD, individuals reacted with fewer deviations from how they would interact with neurotypicals (Gorjy et al., 2017). They also endorse an increase in acceptance of individual differences. Furthermore, research has determined that the more experience one has with ASD results in a more caring attitude and greater empathy and compassion toward others (Angell et al., 2012). Individuals describe themselves as being more helpful, having more patience, and showing acceptance (Mandelco & Webb, 2009). Subsequently, there is an increase in prosocial skills related to experience interacting with individuals with ASD.

However, all previous experience, positive or negative, affects one's decision making. Juliusson et al. (2005) determined that one's past decisions impact the potential decisions

one will make. If there are positive results from a decision, one is more likely to choose to solve a similar situation in a similar way. Yet, to evade repeating past errors the individual is likely to try an alternative way to solve a future problem if the previous way was unsuccessful (Sagi & Friedland, 2007). However, future decisions made based on past experiences do not always lead to the same outcome because the environment is always changing. Yet, in relation to employing individuals with ASD, research indicated that employers who had more positive experiences related to employing individuals with disabilities had more favorable views of hiring those with disabilities again (Ju et al., 2013).

Alternatively, ineffective socialization results in lower performance, more dissatisfaction, negative attitudes toward the job, and increased stress, which causes one to quit (Louis et al., 1983). Thus, research has identified strategies for employers to use when employing those with disabilities to decrease bias, stigma, discrimination (Pearlstein, 2019). It is recommended that the employer consider one's own biases and participates in trainings to improve one's knowledge of the disability, disability rights, and accommodations for the disability. It is also best practice to consult with the employee and determine how to best accommodate one's individual needs. Supervision should be flexible as the employer respects limitations related to the disability while considering the employee's strengths. These strategies will assist in the employee gaining confidence with the work as well as experience.

Employability

Employability and the employment experience of those with ASD is a developing area of research in the field. Considering that 58% of those with ASD are employed (Roux et al., 2015) and only two-thirds of individuals with average cognitive functioning were employed (Lounds Taylor et al., 2016) and there is stigma surrounding the disability, a better understanding of employability of those with ASD is warranted. A study by Waterstone and Stein (2008) determined that individuals with disabilities could be integrated into workplaces and in turn, reduced prejudice in society and led to a community more inclusive for all people. They argued that if individuals with disabilities, like ASD, are excluded from the professions, society would loss valuable contributions that they offer. Because there are prejudice and stereotypes, individuals with disabilities are not afforded the opportunities to contribute to the workforce.

In terms of those with ASD in the workforce, Scott et al. (2017) evaluated the costs and benefits of employing adults with ASD in Australia and suggest the importance of addressing employers' attitudes toward hiring and employing those with ASD. In fact, although half hired those with ASD due to social responsibility, the impact of employing an individual with ASD was rated as positive with an emphasis on promoting inclusion and increasing awareness of ASD. Those with ASD also brought different skills to the work team. More than 50% of employers would hire those with ASD because they have a higher level of attention to detail, work ethic, and quality of work. There were no significant differences regarding the ability to follow directions, productivity, and work completion. Nevertheless, they also demonstrate less flexibility. In comparison to those

without ASD, they needed more supervision and had more instances of miscommunication due to lack of knowledge by colleagues of ASD. As indicated in other research, those with ASD are more likely to work part-time and hourly wages were slightly lower for those with ASD than those without ASD, even though they did not require more cost to supervise or provide workplace training than neurotypical co-workers.

Another study by Scott et al. (2019) found that those with ASD had low absenteeism, high quality of work, prompt task initiation, and strong work ethic. In addition, using job coaches and assistive technology assisted those with ASD in problem solving, task management, organization, and self-regulation. The review identified that there is a lack of interventions related to environmental factors and interactions that those with ASD have in the workplace. Specifically, the authors state that employers and co-workers are overlooked in research.

To expound on the research related to employability of individuals with ASD, O'Sullivan and Kearney (2018) investigated employers' stereotypes of individuals with ASD and environmental changes they identified following using virtual reality technology to experience the environment similar to an individual with ASD. Virtual reality increased empathy and understanding of these supervisors related to ASD.

Moreover, Hedley et al., (2018) discussed the effects of the workplace environment that employed adults with ASD for an 8-week trial program. Qualitative interviews identified 3 main themes: factors that resulted in success at work, barriers, and outcomes. Success was achieved when staff provided support and using positive

appropriate feedback and clear instructions, and avoiding sarcasm when communicating with those with ASD. Plus, employees that fostered social relationships were a positive aspect. Also, environmental modifications helped, like wearing headphones to manage auditory stimulation and lighting was modified due to sensitivity as well as furniture location to minimize distractions, the use of visual charts to manage task completion and breaks benefited those with ASD. Challenges that affected those with ASD were frustration related to work tasks and memory difficulties. There were additionally concerns from supervisors and other employees regarding time management, stress management, attention concerns, and difficulties coping with change. Moreover, there was a lack of social etiquette from individuals with ASD. Regarding outcomes, it was indicated that the results and quality of work from those with ASD were adequate. In fact, those with ASD were able to identify errors missed by other employees and were able to problem solve differently. Another positive outcome is that the employees who worked alongside those with ASD gained awareness and understanding of ASD. The experience helped those with ASD build social skills and independence.

Summary and Conclusions

In Chapter 2, literature associated with ASD and the transition to adulthood, general knowledge about ASD, experiences interacting with those with ASD, employability, and how they relate to employers' social attitudes of ASD, and employability were reviewed. Two theories, social cognitive and social contact theories were also present in association with general knowledge about ASD and social

interaction with individuals with ASD, as well as employers' social attitudes and employability perceptions of those with ASD.

I have examined the literature most relevant to characteristics of ASD and barriers that individuals with ASD face as they transition to adulthood. I reviewed studies related to misperceptions and stigma (Cappadocia & Weiss, 2011; Csiernik et al. 2007; John et al. 2018), general knowledge (Gardiner & Iarocci, 2014; Kuzminski et al. 2019; Mitchell and Locke, 2015), social attitude and influence (Morrison et al., 2017; Sasson & Morrison, 2017), and the quantity of experience as well as types of experiences connected to ASD (Hedley et al., 2018; O'Sullivan & Kearney, 2018; Scott et al., 2017). In addition, studies regarding costs and benefits of employing individuals with ASD and environmental factors that influence the work experience of those with ASD were discussed, as well (Scott et al., 2019). Unfortunately, employability of ASD remains a concern from the perspectives of the individuals with ASD, their families, in addition to the employers considering hiring them.

However, from an employer's perspective, research has shown that an increase in general knowledge from employers related to ASD resulted more positive attitudes about employing those with ASD, led to relationship formation, and also increased employers' awareness and acceptance of employing individuals with ASD (Nicolas et al., 2019). Plus, increased knowledge about ASD led to more acceptance of the individuals with ASD (Morrison et al., 2019). Furthermore, those who have experienced more social interaction with those with ASD identified more prosocial skills as well as acquired knowledge and understanding of the disorder (Leedham et al., 2020). In terms of those

with ASD in the workforce, besides being a social responsibility, employing an individual with ASD was considered a positive experience by employers due to promotion of inclusion, those with ASD demonstrating a different skill as well as having a higher level of attention to detail, work ethic, and quality of work (Scott et al., 2017). Even then, due to a lack of knowledge, misinformation, and social contact with ASD, most employers remained concerned about hiring individuals with ASD (Ju et al., 2013).

Therefore, this study addressed the research gap by extending the current literature related to the environmental factor of employers. This study evaluated how general knowledge, social attitude, and the amount of social interaction an employer has had regarding those with ASD relates to their attitude and considerations of employing those with ASD. In chapter 3, I provide detail on the research methodology, the identification of participants, measurement instruments, threats to validity, and ethical considerations.

Chapter 3: Research Method

The purpose of the study was to determine how the level of knowledge about ASD and experiences interacting with individuals with ASD are related to employers' social attitudes and perceptions of individuals with ASD. Chapter 3 consists of the following sections: the research design and rationale, methodology, population, sampling and sampling procedures, power analysis, procedures for recruitment and participation, instruments, demographics, data analysis plan, threats to validity, and ethical considerations.

Research Design and Rational

The nature of the study was nonexperimental and quantitative to investigate correlations and to identify how strongly the variables are related (Warner, 2013). The independent variables are general knowledge and the amount of social interaction an employer has with individuals with ASD. The dependent variables are the employer's social attitude and employment perception of those with ASD. Previous research has been qualitative in nature and relied on interviews to gain perspectives (Elias et al., 2019; Elias & White, 2018; Hedley et al., 2018; Nicolas et al., 2019; O'Sullivan & Kearney, 2018; Sosowny et al., 2018). This study used a multiple regression approach to determine if employers' social attitudes and employability perceptions of ASD are significantly predicted by employers' knowledge of ASD or the amount of social interaction with individuals with ASD (Warner, 2013). Correlation was used to show how strongly the pairs of variables are related (Warner, 2013). All participants of the study completed a questionnaire and the responses were analyzed in order to develop a better understanding

of how the level of knowledge about ASD and experiences interacting with individuals with ASD are related to the employers' social attitudes and perceptions of employability of individuals with ASD. Regarding time constraints, employers had one month to complete the questionnaire. Research constraints occurred. Because of the limited access to the specific population needed for the study, a non-probability sampling transpired, which caused those participants to not represent the specific population being studied: employers (Frankfort-Nachmias & Leon-Guerrero, 2018). Additionally, the sample size was not sufficient in order to conclude a valid research result.

The target size of the study was 92 participants. To determine this, a power analysis was conducted using the G*Power. Cohen (1988) identified a medium effect size for a multiple linear regression as be $f^2 = .15$. This corresponds to a multiple-$R = .36$ and multiple-$R^2 = .13$. Thus, a set of predictors accounted for 13% of the variance in the criterion variable. Cohen et al. (2003) explained that a medium-size partial r^2, the shared variance a specific predictor identified, to be .059. Formula 3.5.9 in Cohen et al. (2003) calculates from the partial r^2 the part r^2, which eliminates the shared variance and signifies only the unique variance accounted for by a specific predictor, which calculates as .0545. In G*Power this relates to the value entered in "Variance explained by special effect". The residual variance is the proportion of variance in the criterion variable that the whole set of predictors does not explain, which is 1 - .13 for a medium-size multiple-R^2. The values correspond to a power analysis for detecting a medium-size part r^2 of a specific predictor within a medium-size overall multiple-R^2. The subsequent f^2 is .0626,

and with alpha = .05 and power = .70, yields a sample size of 92. According to Stevens (2002), sample size estimates should be based on a power value of no less than .70.

Methodology

Population

The target population for this study was employers or managers in the retail field in the United States who employ individuals with Level 1 ASD and those who do not employ individuals with Level 1 ASD. This allowed for a comparison across amount of social interactions and level of general knowledge about ASD in relation to social attitudes and employability perceptions of ASD. Exclusions included those individuals in entry level positions and those who do not supervise or employ workers. Potential participants were screened to ensure that they met inclusion criteria to participate in the study prior to informed consent.

Sampling and Sampling Procedures

A nonprobability sample of convenience sampling was used to recruit employers employed by retail chain stores in the United States. Nonprobability sampling occurred by selecting inclusion into the sample based on easy access to the specific population of employers of individuals with ASD. I contacted companies and corporations that employ those with ASD to obtain my participants. However, those that did not employ individuals with ASD were not excluded from the study. The sample was collected using convenience sampling due to the need for a specific target population. Daniel (2012) specified that when conducting exploratory research in which the target population is

homogeneous and the study is targeting specific elements of the population, nonprobability sampling should be used.

