

SOCIAL NETWORK VARIANCE AND ORGANIZATION OUTCOMES

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SOCIAL NETWORK VARIANCE AND ORGANIZATIONAL OUTCOMES: A
COMPARISON ACROSS INDIVIDUALS EXHIBITING VARYING DEGREES OF
AUTISM-RELATED TRAITS

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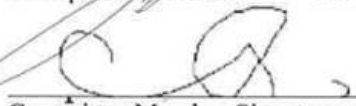
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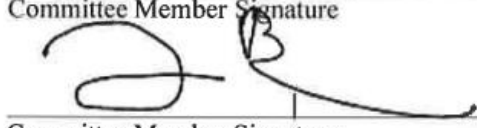
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Abstract

Social Network Variance and Organizational Outcomes: A Comparison Across
Individuals Exhibiting Varying Degrees of Autism-Related Traits

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There is limited research on the social networks of working individuals who possess characteristics associated with autism spectrum disorder (ASD). The purpose of this study was to identify differences in ego-networks¹ based on the presence of ASD symptoms and examine how these differences affect an individual's organization-based self-esteem and level of perceived social support. Participants were recruited through Amazon's Mechanical Turk. They completed an online survey measuring ASD characteristics, workplace social network composition (i.e. size and structure of network), organization-based self-esteem, and perceived social support. We hypothesize that the social networks will be positively related to our two outcome measures, Autism will be negatively related to social network variables, and that social networks will mediate the relationship between Autism and our two outcome measures. Partial support was found for our hypotheses. Social capital appears to be the best predictor of workplace outcomes, and serves as a mediator between the relationship of perceived organizational support and ASD. Limitations and suggests for future research are discussed.

¹ Ego-networks refers to the social network of one individual.

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Social Network Variance and Organizational Outcomes: A Comparison Across
Individuals Exhibiting Varying Degrees of Autism-Related Traits

The purpose of this paper is to examine the association between social networks and two outcome measures related to employee subjective experience. We will then expand on that idea and discuss the potential differences that may be present in an organizational setting between neurotypical individuals and those presenting with characteristics consistent with Autism Spectrum Disorder.

The article will begin by outlining three major network theories that are the foundation of the present study. Included in the first section will be how social networks are built and maintained, and how the structure and content of a social network affects one's career. Following the discussion of social network theory will be sections on the two outcome measures of the present study (organization-based self-esteem and perceived organizational support). To end the introduction, we will set a foundation for Autism Spectrum Disorder and include a brief review of the literature relevant to our research questions.

A Foundation for Workplace Social Networks.

As the concept of social networks has risen in popularity, so has the amount of literature investigating social networks in the workplace. Social networks are defined as a “network of individuals (such as friends, acquaintances, and coworkers) connected by interpersonal relationships” (Merriam-Webster, n.d.). Social network analysis focuses on the interactions and relationships between nodes (i.e. individuals) and how those form a structure of the node's network (Galaskiewicz & Wasserman, 1994). An ego-net is a

special case of a social network in which the center of the network is an individual, and the researcher is interested in understanding the individual's particular ties and relations to their network (Crossley et al., 2015). Much of the research has focused on the impact of social networks on workplace outcomes (e.g. Kmec & Trimble, 2009; Labianca & Brass, 2006). Two main theories of social networks in the workplace literature are Granovetter's (1973) weak tie theory and Lin's (1999) social resources theory. Together these theories attempt to explain social network variance and will be the foundation for this study. It is important to keep in mind that much of the social network literature referenced in this article is based on current theory.

Weak tie theory asserts that a social network can be described in terms of the closeness of nodes. Strength of tie is conceptualized as the frequency of contact and emotional closeness (Crossley et al., 2015). Individuals who the ego identifies as very close to themselves are strong ties, while the ego's acquaintances are considered weak ties. This theory suggests that networks composed of weak ties will have less cross-node interaction compared to networks composed of strong ties, where more nodes interact with each other more often (Granovetter, 1983). Research on weak tie theory has identified the implications of network density on workplace outcomes. Specifically, the theory helps to explain how the strength of a relationship between two people influences career attainment, mobility, and access to information (Seibert, Kraimer, & Liden, 2001). Granovetter (1973) proposes that a network rich with weak ties is more valuable because it increases the opportunity to access new information and increases the opportunity for advancement. Thus, it is theoretically better to have a network composed of more relationships with acquaintances, than a network composed of a few very close relationships. Additionally,

Lin (1999) proposes that individuals with weak ties tend to have more vertical organizational relationships, thus allowing greater access to mobility and status attainment. It appears to be advantageous to have weak ties in the workplace by allowing for additional opportunities.

Lin's social resources theory examines the nature of a relationship and the characteristics of the nodes involved in a network. While the previous theory focused on network structure, social resources theory focuses on network content (Seibert, Kraimer, & Liden, 2001). Lin describes status attainment as, "a process by which individuals mobilize and invest resources for returns in socioeconomic standings" (Lin, 1999, pp. 467). Lin argued that the number of resources that an individual can obtain is determined by their personal capital, position in an organization, and their social ties. The number of resources that are obtained via these sources will affect their status (Lin, 1999). Further research has found that individuals who have more access to social resources and utilize those resources are more likely to obtain employment and advance through their organization (Lin, Vaughn, & Ensel, 1981). For our purposes, it is important to investigate network structure and content so that we may understand how both structure and resources the ties provide contribute to one's perceptions of organizational support.