Inclusion criteria to be a participant in the study included all individuals that are in charge of employment at retail chain stores in the United States and all individuals that supervise or oversee other employees at retail stores in the United States. Exclusions included those individuals in entry level positions and those that do not supervise or employ workers.

Procedures for Recruitment and Participation

An email was sent to specific organizations, companies, and individuals who work with young adults with ASD as well as parents of adults with ASD to request sharing the study with contacts of employers with whom they have an affiliation. A link to the study was included in the email. They forwarded the email I have provided them to employers who supervise individuals with ASD. Organizations were able to reach me to discuss how they could assist in recruitment, as well. In addition to emails being sent to corporations and companies as well as parents of individuals with ASD, I contacted them via phone request assistance and to answer questions regarding the study followed by an email that included a link to the study to share. If interested, the supervisors clicked on the link in the email to complete the questionnaire. In addition, my email included me asking interested supervisors to share information and link about the study to others who may be interested in participating. Two weeks later, another email was sent as a reminder. It thanked anyone who had already completed it.

In order to ensure that participants are employers, a screening item was asked prior the informed consent. If a participant identifies as an employer, the individual proceeded to the informed consent followed the questionnaire. If not, the questionnaire ended.

Informed consent was provided to participants who met inclusion criteria. The informed consent explained the individuals' rights as well as information about the confidentiality of this study. Participants were informed of the purpose of the study, information on the sponsoring institution, risks and potential benefits for participating, and a guarantee of confidentiality. Any participants interested in receiving more information regarding the topics discussed were invited to contact me via e-mail or phone contact. Participants could refuse participation at any time and had the opportunity to leave the study at any time. Participants were not allowed to skip questions within the survey, but were allowed to stop participation by ending or quitting at any time. This study did not have any follow-up procedures, as this was a one-time data collection study and the retrieval methods of the surveys were computer based.

Eligible participants completed a questionnaire with questions in the following order via Survey Monkey: (a) demographic form, (b) amount of social interaction with those with ASD, (c) the Autism Knowledge Scale, (d) Societal Attitudes Toward Autism Scale, and the (e) HR Professional Perception of Employability of Persons with Intellectual Disabilities. Emails were previously sent to each survey's developer(s) to request the use of it and permission was granted. Information pertaining to social interactions were collected similar to Zhaoyang et al. (2018) with responses provided

through categorical and ordinal scales of measurement. Copies are included in the appendix. Survey Monkey is an online survey development program, which sends surveys to participants, and then, once surveys are completed, collects and stores the data. The opportunity window to complete the survey remained open for a one month period. Two weeks after the link to Survey Monkey was sent, another email was sent as a reminder. It also thanked anyone who had already completed it. The goal was to have 125 participants access the link to account for those who did not complete the questionnaires. Following a month, if the number of participants did not reach at least 92, the researcher established contact with corporations who previously had expressed interest and request their assistance again to share links with employers.

Basic demographic information was collected from participants of the study. This information includes the age and gender of the participant. Plus, I requested how the participants learned about the survey. In Addition, information related to the employer's profession was asked consisting of the position held, how many years that position had been held, and how many years that the employer had been employed by the company.

Instrumentation and Operationalization of Constructs

Demographic Questions

The demographic questions were asked to gain information pertaining to participants' age, race, ethnicity, and gender, the company of employment, position held, the length of employment, and length of being a supervisor.

Social Interactions Questions

The amount of social interaction each participant had with individuals with ASD was asked following the collection of demographic information. There was no existing questionnaire available to use that provided information about the social interaction employers have with those with ASD. However, Zhaoyang et al. (2018) measured social interaction, which was defined as talking to someone in person, by phone, or online, in three ways: A categorical variable was created to represent the three types of social interactions; the amount of social interactions participants had was identified ranging from 0 to 10 (10 = 10 or more social interactions); and the frequency of specific types of social interactions was calculated by counting the total number of social interactions that were had with each type and the frequency of social interactions ranged from 0 to 5. Using this model, I developed nine questions to be asked for the study. Questions included if the participant knows an individual with ASD and in what capacity (e.g., immediate family member, extended family member, friend, acquaintance, employee, in the general public) and number of social interactions the participant has with individuals with ASD monthly in each capacity.

Questions from the ASD Knowledge Scale

The ASD Knowledge Scale from Hansen (2015) was used to assess employers' general knowledge of ASD. It includes 45 questions in a *True* or *False* format. The items fall within five composites: Prognosis/Treatment; Epidemiology; Diagnosis; Symptoms; and Etiology. A key of correct answers was used to compare to each questionnaire's responses. The higher the score obtained, the more general knowledge about ASD an

individual displays. The lower the score, the less general knowledge or inaccurate knowledge one has about ASD. The questionnaire was originally given to undergraduate students at a university in the Midwest region of the United States as part of a Master's Thesis. The ASD Knowledge Scale alpha coefficient was .61. Construct validity was evaluated by comparing actual knowledge to the amount of training related to ASD and there was a positive correlation, $r(487)=.10$, $p=.03$. Convergent validity was also assessed and determined that actual and perceived knowledge was positively correlated with experience with individuals with ASD, $r(481)=.33$, $p<.001$; $r(487)=.31$, $p>.001$. It has been cited in Anwar et al., (2018), and Kabala et al. (2019). In order to use the ASD Knowledge Scale, an email, was sent to the author to request permission. A copy is located in the appendix. For the current study, reliability estimates were conducted.

Questions from the Societal Attitudes Toward Autism Scale

The Societal Attitudes Toward Autism Scale developed by Flood, et al., (2013) was used to evaluate employers' social attitudes about ASD. There are a total of 26 questions as part of the questionnaire that is distributed into 3 factors: Societal Attitudes, Knowledge, and Personal Distance. The scale was originally administered to undergraduate students from a university in the Midwest region of the United States. For this study, only the Societal Attitudes Toward Autism was used. It has 16 questions in which answers are chosen from a Likert scale of *Strongly Disagree (1)*, *Disagree (2)*, *Agree (3)*, or *Strongly Agree (4).* The higher the score, the more social attitude the participant has toward those with ASD. The lower the score indicates the less positive the participant's social attitude is regarding those with ASD. The reliability of the measure is .86. Convergent validity

was assessed for the Attitudes towards Autism Scale and the Attitudes towards Disables Persons (ATDP) and Disability Attitude Implicit Association Test (DA-IAT). There was a small positive correlation with the DA-IAT and Factor 1 showed a medium positive association with the ATDP. The scale has been used in Dachez et al. (2015) and Low et al. (2017). Permission to use the instrument was obtained. Reliability estimates were conducted for current study.

HR Professionals Perception of Employability of Persons with Intellectual Disabilities

HR Professionals Perception of Employability of Persons with Intellectual Disabilities created by Berry and Kymar (2012) was used to gage employers' perceptions of employability of individuals with ASD. The questionnaire consists of 10 questions in which answers are picked from *Not a barrier*, *Rarely a barrier*, *Sometimes a barrier*, *Often a barrier*, or *Always a barrier*. The higher the score, the more perceived barriers an individual believes those with intellectual disabilities has related to employability. Alternatively, the lower the score, the less barriers one believes an individual with intellectual disability has to face related to employability. The questionnaire was originally administered to human resources professionals in India. The validation is .92. The survey's initial study did not provide information regarding its validity. It was used in Milanovic-Dobrota (2018). The questionnaire has not been used in a study specifically on ASD, but Thurm et al., (2019) indicated that there still remains a lack of research and instruments specific to ASD. However, there are commonalities of the two conditions: ASD and Intellectual Disabilities, which designates that research instruments and

methods for those with Intellectual Disabilities may be beneficial to use regardless of which neurodevelopmental disorder is diagnosed. To obtain consent to use the HR Professional Perception of Employability of Persons with Intellectual Disabilities, an email was sent to the authors requesting its use. A copy is in the appendix. Reliability estimates were conducted for current study.

Data Analysis

This section will review the research questions and hypotheses, review data cleaning and describe descriptive statistics. It will explain how regression was used to evaluate the data collected. Additionally, it will describe the assumptions of regression, and discuss the actual analysis in regard to each research question.

Research Questions and Hypotheses

RQ1: To what extent does the level of general knowledge of ASD relate to employers' social attitude of ASD?

$H_0$1: General knowledge of ASD does not significantly relate to employers' social attitude.

$H_1$1: General knowledge of ASD significantly relates to employers' social attitude.

RQ2: To what extent does the number of social interactions with individuals who have ASD relate to employers' social attitude of ASD?

$H_0$2: The amount of social interactions with individuals who have ASD is not a significant predictor of employers' social attitude.

$H_1$2: The amount of social interactions with individuals who have ASD is a significant predictor of employers' social attitude.

RQ3: To what extent does the amount of social interactions with individuals who have ASD relate to employers' employability perceptions of ASD?

$H_0$3: The amount of social interactions with individuals who have ASD is not a significant predictor of employers' employability perceptions.

$H_1$3: The amount of social interactions with individuals who have ASD is a significant predictor of employers' employability perceptions.

Statistical Analysis

Once data was obtained, data cleaning occurred to manage missing data and check for outliers. Only completed questionnaires were used in the analysis, so it eliminated the process of identifying missing responses in the questionnaires. To identify outliers, a boxplot was used in SPSS. When an outlier was determined, I ran the analysis both with and without the outlier. An outlier should not be the basis for the results. Thus, if there was a significant change, I examined what was occurring before deleting the outlier. Alternatively, if the outlier created a relationship where there was not one previously, I deleted the outlier or did not use those results (Baker, 2019).

Initial analysis of data occurred by conducting descriptive statistics to identify a summary of the sample. It included measures of central tendency and measures of variability. They comprised the mean, median, mode, standard deviation, variance, minimum and maximum variables, kurtosis, and skewness (Pall ant, 2016).

Regression analysis was used to determine the relationships between the dependent variables: social attitude and perception of employability of those with ASD and independent variables: general knowledge about ASD and social interaction with individuals with ASD. Three separate regression analyses were computed matching the three research questions asked. Considering the p value is .05, the confidence interval will be 95%. Regression analysis was chosen because I investigated relationships of certain variables in connection with employment of those with ASD. In regression analysis, there are four assumptions: linear relationship, independence, homoscedasticity, and normality. Regarding linear relationship, regression assumes that there is a linear relationship between the independent variables and the dependent variables**.** Independence indicates that the residuals, or the difference between the observed value of the dependent variable and the predicted value, are independent and there is no correlation between consecutive residuals in time series data. Homoscedasticity recognizes that the residuals have constant variance at every level of x. Normality refers to the residuals being normally distributed. If one or more of these assumptions are violated, the results of our linear regression may be unreliable (Pallant, 2016)**.**

The four assumptions of regression were assessed using SPSS Statistics. To assess if there is a linear relationship between the level of general knowledge about ASD and employers' social attitude, the level of general knowledge and level of perception of individuals with ASD, the amount of experiences, social interaction with individuals with ASD in relation to the amount of social attitude, and the amount of experience related to

level of perceptions of employability of ASD, a scatter plot was created for each relationship to identify if the points in the plot, that denote participant responses, fall in a linear pattern. To evaluate if residuals are independent as well as for homoscedasticity, a residual plot was created to display the predicted values against the residual values for the regression model. Furthermore, a quantile-quantile plot, was used to determine whether or not the residuals of a model follow a normal distribution (Pallant, 2016).

To evaluate the level of general knowledge of ASD related to employers' social attitude of ASD, the responses from the ASD Knowledge Scale and the Societal Attitudes Toward Autism Scale were compared. The amount of social interactions with individuals who have ASD related to employers' social attitudes of ASD were analyzed using responses from the social interaction questions (Zhaoyang et al.,2018) and the Societal Attitudes Toward Autism Scale. To determine how the amount of social interactions with individuals who have ASD relates to employers' employability perceptions of ASD, the responses on the social interaction questions and those from the Human Resource Professionals' Perception of Employability of Persons with Intellectual Disability were analyzed.

Threats to Validity

The HR Professionals Perception of Employability of Persons with Intellectual Disability was initially developed to study employers of those with Intellectual Disabilities. Individuals with ASD are considered to have Intellectual Disabilities. In fact, Thurm et al., (2019) indicated that although the research on ASD is growing, there still

remains a lack of research and instruments specific to ASD. Additionally, they note that there are commonalities of the two conditions: ASD and Intellectual Disabilities, which indicates that research instruments and methods for those with Intellectual Disabilities may be beneficial to use regardless of which neurodevelopmental disorder is diagnosed. Therefore, although the HR Professionals Perception of Employability of Persons with Intellectual Disability questionnaire was not originally used solely for those with ASD, it can be used to study this population.

The ASD Knowledge Scale has a reliability of .61. A Cronbach's alpha above 0.70 is considered acceptable. Although the reliability is only .61, this questionnaire has been used in later studies including Anwar et al. (2018) and Kabali et al. (2019).

Ethical Procedures

Initially, I contacted companies and corporations via email and phone calls to request willing employers for the completion of the study be provided a link to the online questionnaire. This ensured confidentiality. In addition, participants needed to give their informed consent to participate in the study using the informed consent form, which explained their rights and confidentiality of remaining anonymous as participants of this study. Also, they were informed that they were free to withdraw their consent and end their participation at any time without penalty.

Participants were advised that all responses would remain confidential. The researcher and chair were the only individuals to have access to the stored data. Using the website Survey Monkey, participants were able to answer questions anonymously and there was no need to use identifying information. Instead, each participant was coded by

a number rather than personal information. Furthermore, companies and corporations were not be provided with individuals who participated and those who declined. The anonymous data collection minimized risks to the participants.

Summary

This quantitative study is a nonexperimental design with the intent to explore the relationship between variables. The independent variables are general knowledge and the social interaction an employer has with individuals with ASD. The dependent variables are the employer's social attitude and employment perception of those with ASD. Participants completed a demographic questionnaire, interaction questions similar to Zhaoyang et al. (2018), the Autism General Knowledge Scale (Hansen, 2015), Societal Attitudes Toward Autism scale (Flood, Bulgrin, & Morgan, 2012), and the Human Resource Professionals' Perception of Employability of Persons with Intellectual Disability (Berry & Kymar, 2012).

A correlational design with questionnaires by means of surveymonkey.com was used. Multiple regression was conducted in this non-experimental design to evaluate and determine the relationships between the dependent variables and the independent variables. Chapter 4 will show data collection and analysis and present descriptive and inferential statistics from the multiple regression.

Chapter 4: Results

Introduction

In this study, I explored how general knowledge about ASD, and the amount of social interaction employers have had with those with ASD relate to their social attitudes and perceptions of employing those with ASD. Three hypotheses were testing using multiple regression between dependent and independent variables. The research questions were as follows:

RQ1: To what extent does the level of general knowledge of ASD relate to employers' social attitude of ASD?

$H_0$1: General knowledge of ASD does not significantly relate to employers' social attitude.

$H_1$1: General knowledge of ASD significantly relates to employers' social attitude.

RQ2: To what extent does the amount of social interactions with individuals who have ASD relate to employers' social attitude of ASD?

$H_0$2: The amount of social interactions with individuals who have ASD is not a significant predictor of employers' social attitude.

$H_1$2: The amount of social interactions with individuals who have ASD is a significant predictor of employers' social attitude.

RQ3: To what extent does the amount of social interactions with individuals who have ASD relate to employers' employability perceptions of ASD?

$H_0$3: The amount of social interactions with individuals who have ASD is not a significant predictor of employers' employability perceptions.

$H_1$3: The amount of social interactions with individuals who have ASD is a significant predictor of employers' employability perceptions.

In this chapter, I present demographic information regarding the participants of the study and summarize the results of descriptive statistics and data analysis based on the raw data gathered from the online survey.

Data Collection

After a month of data collection efforts in Spring 2021, less than 50% (*n=19*) of the desired sample size had been achieved. In response, I sent a reminder email to all contacts. I also distributed flyers to managers of retail businesses and farmer's markets and asked them to share the flyer with individuals who meet the inclusion criteria. Further efforts were made to reach potential participants by posting information regarding the study on social media pages of groups for ASD and small business. At the end of the second month, 50% of the coveted sample size was reached (*n=44*). After three months of data collection, a total of 93 participants completed the online survey. Of those, 79 fulfilled the inclusion criterion of being a supervisor or manager. The survey included 90 questions that included demographic questions as well interaction questions like Zhaoyang et al. (2018), and those from the Autism General Knowledge Scale (Hansen, 2015), Societal Attitudes Toward Autism scale (Flood, Bulgrin, & Morgan, 2012), and the Human Resource Professionals' Perception of Employability of Persons with Intellectual Disability (Berry & Kymar, 2012).

Data was collected electronically using surveymonkey.com, a web-based, internet survey tool. Interested managers and supervisors were provided a direct link to start the anonymous online survey via email, Facebook post, and/or flier. Participant data were submitted and saved online and were contained in the data collection for the study. Once the desired sample was achieved, the study was closed and no further questionnaires were collected. The data were exported to an EXCEL file and then downloaded into a SPSS file. Data was stored on a password protected USB storage device in a fireproof, personal safe to ensure safety and was only accessed by me. The data will be retained for 5 years and will not be used for future research, per APA's ethics code (APA, 2016) on record keeping.

In creating the survey using Survey Monkey, limits were set to decrease the likelihood of random errors and missing data. Participants were unable to skip questions as they completed the survey. After all data were collected, I analyzed the raw data and ran the frequencies of each variable to determine if there were any errors in response scales. Significant outliers were not identified.

Sample Demographics

Survey participants included a total of 79 managers and supervisors who complete the online survey. A G*Power statistical test was run to calculate sensitivity and to derive the optimal sample size for the study, which indicated that a survey sample size of 92 was needed. Thus, data collection efforts resulted in a sample size below the derived sample size.

Participants ranged in age from 22 to 71 years of age with a mean of 47.20 and standard deviation of 13.53. The survey participants were 37 (46.8%) males, 39 (49.4%) females, and 3(3.8%) would rather not say of varied races. Which included 64 (81.0%) White, 2 (2.5 %) Black or African American, 3(3.8%) Hispanic or Latino, 4 (5.1%) Asian or Asian American, 1(1.3%) American Indian or Alaska Native, 2 (2.5%) Middle Eastern, and 3(3.8%) Multiracial. Three (3.8%) individuals identified as Hispanic or Latino. Participants learned about the survey through varying modalities. Twenty eight (35.4%) were told by a colleague, 30 (38.0%) by a friend, 5 (6.3%) by a family member, and 16 (20.3%) through other means. Demographic characteristics about the study's participants were reported in Table 1.

Table 1

Sample Demographic Characteristics

Demographic	*N*	*%*
Gender		
Male	37	46.8%
Female	39	49.4%
Prefer Not to Say	3	3.8%
Race		
White	64	81.0%
Black/ African American	2	2.5%
Hispanic/ Latino	3	3.8%
Asian/ Asian American	4	5.1%

American Indian/ Alaskan Native	1	1.3%
Middle Eastern	2	2.5%
Multiracial	3	3.8%
Ethnicity		
Hispanic/Latino	3	3.8%

Results

Baseline Descriptive Statistics

Social interaction, general knowledge, social attitude, and employability perception were measured for this study (See Table 2). Descriptive statistics were used to provide measures of the central tendency and spread. Preliminary data analysis used the calculation of the mean scores and standard deviations (See Table 2).

Frequency distributions were employed, as well as calculating the skewness and kurtosis values to check for normality. Skewness determines symmetry in distribution scores and skewness value of zero is the aim for normal distribution. A value of >+/-1.00 identifies significant non-normality of the distribution scores (Cain, Zhang, & Yuan, 2017). Kurtosis specifies the peakness or flatness of a distribution of scores. A kurtosis value of zero is the expectation for a normal distribution of scores with a value of >+/-3.00 specifies significant peakness, known as leptokurtic, or flatness, referred to as platykurtic (Cain, Zhang, Yuan, 2017). The skewness and kurtosis values suggest that the assumptions of normality were met for General Knowledge, Social Attitude, and Employability Perception. Skewness was not met for Social Interaction. Instead, it is

right-skewed, which indicates the mean is larger than the median. This indicates that more participants reported lower social interaction with individuals with ASD.

Table 2

Descriptive Statistics for Study Variables

Variable	N	M	SD	Min	Max	Skewness	Kurtosis
Social Interaction	79	13.76	15.758	.00	60.00	1.610	2.010
General Knowledge	78	31.45	4.664	20.00	40.00	-.246	-.390
Social Attitude	79	47.90	5.116	35.00	58.00	-.279	-.416
Employability Perception	79	27.78	6.446	10.00	50.00	.579	1.479

Statistical Assumptions

Regression analysis was identified as the statistical test that would be used to answer the three research questions. Prior to considering the regression model of a linear relationship between independent and dependent variables, specific assumptions must be met. The assumptions are that observations are independent of each other, there is an absence of multicollinearity and of significant outliers, and outcome variables must be moderately correlated. The data must pass these assumptions for regression analysis in order to deliver valid results (Harrell, Jr., 2015).

As part of the regression analysis, the Durbin-Watson statistical test was computed to test for the assumption of the independence of errors. Durbin-Watson values of less than 1 or greater than 3 violate the assumption of the independence of errors. The Durbin-Watson values for the regression model used in this study were > 1.0 and < 2.0, which indicates that the assumption of independence of errors were not violated.

To test for the absence of multicollinearity, a variance inflation factor (VIF) was calculated for each predictor in the regression model. A VIF of near 1.0 indicates the absence of multicollinearity; while a VIF of > +/- 5 indicates significant multicollinearity. VIF values were 1.000. None of the predictor variables had a value greater than 1.000, which suggests that the assumptions of multicollinearity were not violated.

To test for the assumption of homoscedasticity or outliers in the distribution of all variables, scatterplots were generated as part of the regression model. The assumptions of homoscedasticity were evaluated. The scores were equally distributed above and below zero, indicating that the assumption of homoscedasticity was not violated.

Data Analysis

The data were analyzed using the IBM Statistical Package for Social Sciences (SPSS) version 27. A linear regression analyses were conducted to examine possible associations and to determine whether significant predictive relationships existed among the variables of employers' social interaction with individuals with ASD, their general knowledge about ASD, their social attitude about ASD, and their employability perception of individuals with ASD. Inferential analysis involved using the Pearson Product Moment Correlation and simple linear regression analyses. The statistical

analysis strategy by research question and/or hypothesis is provided in the following section.

Correlation was conducted to determine if a linear relationship exists between the variables of the study (Table 3).

Table 3

Correlation of Variables

		Pearson Correlation	Social Attitude	General Knowledge	Social Interaction
Employability Perception	Pearson Correlation	1	.211	-.055	.086
	Sig. (2-tailed)		.062	.634	.450
	N	79	79	78	79
Social Attitude	Pearson Correlation	.211	1	-.223*	.202
	Sig. (2-tailed)	.062		.050	.075
	N	79	79	78	79
General Knowledge	Pearson Correlation	-.055	-.233*	1	.091
	Sig. (2-tailed)	.634	.050		.426
	N	78	78	78	78
Social Interaction	Pearson Correlation	.086	.202	.091	1
	Sig. (2-tailed)	.450	.075	.426	
	N	79	79	78	79

* $p < .05$

Research Question 1

The first research question indicated, “To what extent does the level of general knowledge of ASD relate to employers’ social attitude of ASD?” The null hypothesis ($H_0$1) specified, “General knowledge of ASD does not significantly relate to employers’ social attitude. A Pearson Product Correlation Coefficient was run to determine the relationship between these variables. To evaluate this hypothesis, a simple linear regression analysis was performed to examine the relationship between general knowledge of ASD an employer has and an employer’s social attitude.

The total score obtained on the ASD Knowledge Scale from Hansen (2015) served as the predictor variable of general knowledge of ASD by employers and the total score on the Societal Attitudes Toward Autism from the Societal Attitudes Toward Autism Scale developed by Flood, et al., (2013) was used as the criterion variable for employers’ social attitudes of ASD. Pearson bivariate correlation results showed a significant, negative correlation between employers’ general knowledge about ASD and their social attitudes about ASD (r = -.223, n = 79, p = .050). A simple linear regression was calculated to the social knowledge about ASD an employer has (dependent variable) based on the amount of general knowledge that the employer has (independent variable). A significant regression equation was found [F(1, 76)=3.983, p .050], with an R^2 of .050, indicating that an employer’s general knowledge significantly predicts the employer’s amount of social knowledge. The null hypothesis was rejected.

Table 4

Regression: General Knowledge and Social Atttitude

Variable	β	T	p	R	R^2	p
				.223	.05	.05
General Knowledge	-.223	-.199	.050			

Research Question 2

Research question 2 stated, "To what extent does the amount of social interactions with individuals who have ASD relate to employers' social attitude of ASD?" The null hypothesis *($H_0$2)* said," The amount of social interactions with individuals who have ASD is not a significant predictor of employers' social attitude." A Pearson Product Correlation Coefficient was run to determine the relationship between these variables. To evaluate this hypothesis a simple linear regression analysis was performed to examine the relationship between the amount of social interaction employers have with individuals with ASD and the employers' social attitudes.

The total score derived from the social interaction questions served as the predictor variable for the amount of social interactions employers have with individuals with ASD and the Societal Attitudes Toward Autism from the Societal Attitudes Toward Autism Scale was used as the criterion variable for social attitude of ASD by employers. Pearson bivariate correlation results showed an approaching significance, positive correlation between employers' amount of interaction with individuals with ASD and the social attitudes about ASD of employers (r = .202, n = 79, *p* = .075). A simple linear

regression was computed to the social attitude about ASD an employer has (dependent variable) based on the amount of social interaction the employer has with individuals with ASD (independent variable). An approaching significant regression equation was found [F(1, 78) = 3.262, p .075], with an R^2 of .041, indicating that the social interaction an employer has with individuals with ASD does not significantly predict the employer's social attitude. Thus, the null hypothesis is accepted.

Table 5

Regression: Social Interaction and Social Attitude

Variable	β	T	P	R	R^2	p
				.202	.041	.075
Social Attitude	.202	1.806	.075			

Research Question 3

Research question 3 indicates, "To what extent does the amount of social interaction with individuals who have ASD relate to employers' employability perceptions of ASD? The null hypothesis ((*H*$_0$3) stated, "The amount of social interactions with individuals who have ASD is not a significant predictor of employers' employability perceptions.

The total score from the social interaction questions served as the predictor variable for the amount of social interactions with individuals with ASD employers had

and the total score on the HR Professionals Perception of Employability of Persons with Intellectual Disabilities created by Berry and Kymar (2012) was used as the criterion variable of employers' perceptions of employability of individuals with ASD. Pearson bivariate correlation results showed a non-significant, positive correlation between employers' social interaction with individuals with ASD and the employers employability perceptions (r = .086, n = 79, *p* = .450). A simple linear regression was calculated to predict employer's employability perception of individuals with ASD (dependent variable) based on the employer's amount of social interaction (independent variable). A non-significant regression equation was found [F(1, 78) = .575, *p* .450], with an R^2 of .007, indicating that the amount of the employer's social interaction does not significantly predict the employer's employability perception. In turn, the null hypothesis was accepted.

Table 6

Regression: Social Interaction and Employability Perception

Variable	β	T	P	R	R^2	p
				.086	.007	.450
Employability Perception	.086	.758	.450			

Summary

In this study, I explored the relationship between general knowledge of ASD and the amount of social interaction employers have had with those with ASD and their social

attitudes and perceptions of employing those with ASD. Following three months of data collection, the sample size (*n*=79) was achieved. The online survey consisted of 77 questions that included six questions about social interaction with individuals with ASD, the ASD Knowledge Scale from Hansen (2015), the Societal Attitudes Toward Autism from the Societal Attitudes Toward Autism Scale (Flood, et al., 2013), and the HR Professionals Perception of Employability of Persons with Intellectual Disabilities (Berry & Kymar, 2012). Data were collected electronically using the web-based internet survey tool, SurveyMonkey.

Participants included 79 employers who supervised employees. They ranged in age from 21 to 71 years old. The survey participants included 46.8% males and 49.4% females of varied races including 81.0% White, 2.5 % Black or African American, 3.8% Hispanic or Latino, 5.1% Asian or Asian American, 1.3% American Indian or Alaska Native, 2.5% Middle Eastern, and 3.8% Multiracial. Individuals identified as Hispanic or Latino were 3.8%. Of those who completed the survey, 35.4% learned about the survey from a colleague, 38.0% from a friend, 6.3% from a family member, and 20.3% through other means.

Three research hypotheses were tested. Preliminary data analysis involved the calculation of descriptive statistics such as the mean scores standard deviations, and measures of normality. Inferential analysis involved using the Pearson Product Moment correlation as well as simple linear regression analyses. The statistical analysis strategy by research question and/or hypothesis supported one of the three hypotheses.

For Research Question 1, the results of both the Pearson bivariate correlation showed a negative association between employers' general knowledge about ASD and social attitude about ASD, which was statistically significant. The regression analysis showed that employer's general knowledge significantly predicted the employers' amount of social knowledge.

For Research Question 2, the results of a Pearson bivariate correlation showed an approaching significant, positive association between employers' amount of social interaction with individuals with ASD and the social attitudes about ASD of employers. The regression analysis was also approaching statistical significance. This indicates that social interaction does not predict employers' social attitudes about individuals with ASD. However, a greater participant pool may result in the amount of social interaction with individuals with ASD predicting employers' social attitudes.

Furthermore, for Research Question 3, the results of a Pearson bivariate correlation showed a positive correlation between employers' social interaction with individuals with ASD and the employers employability perceptions, which was not statistically significant. Additionally, the regression analysis indicated that the amount of the employer's social interaction does not significantly predict the employer's employability perception.

The statistical analysis strategy by research question and/or hypothesis supported one of the three hypotheses in this research study. Chapter 5 will interpret these findings. The limitations of this research study, recommendations for continued research in this

area, and positive social change implications of these results will be considered in the final chapter.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The goal of this study was to investigate how general knowledge of ASD and social interactions with those with ASD affected employers' social attitudes and perceptions of those with ASD being employed by them. There were gaps in the research regarding environmental factors and social interactions that those with ASD have in the workplace (Scott et al., 2019). Specifically, researchers have indicated that employers have misperceptions about employing those with ASD, which stem from stigma about the disorder (Ju et al., 2013), but other studies have found that greater knowledge and increased social interactions with the ASD population resulted in more positive attitudes, increased relationship building, and enhanced acceptance (Nicolas et al., 2019). To facilitate a better understanding of employers' acuity of ASD, this quantitative study explored the relationships between general knowledge and amount of social interaction with social attitude of employers and their perceptions of employing those with ASD.

One important finding this this quantitative study was determined through Research Question 1. Pearson bivariate correlation showed a significant, negative association between employers' general knowledge about ASD and the social attitudes regarding ASD of those employers. The regression analysis was also statistically significant. This indicates that the amount of general knowledge impacts employers' social attitudes about individuals with ASD.

The study also determined that there was an approaching significant positive association between the amount of social interaction with individuals with ASD and

social attitude about ASD. Thus, the regression analysis showed that employer's social interactions with those with ASD did not significantly predict the employers' amount of social attitude. However, it is approaching significance, so with a greater sample size, the amount of social interactions with ASD may predict employers' social attitudes.

In addition, the study revealed a non-significant positive correlation between employers' social interaction with individuals and the employers' employability perceptions. Therefore, the amount of the employer's social interaction does not significantly predict the employer's employability perception.

Interpretation of the Findings

The present survey data revealed that there was a statistically significant relationship between the amount of general knowledge an employer has about ASD and their social attitudes. The results support social cognitive theory's view that learning is an internal mental process resulting from individual's interaction with the environment and a change in one's knowledge or behavior due to experience (Bandura, 1986). As employers become more educated about ASD, they also increase their social attitudes related to ASD. This study's findings confirm those from Campbell and Colleagues (2004) that knowledge about individuals with ASD resulted in more positive attitudes. Another study, Gardiner and Iarocci (2014), concluded that more acquired knowledge that was based on experiences increased an individual's prosocial skills and understanding. Although my study does not explicitly look at this relationship, it does support their findings. Because there is little research on how general knowledge of employers' affects social attitudes that they have of individuals with ASD, my study provides a baseline of

data to build upon. My results add to the little research currently. Particularly, it endorses Morrison and Colleagues (2019), which gleaned that an increase in general knowledge about ASD from employers resulted more acceptance of individuals with ASD. Further, this research confirm findings from Nicolas and Colleagues (2019), who indicated that an increase in general knowledge about ASD led to an increase in positive attitudes about employing those with ASD and O'Sullivan and Kearney (2018) that identified that by increasing employers' knowledge about life experiences of ASD through virtual technology also increased their empathy and understanding of ASD. Because all of these studies show the connection between general knowledge about ASD and social attitudes, future research would be beneficial to identify more explicitly how general knowledge predicts and affects social attitude related to ASD.

Another important result from this study is that there was an approaching significant positive relationship between the amount of social interaction an employer has with individuals with and the social attitude of ASD. It is believed that with a greater sample size, significance would have been reached. Therefore, the results supports social contact theory, which indicates that more social interactions reduce discrimination among groups (Allport, 1954). My study's results endorse Klein and Colleagues (2018), which determined that an increase in positive contact of specific groups led to increased positive attitudes and perceptions. Additionally, it confirms the results from Graves and Colleagues (2011), Contoure and Penn (2016), and Lawson and Colleagues (2017) that concluded that more social interaction with individuals with disabilities decreases prejudicial attitudes and stigmatizing behaviors. Specifically related to ASD, the results

maintained what Dachez and Colleagues (2015) and Kuzminski and Colleagues (2019) identified, which was that attitudes towards ASD improved based on time spent with individuals with ASD. Further, it validates Leedham and Colleagues (2020) who determined that interacting with those with ASD resulted in acceptance of differences, Angell and Colleagues (2012), who indicated that the more experience one has with individuals with ASD, the more empathy and compassion they develop, Gorjy and Colleagues (2017), who identified that with more experience interacting with those with ASD, individuals reacted with fewer deviations from how they would interact with neurotypicals, and Gardiner and Iarocci, (2014) concluded that the amount of experience one has with those with ASD is positively correlated with acceptance.

In addition, this study identified that there was a non-statistically significant relationship between employers' social contact with individuals with ASD and their employability perception of individuals ASD. This is another area where there is minimal research, as stated by Scott and Colleagues (2019). Previous research by Ju and Colleagues (2013) and Matthew and Colleagues (2015), which focused on employers' perceptions of individuals with Intellectual Disabilities, specified that when the employers were made aware of the disability and had more positive experiences employing those individuals, they had more favorable views of hiring them and were more accepting. Alas, employers' interactions with individuals with ASD in relation to their employability perceptions have not explicitly been studied. Thus, my results may be used as a steppingstone in the field.

Limitations of the Study

One of the limitations of this research study is the small sample size. Fewer than 100 employers participated, which is only a small fraction of the employers. The survey was lengthy (76 questions). This may have deterred some employers from completing the survey.

Also, the respondents were based on a convenience sampling, which lacks the generalizability of a random sample of participants. In addition, all respondents were confined to the east coast of the United States. Plus, participants were predominantly Caucasian (81.0%) with very small representation from the other ethnic groups (19.0%). This limited the generalizability of the results from other ethnicities.

Respondent bias may be a limitation as well. Social desirability bias may have occurred. This is due to there being no way to determine if participants responded honestly or if they responded in a way to look more favorable.

Furthermore, due to little research related to employability perceptions associated with ASD, there is not an already existing questionnaire that could be used for this study. Instead, I relied on the HR Professionals Perception of Employability of Persons with Intellectual Disabilities created by Berry and Kymar (2012). All the questions remained the same; however, it is not specific to ASD. If there was a questionnaire explicit to ASD, results may have been different.

Another limitation is that because the study was not experimental, I was unable to identify causality. Linear regression was used to identify predictive relationships between independent and dependent variables, which is an analytical model that determines which

independent variables predicted the criterion or dependent variables. Although increased general knowledge predicts social attitude and social interaction predicts increased social attitude, they were not indicated as the sole reason for the increase.

Recommendations

There were limited generalizability of the research results due to respondents being mostly Caucasians and from the east coast of the United States. Due to limited generalizability, future research may consider targeting employers of differing ethnicities as well as those from other locations in the United States. It may be beneficial to expand research to other countries, as well.

Furthermore, the current study only gathered insight from employers of retail and restaurants. Future studies should expand to focus on those employers in larger corporations and varying businesses. Plus, future research may include individuals who are a part of the hiring of employees if they do not manage employees. In addition, because this study only had representation from a small percent of employers who supervise individuals with ASD, upcoming studies may include more employers who directly oversee those individuals with ASD.

The study relied on a survey that may have been deemed lengthy. Future studies may benefit from making the survey more concise. Additionally, employability perception was measured using a tool for employers' perceptions of those with Intellectual Disabilities. Considering that Individuals with ASD are less likely than other disability categories to become employed following graduation from high school (Roux

et al., 2015), it would be advantageous for a questionnaire be created that is solely measure employability perceptions of individuals with ASD.

Implications

Positive Social Change

Understanding that in the next decade, 500,000 youth with ASD will transition to adulthood and, of those, if society continues on the same trajectory, a third may never be employed (Roux et al., 2015), only 25% will regularly employed, and most will work in menial or nonskilled positions (Lounds Taylor et al., 2016), research needs to increase in the knowledge of what is impacting employability of ASD. Studies have shown that being employed improves quality of life through an increase in income and self-confidence and builds their social network, as well as provides one with a sense of purpose and self-worth (Weir, 2013). However, the unemployment and underemployment of young adults with ASD is impacted by negative work experiences, stereotypes about ASD, and a lack of appropriate opportunities from employees and employers (Sosowny et al., 2018).

Alternatively, previous studies have identified that increased general knowledge and social interactions with individuals with ASD resulted in better understanding of characteristics of ASD and their environmental needs in the workforce (Gardiner & Iarocci, 2014; Klein et al., 2018; Leedham et al., 2020; O'Sullivan & Kearney, 2018). In addition, employers who have had more positive experiences employing disabilities resulted in more positive views of hiring them (Ju et al., 2013). Up till now, little research has focused specifically on employers, their general knowledge of ASD, the amount of

interactions they have with individuals with ASD, their social attitudes regarding ASD, and perceptions of employing those with ASD. Consequently, this study examined the relationship between general knowledge about ASD, interactions with those with ASD, and employers' social attitudes of ASD, and their employability perception of ASD. It evaluated if general knowledge about ASD and amount of social interaction with individuals with ASD predicted employers' social attitude and employability perceptions of those with ASD.

Results of this study demonstrate the connection between general knowledge about ASD and an increase in social attitude as well as the increase in social interactions of employers with individuals with ASD and their increased social attitudes of individuals with ASD. In turn, when employers have increased general knowledge about ASD, they have an increase in social attitudes about ASD, which results in them promoting more diversity and inclusion in their hiring of employees. This diversity will translate to less prejudicial views, negative judgements, stigma, and discrimination within the company based on disabilities and differences. From an individual perspective, those with ASD will be included within the workforce and, consequently, have increased quality of life.

Conclusion

Ultimately, an inclusive society has the intention to include all individuals no matter their age, sex, disability, race, ethnicity, origin, religion, economic, or other status. Increased social interaction with individuals with ASD increases lay people's positive social attitudes about ASD. Consequently, employers more positive social attitudes will

translate to employing more diverse individuals, including those with ASD. Negative judgements, stigma, discrimination, beliefs, and perceptions are replaced by awareness, acceptance and inclusion of individuals with ASD. As a result, individuals with ASD will display more independence, financial security, job satisfaction, better health, and safety, which improves quality of life.

References

Allport, G. W. (1954). The Nature of Prejudice. Perseus Books.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental health disorders* (5th ed.).

American Psychological Association (2016). Ethical principles of psychologists and code of conduct. https://www.apa.org/ethics/code/

Angell, M., Meadan, H., & Stonen, J. (2012). Experiences of siblings of individuals with autism spectrum disorders. *Autism Research and Treatment, 2012*, 1-12. https://doi.org/10.1155/2012/949586

Anwar, M.S., Tahir, M., Nusrat, K., & Khan, M.R. (2018) Knowledge, awareness, and perceptions regarding Autism among parents in Karechi, Pakastan. *Cureus,10*(9), e3299. 10.7759.cureus.3299

Baghdadli, A., Miot, S., Rattaz, C., Akbaraly, T., Geoffray, M., Michelon, C., Loubersac, J., Traver, S., Mortamais, M., Sonié, S., Pottelette, J., Robel, L., Speranza, M., Vesperini, S. Marffre, T. Falissard, B., & Picot, M. (2019). Investigating the natural history and prognostic factors of ASD in children: the multicEntric Longitudinal study of children with ASD-the ELENA study protocol. *BMJOpen, 9*, 1-9. https://doi.org/10.1136/bmjopen-2018-026286

Baker, L. (2019). *Practical Data Cleaning.* Independently Published.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Prentice- Hall, Inc.

Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development. Six theories of child development* (Vol. 6, pp. 1-60). JAI Press.

Bargh, J.A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation. *Journal of Personality and Social Psychology, 71*(2), 230-244. https://doi.org/10.1037/0022-3514.71.2.230

Barneveld, P.S., Swaab, H., Fagel. S. van Engeland, H., & de Sonneville, L.M.J. (2014). Quality of life: A case-controlled long-term follow-up study comparing young high functioning adults with autism spectrum disorders with adults with other psychiatric disorders diagnosed in childhood. *Comprehensive Psychiatry, 55*(2), 302-310. https://doi.org/10.1016/j.comppsych.2013.08.001

Berry, B.S. & Kymar, K.R. (2012). Human resource professionals' perceptions on disability related barriers to employment of persons with intellectual disability. *The Indian Journal of Occupational Therapy, 44*(2), 21-29.

Bingham, N.H.H., & Fry, J.M. (2010). *Regression: Linear models in statistics.* Springer Verlag.

Cain, M.K., Zhang, Z., & Yuan, K.H. (2017). Univariate and multivariate skewness and kurtosis for nonnormality: Prevalence, influence and estimation. Behavior Research Methods, 49(5), 1716–1735. https://doi.org/10.3578/s13428-016-0814-1

Campbell, J.M., Ferguson, J.E., Herzinger, C.V., Jackson, J.N., & Marino, C.A. (2004). Combined descriptive and explanatory information improves peers' perceptions of autism. *Research in Developmental Disabilities, 25*(4), 321-339. https://doi.org/10.1016/j.ridd.2004.01.005

Campisi, L., Imran, N., Nazeer, A., Skokauskas, N., & Azeem, M.W., (2018). Autism spectrum disorder. *British Medical Bulletin, 127*, 51-100. https://doi.org/10.1093/bmb/ldy026

Cappadocia, M. C., & Weiss, J.A. (2011). Review of Social Skills Training Groups for Youth with Asperger Syndrome and High Functioning Autism. *Research in Autism Spectrum Disorders, 5*(1), 70-78. https://doi.org/10.1016/j.rasd.2010.04.001

Center of Disease Control (2019). *Data and statistics on autism spectrum disorder*. https://www.cdc.gov/ncbddd/autism/data.html

Chiu, M. M., & Klassen, R. M. (2010). Relations of mathematics self-concept and its calibration with mathematics achievement: Cultural differences among fifteen -year-olds in 34 countries. Learning and Instruction, 20, 2–17. https://doi.org/10.1016/j.learninstruc.2008.11.002

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Lawrence Erlbaum Associates.

Contoure, S., & Penn, D. (2006). The effects of prospective naturalistic contact on the stigma of mental illness. *Journal of Community Psychology, 34*(5), 635-645. https://doi.org/10/103/jcop.20119

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology, 78*(1), 98.

Csiernik, R., Forchuk, C., & Speechly, M. (2007). De'myth'ifying mental health-findings from a community university research alliance. *Critical Social Work, 8,* 1-15. https://doi.org/10.22329/csw.v8i1.5743

Dachez, J., Ndobo, A., & Ameline, A. (2015). French validation of the Multidimensional Attitude Scale toward persons with disabilities (MAS): The case of attitudes toward Autism and their moderating factors. *Journal of Autism and Developmental Disorders, 45,* 2508- 2518. https://doi.org/10.1007/s10803-01524176

Daniel, J. (2012). *Sampling Essentials*. Sage.

Draaisma, D. (2009). Stereotypes of autism. *Philosophical Transactions of Royal Society of London: Biological Sciences, 364,* 1475-1480. https://doi.org/10.1098/rstb.2008.0324

Eaden, J., Mayberry, M. K., & Mayberry, J.F. (1999). Questionnaires: the use and abuse of social survey methods in medical research. *BMJ, 75*(885), 397-400. https://doi.org/10.1136/pgmj.75.885.397

Elias, R., Muskett, A.E., & White, S.W. (2019). Educator perspectives on the postsecondary transition difficulties for students with autism. *Autism, 23*(1), 260- 264. https://doi.org/10.1177/1362361317726246

Elias, R., & White, S.W. (2018). Autism goes to college. Understanding the needs of a student population on the rise. *Journal of Autism and Developmental Disorders, 48*, 732-746. https://doi.org/10.1007/s10803-017-3075-7

Flood, L.N., Bulgrin, A., & Morgan, B.L. (2012). Piecing together the puzzle: Development of the Societal Attitudes towards Autism (SATA) scale. *Journal of Research in Special Education Needs, 13*(2). https://doi.org/10.1111/j.1471.3802.2011.01224.x

Feldman, D.C. (1976). A contingency theory of socialization. *Administrative Science Quarterly, 21*(3), 443- 452. https://doi.org/10.2307/2391853

Francis, A. (2012). Stigma in an era of medicalisation and anxious parenting: How proximity and culpability shape middle-class parents' experiences of disgrace. *Sociology of Health & Illness, 34*(6), 927- 942. https://doi.org/10.1111/j.14679566.2011.01445.x

Frankfort-Nachmias, C. & Leon-Guerrero, A. (2018). *Social statistics for diverse society* (8th ed). Sage Publications.

Frith, C.D. (2008). Social cognition. *Philosophical Transactions of the Royal Society of Biological Sciences, 363*(1499), 2033-2039. https://doi.org/10.1098/rstb.2008.0005

Gardiner, E., & Iarocci, G. (2014). Students with autism spectrum disorder in university context: Peer acceptance predicts intention to volunteer. *Journal of Autism and Developmental Disorders, 44*(5), 1008-1017. https://doi.org/10.1007/s10803-0131950-4

Gillespie-Lynch, K., Brooks, P.J., Someki, F., Obeid, R., Shane-Simpson, C., Kapp, S. K., Naou, N. & Smith, S.S. (2015). Changing college students' conceptions of Autism: An online training to increase knowledge and decrease stigma. *Journal of Autism and Developmental Disorders, 45,* 2553-2566. https://doi.org/10.1007/s10803015-2422-9

Gorjy, R.S., Fielding, A., & Falkman, M. (2017). It's better than it used to be: Perspectives from adolescent siblings of children with autism spectrum condition. *Child & Family Social Work, 22*(4), 1488-1496. https://doi.org/10.1111/cfs.12371

Gotham, K., Pickles, A, & Lord, C. (2012). Trajectories of autism severity in children using standardized ADOS scores. *Pediatrics, 130*(5), e1278-e1284. https://doi.org/10.1542/peds.2011-3668

Graves, R.E., Chandon, S.T., & Cassisi, J.E. (2011). Natural contact and stigma towards schizophrenia in African Americans: Is perceived dangerousness a threat or challenge response? *Schizophrenia Research, 130*(1-3), 271-276. https://doi.org/10.1016/j.schres.2011.04.019

Hansen, L.K. (2015). Development and validation of a Survey of Knowledge of Autism Spectrum Disorder. *Masters Theses*, 141. https://aquila.usm.edu/masters_theses/141

Harrell, F. E., Jr. (2015). *Regression modeling strategies* (2nd Edition). Springer.

Hedley, D., Cai, R., Uljarevic, M., Wilmot, M, Spoor, J.R.& Dissasayake, C. (2018). Transition to work: Perspectives from the autism spectrum. Autism, 22(5), 528 541. https://doi.org/10.1177/1362361316687697

Howlin P., Goode, S., Hutton, J., & Rutter, M. (2004) Adult outcome for children with autism. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 45*(2), 212-229. https://doi.org/10.1111/j.1469-7610.2004.00215.x

Hwang, S.K., & Charnley, H. (2010). Making the familiar strange and making the strange familiar: Understanding Korean children's experiences of living with an autistic sibling. *Disability & Society*, 25(5), 579-592. https://doi.org/10.1080/09687599.2010.489305

Irvine, A., & Lupart, J. (2008). Into the workforce: Employers' perspectives of inclusion. *Developmental Disabilities Bulletin*, *36*(1&2), 225-250. https://files.eric.ed.gov/fulltext/EJ828953.pdf

Jacobsen, C. H., & Tanggaard, L. (2009). Beginning therapists' experiences of what constitutes good and bad psychotherapy supervision. *Nordic Psychology, 61*, 59-84. https://doi.org/10.1027/1901-2276.61.4.59

John, R.P.S., Knott, F.J., & Harvey, K.N. (2018). Myths about autism: An exploratory study using focus groups. *Autism, 22*(7), 845-8554. https://doi.org/10.1177/1362361317714990

Ju, S., Roberts, E., & Zhang, D. (2013). Employer attitudes toward workers with disabilities: A review of research in the past decade. *Journal of Vocational Rehabilitation,4*(3), 165-173. https://doi.org/10.3233/jvr-130625

Juliusson, E.A., Karlsson, N., Garling, T. (2005). Weighing the past and the future in decision making. *European Journal of Cognitive Psychology, 17*(4), 561-575. https://doi.org/10.1080/09541440440000159

Kabali, T.C., Nyoni, J., & Mwanza, H. (2019). Awareness and knowledge associated with autism spectrum disorders among university students in Zambia. *Journal of Autism and Developmental Disorders, 49,* 3571-3581. 10.1007/s10803-019-04044-7

Kanne, S.M., Gerber, A.J., Quirmbach, L.M., Sparrow, S.S., Cicchetti, D.V., & Saulnier, C.A. (2011). The role of adaptive behavior in autism spectrum disorders: Implications for functional outcome. *Journal of Autism and Developmental Disorders, 41*(8), 1007–1018. https://doi.org/10.1007/s10803-010-1126-4

Kirchnerrr, J., & Charles, K. (2018). Enhancing the sample diversity of snowball samples: Recommendations from a research project on anti-dam movements in Southeast Asia. *PLOS One, 13*(8), 1-17. https://doi.org/10.1371/journal.pone.0201710

Klein, G., Shtudiner, Z., Kantor, J., Mollov, B., & Lavie, C. (2018). Contact theory in the workplace: The case of Jewish–Arab contact in Israel. *Journal of Community and Applied Social Psychology, 29*(2), 146164. https://doi.org/10.1002/casp.2391

Kuzminski, R., Netto, J., Wilson, J., Falkmer, T., Chamberlain, A., & Falkmer, M. (2019). Linking knowledge and attitudes: Determining neurotypical knowledge about and attitudes towards autism. *PLOS One, 14*(7). https://doi.org/10.1371/journal.pone.0220197

Lawson, J.E., Cruz, R.A., & Knollman, G.A. (2017). Increasing positive attitudes towards individuals with disabilities through community service learning. *Research in Developmental Disabilities, 69*. 1-7. https://doi.org/10.1016/j.ridd.2017.07.013

Leedham, A.T., Thompson, A.R., & Freeth, M. (2020). A thematic synthesis of siblings' lived experiences of autism: Distress, responsibilities, compassion, and connection. *Research & Developmental Disabilities, 97*(2020), 103547. https://doi.org/10.1016/j.ridd.2019.103547

Lerner, R. M. (1982). Children and adolescents as producers of their own development. *Developmental Review, 2*, 342-370.

Lord, C., Elsabbagh, M., Baird, G., & Veenstra-Vanderweele, J. (2018). Autism spectrum disorder. *Lancet, 392*, 508-520. www.lancet.com

Lord, C., Wagner, A., Rogers, S., Szatmari, P., Aman, M., Charman, T., Dawson, G., Durand, V.M., Grossman, L.,Guthrie, D., Harris, S., Kasari, C, Marcus, L., Murphy, S., Odom, S., Pickles, A., Scahill, L., Shaw, E., Siegel, E., Sigman, M., Stone, W., Smith, T, & Yoder, P. (2005).Challenges in evaluating psychosocial interventions for autistic spectrum disorders. *Journal of Autism and Developmental Disorders, 35*(6), 695-708. https://doi.org/10.1007/s10803-0050017-6

Louis, M.R., Posner, B.Z., & Powell G.N. (1983). The availability and helpfulness of socialization practices. *Personnel Psychology, 56*, 857-866. https://doi.org/10.1111/j.1744-6570.1983.tb00515.x

Lounds Taylor, J., Henninger, N.A., & Mailick, M.R. (2015). Longitudinal patterns of employment and postsecondary education for adults with autism and average range IQ. *Autism, 19*(7), 785-793. https://doi.org/10.1177/1362361315585643

Low, H.M., Lee, L.W., & Ahmad, A.C. (2017). Preservice teacher' attitude towards inclusive education for students with autism spectrum disorder in Malaysia. *International Journal of Inclusive Education, 22*(3), 235-251. 10.1080/13603116.2017.1362479

Luciano, L. (2016). Autism spectrum disorder. *Journal of the American Academy of Physician Assistants, 29*(10), 14-15.

Mandelco, B., & Webb, A.G.M. (2009). Sibling perceptions of living with a young person with Down Syndrome or autism spectrum disorder: An integrated review. *Pediatric Nursing, 20*(3), 138-156. https://doi.org/10.1111/jspn.12117

Matson, J.L., Dempsey, T., & Fodstad, J.C. (2009). The effect of Autism Spectrum Disorders on adaptive independent living skills in adults with severe intellectual disabilities. *Research in Developmental Disabilities, 30*(6), 203-211. https://doi.org/10.1016/j.ridd.2009.04.001

Matthews, N., Ly, A., & Goldberg, W. (2015). College students' perceptions of peers with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders, 45*(1), 90-99. https://doi.org/10.1007/s10803-014-2195-6

Mavropoulou, S., & Sideridis, G.D. (2014). Knowledge of Autism and attitudes of children towards their partially integrated peers with Autism Spectrum Disorders.

Journal of Autism and Developmental Disorders, 44(8), 1867-1885. https://doi.org/10.1007/s10803-014-2059-0

Milanovic-Dobrota, B. (2018). Barriers to employing persons with disability: Employer' perception. *Specijaina Edukacija I Rehabilitacija, 17*(2), 189-212. https://doi.org/10.5937/specedreh1716987

Milton, D.E. (2014). Autistic expertise: A critical reflection on the production of knowledge in \autism studies. *Autism, 18*(7), 794-802. https://doi.org/10.1177/1362361314525281

Mitchell, G.E., & Locke, K.D. (2015). Lay beliefs about Autism Spectrum Disorders among the general public and childcare providers. *Autism, 19*(5), 553-561. https://doi.org/10.1177/1362361314533839

Miyasaka, M., Kajimura, S., Nomura, M. (2018). Biases in understanding Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorder in Japan. *Frontiers in Psychology, 9*. https://doi.org/10.3389/fpsyg.2018.00244

Morgan, R.L., & Alexander, M. (2005). The employers' perception: Employment of individuals with developmental disabilities. *Journal of Vocational Rehabilitation, 23*, 39 -49.

Morrison, K.E., DeBrabander, K.M., Faso, D.J., & Sasson, N.J. (2019). Variability in first impressions of autistic adults made by neurotypical raters is driven more by characteristics of the rater than by characteristics of autistic adults. *Autism, 23*(7), 1817-1829. https://doi.org/10.1177/1362361318824104

Mouga, S., Almeida, J., Café', C., Dugue, F., & Oliveira, G. (2015). Adaptive profiles in Autismand other neurodevelopmental disorders. *Journal of Autism and Developmental Disorders, 45,* 1001-1012. https://doi.org/10.1007/s10803-014

Moussaid, M., Helbbing, D., Garnier, S., Johansson, A., Combe, M. & Theraulaz, G. (2009). Experimental study of the behavioural mechanisms underlying self organization in human crowds. *Proceedings of the Royal Society of London Series B-Biological Sciences, 276,* 2755–2762. https://doi.org/10.1098/rspb.2009.0405

Moussaid, M., Kämmer, J.E. Analytis, P.P., & Neth, H. (2013). Social influence and collective opinion formation. *PLoS ONE, 8*(11), e78433. https://doi.org/10.1371/journal.pone.0078433

National Institute of Mental Health (2018). What is Autism Spectrum Disorder? www.minh.hih.gov.

Nevill, R.E., Hedley, D., Ularevic, M., Butter, E., & Mulick, J.A. (2017). Adaptive behavior profiles in young children with autism spectrum disorder diagnosed under DSM-5 criteria. *Research in Autism Spectrum Disorders, 43-44,* 53-65. https://doi.org/10.1016/j.rasd.2017.09.006

Newman, L., Wagner, M., Knokey, A., Marder, C., Nagle, K., Shaver, D., … & Schwarting, M. (2011). *The post high school outcomes of young adults with disabilities up to 8 years after high school. A report from the National Longitudinal Transition Study-2 (NLTS-2).* Menlo Park, CAL SRI International. https://doi.org/10.1037/e601272011-001

Nicolas, D., Mitchell, W., Zulla, R., & Dudley, C. (2019). Perspectives of employers about hiring individuals with Autism Spectrum Disorders: Evaluating a cohort of employers engaged in a job readiness initiative. *Journal of Vocational Rehabilitation, 50*, 353-364. https://doi.org/10.3233/jvr-191018

Obeid, R., Daou, N., DeNigris, D., Shane-Simpson, C., Brooks, P.J., & Gillespie-Lynch, K. (2015). A cross-cultural comparison of knowledge and stigma associated with autism spectrum disorder among college students in Lebanon and the United States. *Journal of Autism and Developmental Disorders, 45*, 3520-3536. https://doi.org/10.1007/s10803-015-2499-1

O'Sullivan, M., & Kearney, G. (2018). Virtual reality technology: Empowering mangers to reduce and eliminate accessibility barriers for people with Autism Spectrum Disorders. *Transforming Our World Through Design, Diversity, and Education*, 256(2018), 253-261.

Pallant, J. (2016). *SPSS Survival Manual*. McGraw Hill Education.

Pate, G. S. (1995). Prejudice reduction and the findings of research. https://eric.ed.gov/?id=ED383803

Pathak, M., Bennett, A., & Shul, A.M. (2019). Correlates of adaptive behavior profiles in a large cohort of children with autism: The Autism Speaks Autism Treatment Network registry data. *Autism*, *23*(1), 87-99. https://doi.org/10.1177/1362361317733113

Payne, J.L., & Wood, C. (2016). College students' perceptions of attributes associated with autism spectrum disorders. *Communication Disorders Quarterly, 37*(2), 77 80. https://doi.org/10.1177/1525740114560883

Pearlstein, J.G., & Soyster, P.D. (2019). Supervision experience of trainees with disabilities: The good, the bad, and the realistic. *Training and Education in Professional Psychology, 13*(3), 194-199. https://doi.org/10.1037/tep0000240

Pettigrew, T.F., & Tropp, L.R. (2006). A meta-analytic study of intergroup contact theory. *Journal of Personality and Social Psychology, 90*, 751-783. https://doi.org/10.1037/0022-3514.90.5.751

Petry, K. (2018). The relationship between class attitudes towards peers with a disability and peer acceptance, friendships, and peer interactions of students with a disability in regular secondary schools. *European Journal of Special Needs Education, 33*(2), 254-268. https://doi.org/10.1080/08856257.2018.1424782

Phillips, A, Fortney, S., & Swafford, L. (2019). College Students' Social Perceptions Toward Individuals with Intellectual Disability. *Journal of Disability Policy Studies, 30*(1), 3-10. https://doi.org/10.1177/1044207318788891

Pugliese, C.E., Anthony, L., Strang, J.F., Dudley, K., Wallace, G.L., & Kenworthy, L. (2015). Increasing adaptive behavior skill deficits from childhood to adolescence in Autism Spectrum Disorder: Role of executive function. *Journal of Autism and Developmental Disorders, 43*, 679-684. https://doi.org/10.1007/s10803-014-2309-1

Robertson, C.E., Baron-Cohen, S. (2017). Sensory perception in autism. *Neuroscience, 18*(11),671-684. https://doi.org/10.1038/nrn.2017.112

Roux, A.M., Shattuck, P.T., Rast, J.E., Rava, J. A., & Anderson, K. A. (2015). National AutismIndicators Report: Transition into Young Adulthood. Philadelphia, PA: Life Course Outcomes Research Program, A.J. Drexel Autism Institute, Drexel University. https://drexel.edu/autismoutcomes/publications-and reports/publications/National_Autism-Indicators-Report-Transition-to-Adulthood/

Sagi, A., & Friedland, N. (2007). The cost of richness: The effect of the size and diversity of decision sets on post-decision regret. *Journal of Personality and Social Psychology, 93*(4), 515-524. https://doi.org/10.1037/0022-3514.93.4.515

Sasson, N.J., Faso, D.J., Nugent, J., Lovell, S., Kennedy, D.P., & Grossman, R.B. (2017). Neurotypical peers are less willing to interact with those with autism based on thin slice judgements. *Scientific Reports, 7*, 40700. https://doi.org/10.1038/srep40700

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). https://doi.org/10.1177/1362361317729526

Scott, M., Jacob, A., Hendrie, D., Parsons, R., Girdler, S., Falkmer, T., & Falkmer, M. (2017).Employers' perceptions of the costs and the benefits of hiring individuals with autism spectrum disorder in open employment in Australia. *PLOS One, 12*(5), 1-16. https://doi.org/10.1371/journal.pone.0177607

Scott, M., Mibourn, B., Falmer, M., Black, M., Bolte, S., Halladay, M.L., Lounds Taylor, J., & Girdler, S. (2019). Factors impacting employment for people with autism spectrum disorders: A scoping review. *Autism, 23*(4), 869-901. https://doi.org/10.1177/1362361318787789

Seaman, R.L., & Cannella-Malone, H.I. (2016). Vocational skills interventions for adults with Autism Spectrum Disorders: A review of literature. *The Journal of Developmental and Physical Disabilities, 28: 474-484.* https://doi.org/10.1007/s10882-016-9479-z

Schunk, D. H. (2012). Social cognitive theory. In K. R. Harris, S. Graham, & T. Urdan (Eds.), Educational psychology handbook: Vol. 1. Theories, constructs, and critical issues (pp.101–123). American Psychological Association.

Schunk, D. H., & DiBenedetto, M. K. (2016). Self-efficacy theory in education. In K. R. Wentzel, & D. B. Miele (Eds.). Handbook of motivation at school (pp. 34–53). (2nd ed.). Routledge.

Schunk, D. H., & DiBenedetto, M. K. (2020). Motivation and social cognitive theory. *Contemporary Education Psychology*, *60,* 101832. https://doi.org/10.1016/j.cedpsych.2019.101832

Schunk, D. H., & Usher, E. L. (2019). Social cognitive theory and motivation. In R. M. Ryan (Ed.). The Oxford handbook of human motivation (pp. 11–26). (2nd ed.). Oxford University Press.

Sosowny, C., Silverman, C., & Shattuck, P. (2018). Parents' and young adults' perspectives on transition outcomes for young adults with autism. *Autism, 22*(1), 29-39. https://doi.org/10.1177/1362361317699585

Stevens, J.P. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). Lawrence Eribaum Associates.

Thurm, A., Farmer, C., Salzman, E., Lord, C., & Bishop, S. (2019). State of the field: Differentiating intellectual disability from autism spectrum disorder. *Frontiers in Psychiatry.* https://doi.org/10.3389/fpsyt.2019.00526

Tudge, J. R. H. & Winterhoff, P.A. (1993). Vygotsky, Piaget, and Bandura: perspectives on the relations between the social world and cognitive development. *Human Development, 36*(2), 61-81. https://doi.org/10.1159/000277297

United States Department of Labor (2014b). Employer engagement strategy: Workforce inclusion. Washington, DC: Author. https://www.dol.gov/sites/dolgov/files/odep/pdf/20150808.pdf

Venker, C.E., Ray-Subramanian, C.E., Bolt, M., & Weiserman, S.E. (2014). Trajectories of autism severity in early childhood. *Journal of Autism & Developmental Disorders, 44*(3), 546-563. https://doi.org/10.1007/s10803-013-1903-y

Voelkel, H., LeCroy, C.W., Williams, L.R. & Holchuh, J. (2013). The full spectrum: Hispanic understanding of autism. *Best Practices in Mental Health: An International Journal, 9*(1), 31–46.

Warner, R.M. (2013). *Applied statistics. From bivariate through multivariate techniques* (2nd ed.). Sage Publications.

Waterstone, M.E., & Stein, M.A. (2008). Disabling Prejudice. *Faculty Publications, 107.* https://scholarship.law.wm.edu/facpubs/107

Wei, X., Wagner, M., Hudson, L., Yu, J. W., & Shattuck, P. (2014). Transition to adulthood: Employment, education, and disconnection in individuals with Autism Spectrum Disorders. https://doi.org/10.1177/2167696814534417

Wei, X, Yu, J.W., Wagner, M., Hudson, L., Roux, A.M., & Shattuck, P. (2018). Job searching, job duration, and job loss among young adults with Autism Spectrum Disorder. *Journal of Vocational Rehabilitation, 48,* 1-10. https://doi.org/10.3233/jvr-170922

Weir, K. (2013). More than job satisfaction. https://www.apa.org/monitor/2013/12/job-satisfaction

Wigfield, A., Tonks, S. M., & Klauda, S. L. (2016). Expectancy-value theory. In K. R. Wentzel, & D. B. Miele (Eds.). *Handbook of motivation at school* (pp. 55–74). (2nd ed.). Routledge.

Yaniv, I. (2004). The benefit of additional opinions. *Current Directions in Psychology Science, 13*(2), 75-78. https://doi.org/10.1111/j.0963-7214.2004.00278.x

Yazbeck, M., McVilly, K., & Parmenter, T.R. (2004). Attitudes toward people with intellectual disabilities: An Australian perspective. *Journal of Disability Policy Studies, 15*(2), 97-111. https://doi.org/10.1177/10442073040150020401

Zhaoyang, R., Sliwinski, M.J., Martire, L.M., & Smyth, J.M. (2018). Age differences in adults' social interactions: An ecological momentary assessment study. *Psychology Aging, 33*(4), 607-618. https://doi.org/10.1037/pag0000242

Appendix A:

Emails Requesting Use of Questionnaires

RE: Use of SATA in dissertation

BM

Betsy Morgan <bmorgan@uwlax.edu>
Sat 8/8/2020 1:06 PM
To:

- Jennifer Kiselica

Cc:

- Natalie M. Costa

https://sites.google.com/a/uwlax.edu/betsy-morgan/SATA

I'm delighted to have you use it and the site above might be helpful to you.

From: Jennifer Kiselica <jennifer.kiselica@waldenu.edu>
Sent: Saturday, August 8, 2020 11:44 AM
To: Betsy Morgan <bmorgan@uwlax.edu>
Cc: Natalie M. Costa <natalie.costa@mail.waldenu.edu>
Subject: Use of SATA in dissertation

Dear Dr. Morgan,

My name is Jennifer Kiselica and I am a doctoral student in the field of Developmental Psychology at Walden University. I am currently working on my dissertation which is focused on adults with Autism Spectrum Disorders (ASD) and their transition into the workplace. Specifically, I'm looking at how employer's perceptions of ASD and interactions with individuals who have ASD effect employer's perception of individual's

with ASD employability. As part of the study, I would like to use the Societal Attitudes toward Autism Scale Factor 1 from Flood, et al. (2012). I am writing to request to use it in dissertation.

Thank you in advance. You may contact me at jennifer.kiselica@waldenu.edu.

Sincerely,
Jennifer Kiselica

Jennifer Kiselica
Tue 7/21/2020 6:54 AM
To:

- binoberry@yahoo.com

Cc:

- Natalie M. Costa

Dear Dr. Berry,

My name is Jennifer Kiselica and I am a doctoral student in the field of Developmental Psychology at Walden University. I am currently working on my dissertation which is focused on adults with Autism Spectrum Disorders (ASD) and their transition into the workplace. Specifically, I'm looking at how employer's perceptions of ASD and interactions with individuals who have ASD effect employer's perception of individual's with ASD employability. As part of the study, I would like to use the HR Professionals Perception of Employability of Persons with Intellectual Disability. I have been unable to access a copy in my search. I am writing to request a copy to use in dissertation.

Thank you in advance for your effort. Please send the copy of the HPEM to me at Jennifer.kiselica@waldenu.edu.

Sincerely,
Jennifer Kiselica

Appendix B:
Questionnaire

Demographics

1. Please indicate your age. _____
2. Please select your gender.
    - Male
    - Female
    - Transgender
    - Non-Binary
    - Genderqueer/ Gender Nonconforming
    - Rather not say
    - Other: _____
3. Please choose your race.
    - White/Caucasian
    - African American/ Black
    - Hispanic/ Latino
    - Asian American/ Asian
    - Middle Eastern
    - American Indian/ Alaska Native
    - Native Hawaiian/ Other Pacific Islander
    - Multiracial
    - Other: _____

4. Please choose your ethnicity.
    - Hispanic/ Latino
    - Non Hispanic/ Latino
5. Please indicate your position. _____

   How long have you been employed with the company?

   _____

5. How long have you held your current position? _____

9. How did you learn about the survey?
    - My supervisor
    - A colleague
    - Facebook
    - Friend
    - Family member
    - Other

Social Interactions

Social interaction is defined as talking to someone in person, by phone, or online.

10. Have you had any experience socially interacting with individuals with Autism Spectrum Disorders (ASD)? These interactions may include any opportunity to talk to or socialize with them in public or through social media.
    - Yes
    - No

- I don’t’ know

11. Please indicate the closest approximation of your relationship with ASD?

    - No experience
    - Immediate Family
    - Extended Family
    - Friend
    - Acquaintance
    - Employee
    - In the General Public

12. Which of the following sources have you used for information about ASD? Please select all that apply.

    - First-hand experience
    - Acquaintances
    - Popular media
    - Professional/scientific sources
    - Trainings/workshops
    - Other
    - None

13. In a given month, how many social interactions do you have with an immediate family member with ASD ranging from 0 (no interactions) to 10 (10 or more interactions)?

14. In a given month, how many social interactions do you have with an extended family member with ASD ranging from 0 (no interactions) to 10 (10 or more interactions)? _____
15. In a given month, how many social interactions do you have with an acquaintance with ASD ranging from 0 (no interactions) to 10 (10 or more interactions)? _____
16. In a given month, how many social interactions do you have with a friend with ASD ranging from 0 (no interactions) to 10 (10 or more interactions)? _____
17. In a given month, how many social interactions do you have with an employee with ASD ranging from 0 (no interactions) to 10 (10 or more interactions)? _____
18. In a given month, how many social interactions do you have with a member of the general public with ASD ranging from 0 (no interactions) to 10 (10 or more interactions)? _____

General Knowledge

Please identify the next statements as True or False.

19. Adults can never be diagnosed with ASD.
    - o True
    - o False
20. About 70% of individuals with ASD have some other psychiatric condition in addition to ASD.

- ○ True
- ○ False

21. ASD can only be diagnosed after a child has entered preschool.

- ○ True
- ○ False

22. ASD cannot be diagnosed using biological markers (e.g., blood tests).

- ○ True
- ○ False

23. If a teacher believes a student has ASD, he/she can give an initial diagnosis.

- ○ True
- ○ False

24. An ASD diagnosis often is based on parent interviews and observations of behavior.

- ○ True
- ○ False

25. An individual can be diagnosed with both ASD and intellectual disability (previously known as mental retardation).

- ○ True
- ○ False

26. Only medical doctors can diagnose ASD.

- ○ True
- ○ False

27. A common initial concern of ASD is failure to develop language.

    - True
    - False

28. About a quarter of children with ASD use skills they once had, such as babbling and use of words.

    - True
    - False

29. ASD affects about 1 in 150 individuals.

    - True
    - False

30. ASD is nearly five times more likely to occur in boys than girls.

    - True
    - False

31. By adolescence, the rate of ASD in boys and girls is equal.

    - True
    - False

32. White children are more likely than Black or Hispanic individuals to be diagnosed with ASD.

    - True
    - False

33. Girls with ASD are more likely to have behavioral issues and intellectual disability.

- True
- False

34. ASD is contagious.

- True
- False

35. There is strong evidence for low income as a risk factor for ASD.

- True
- False

36. Children with diets higher in sugar and processed foods show an increase in developing ASD.

- True
- False

37. ASD is caused by vaccines.

- True
- False

38. At one time, scientists believed that ASD was caused by lack of parental interest and motherly warmth.

- True
- False

39. Children with older parents have a higher risk of developing ASD.

- True
- False

40. Children with siblings with ASD have a higher risk of developing the disorder.

    - True
    - False

41. Problems at birth (e.g., fetal distress, breech presentation) have been linked to development of ASD.

    - True
    - False

42. Large-scale studies support between the season of birth and ASD.

    - True
    - False

43. Many scientists believe ASD is the product of uneven brain development.

    - True
    - False

44. There is no clear link between ASD and genes.

    - True
    - False

45. Conditions during pregnancy do not impact the development of ASD among children.

    - True
    - False

46. There is a specific gene that has been linked to identification of ASD.

- True
- False

47. ASD can be fatal over time.
    - True
    - False
48. Early intervention can alleviate symptoms of ASD and lead to improved intelligence, language and social behavior.
    - True
    - False
49. About 75% of individuals with ASD meet criteria for obsessive-compulsive disorder.
    - True
    - False
50. One common treatment for ASD is Applied Behavior Analysis.
    - True
    - False
51. There is no strong evidence that gluten-free or casein-free diet reduces symptoms of ASD.
    - True
    - False
52. With support, therapy, and medication, ASD can be cured.
    - True

- False

53. About 25% of individuals with ASD remain nonverbal throughout the individual's lifespan.
    - True
    - False
54. After being diagnosed with ASD, symptoms remain stable throughout the individual's lifespan.
    - True
    - False
55. All individuals with ASD have lower than average intelligence.
    - True
    - False
56. An early symptom of ASD is failure to attend to facial expressions, gestures, and speech.
    - True
    - False
57. Because of lower social awareness, individuals with ASD rarely have anxiety disorders.
    - True
    - False
58. Children with ASD have patterns of play that are similar to those typically developing peers.

- o True
- o False

59. Individuals with ASD often engage in restrictive, repetitive, behaviors (e.g., lining up cars, strict adherence to schedules).
    - o True
    - o False
60. Individuals with ASD have difficulty interacting socially.
    - o True
    - o False
61. Individuals with ASD rarely form intimate relationships, even with parents.
    - o True
    - o False
62. Individuals with ASD often fidget, squirm, and have trouble sitting still.
    - o True
    - o False
63. Individuals with ASD are often touchy and easily annoyed.
    - o True
    - o False

Social Attitude

Please answer the following questions honestly. There is no correct answer.

Response choices are:

(1) Strongly disagree

(2) Disagree

(3) Agree

(4) Strong Agree

59. People with ASD should not engage in romantic relationships.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
60. People with ASD should have the opportunity to go to college.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
61. People with ASD should not have children.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
62. People with ASD should be institutionalized for their safety and others.
    - Strongly Disagree
    - Disagree

- Agree
- Strongly Agree

63. If a facility to treat people with ASD opened in my community, I would consider moving.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
64. Individuals with ASD are incapable of living on their own.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
65. I would be afraid to be around a person with ASD.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
66. A person with ASD is an emotional burden on his/her family.
    - Strongly Disagree
    - Disagree
    - Agree

- Strongly Agree

67. I would be comfortable sitting next to a person with ASD in the same class.
    - Strongly Disagree
    - Disagree
    - Agree

      Strongly Agree
68. A person with ASD is a financial burden to his/her family.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
69. People with SD should be encouraged to marry someone with ASD.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
70. People with ASD are incapable of forming relationships and expressing affection.
    - Strongly Disagree
    - Disagree
    - Agree

- Strongly Agree

71. Children with ASD should be fully integrated into mainstream classes.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
72. I would be uncomfortable hugging a person with ASD.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
73. People with ASD cannot understand other people's feelings.
    - Strongly Disagree
    - Disagree
    - Agree
    - Strongly Agree
74. Students with ASD who are mainstreamed into regular classrooms are a distraction to students without ASD in the classroom.
    - Disagree

      Disagree
    - Agree
    - Strongly Agree

Employability Perception

Please answer the following statements about an individual within the work setting with:

(1) Not a barrier

(2) Rarely a barrier

(3) Sometimes a barrier

(4) Often a barrier

(5) Always a barrier

75. Negative attitudes from co-workers, employees, and/or supervisors
    - Not a barrier
    - Rarely a barrier
    - Sometimes a barrier
    - Often a barrier
    - Always a barrier

76. Inadequate education of individuals with ASD.
    - Not a barrier
    - Rarely a barrier
    - Sometimes a barrier
    - Often a barrier
    - Always a barrier

77. Lack of related experiences of individuals with ASD.
    - Not a barrier

- Rarely a barrier
- Sometimes a barrier
- Often a barrier
- Always a barrier

78. Lack of support from significant member such as family, friends, and professionals.
    - Not a barrier
    - Rarely a barrier
    - Sometimes a barrier
    - Often a barrier
    - Always a barrier
79. Non-acceptance and lack of encouragement of employers to employ persons with ASD.
    - Not a barrier
    - Rarely a barrier
    - Sometimes a barrier
    - Often a barrier
    - Always a barrier
80. Need for workplace modification.
    - Not a barrier
    - Rarely a barrier
    - Sometimes a barrier

- Often a barrier

  Always a barrier

81. Associated disabilities or diagnoses of ASD.
    - Not a barrier
    - Rarely a barrier
    - Sometimes a barrier
    - Often a barrier
    - Always a barrier
82. The society may change its attitude toward the organization if individuals with ASD are employed.
    - Not a barrier
    - Rarely a barrier
    - Sometimes a barrier
    - Often a barrier
    - Always a barrier
83. Difficulty in accessibility and convenience of the workplace.
    - Not a barrier
    - Rarely a barrier
    - Sometimes a barrier
    - Often a barrier
    - Always a barrier
84. Difficulty maintaining work life balance.

- Not a barrier
- Rarely a barrier
- Sometimes a barrier
- Often a barrier
- Always a barrier