Overall, the current theory on social network analysis suggests that size and structure of an ego's network affect their career mobility, career sponsorship, and access to information, among other things. Understanding social networks is important for explaining some of the variances in employee outcomes such as productivity, career success, and employee well-being. However, before we explore the outcomes of social networks, it is important to understand that social networks are not static and that there are

various avenues through which individuals can build and maintain their social networks.

Network Variance in the Workplace.

Traditional theories of social networks assert that rational individuals select who they will build and maintain ties with based on self-interest and a cost/benefit analysis (as cited in Doreian, 2006). Through the exploration of female entrepreneurs, Maas and Colleagues (2014) identified four essential strategies to building a social network. These four strategies include: modifying and building on existing ties, learning how to build ties with those with dissimilar power and resources, learning how to build ties with those who are dissimilar at the same organizational level, and creating a network of entrepreneurial peers (Maas et al., 2014). Regarding individual success, this study showed the importance of building a network that is broad in the level of power and resources compared to the ego. Further, Gilles and Sarangi (2006) developed and tested a model for building social networks and showed that ties are built based on initiating contact with acquaintances. It appears that an ego may build a strong network through the initiation of social interaction with acquaintances who possess similar and varying levels of social capital.

When it comes to maintaining social ties, similar social skills are required. The social cost of maintaining friendships is higher than that of maintaining family relationships and is strongly influenced by the frequency of contact (Roberts & Dunbar, 2011). Thus, it is important to sustain communication with non-familial ties to ensure network maintenance. Biegel, Tracy, and Corvo (1994) identified reciprocity as a key skill to possess when maintaining relationships.

While limited research addresses these issues, we hypothesized that social networks may be related to two key workplace outcomes: organization-based self-esteem and

Organization-Based Self-Esteem

Organization-based self-esteem (OBSE) is, “the degree to which organizational members believe that they can satisfy their needs by participating in roles within the context of an organization” (Pierce, Gardner, Cummings & Dunham, 1989, p. 625). The concept of OBSE was originally proposed by Pierce and Colleagues (1989). They argued that self-esteem is a hierarchical construct and the traditional measurement of global self-esteem was not adequately capturing the phenomena occurring at an organizational level. Similarly to how social network structure influences many workplace consequences, OBSE is affected by work antecedents. Antecedents of OBSE can be divided into two categories: dispositional antecedents (i.e. general levels of self-esteem, self-efficacy, emotional stability) and situational antecedents (i.e. work autonomy, job complexity, managerial support, high salaries, interpersonal interaction) (Bowling, Eschleman, & Wang, 2009). Despite the lack of research assessing the interplay between social networks and organization-based self-esteem, we believe that these constructs do influence each other.

Regarding the first dispositional antecedent (general levels of self-esteem), the three-factor model of social identity helps to support its connection to social networks. This theory suggests that social identity is molded by ego centrality, emotional components of group membership, and feelings of belonging (Cameron, 2004). The concept of social identity derived from the belief that an individual’s perception of self is influenced by both their membership to a group and the emotional significance they attribute to that group membership (Tajfel, 1978). Essentially, an individual’s connection with others (i.e. social

network) influences their self-perception (i.e. general self-esteem). Related to the second dispositional antecedent (self-efficacy) of OBSE, one study found occupational self-efficacy to be affected by the strength of ties, network density, and ego centrality (Siciliano, 2016). Finally, while there is no literature directly connecting emotional stability to social networks, we can make associations between these concepts through similar personality traits. While emotional stability and self-monitoring are not synonymous, they are related in that individuals high in these traits are constantly aware of their environment and how they may be perceived and can keep a cool temperament. One study found a significant interaction between self-monitoring and emotional stability when examining interpersonal performance (Barrick, Parks, & Mount, 2005). As emotional stability is a dispositional antecedent to OBSE, self-monitoring is related to how central an individual is to their network, and brokerage (i.e. how many nodes the ego connects whom would not be connected otherwise) (Fang et al., 2015). We conclude that the three dispositional antecedents of OBSE are potentially influenced by social networks through the creation of network cohesion and the increase of network strength.

Additional research leads us to believe that the situational antecedents of OBSE are related to social network structure. Bowling, Eschleman, and Wang (2009) found work autonomy, job complexity, managerial support, high salaries, and interpersonal interactions, to be strong situational predictors of OBSE. Work autonomy has been found to be influenced by social capital (i.e. resources accessed in social networks) (Erickson 1995, 1996; as cited in Lin, 1999). While the social network literature does not address managerial support, career sponsorship has been studied. Career sponsorship and managerial support are similar concepts in that the goal of both is to aid the employee in

career success and advancement through a supportive role. Career sponsorship has been found to be negatively correlated with the strength of ties. Increased career sponsorship is related to higher salaries, more promotions, and greater organizational satisfaction (Seibert, Kraimer & Liden, 2001). Seibert, Kraimer & Liden (2001) reported a positive correlation between salary and social resources, such as greater access to resources. Although there has yet to be any literature directly relating the two concepts, based on the antecedents of OBSE and the consequences of a social network, it is plausible that OBSE and social networks are closely related within an organizational setting. We suggest that stronger ties imply stronger social support in challenging situations. So perhaps an individual with stronger ties will handle these difficulties better and these successes will over time build their OBSE.

Perceived Organizational Support

Another workplace outcome related to employee subjective experience is perceived organizational support (POS). Eisenberger and Huntington (1986) define perceived organizational support as, the global beliefs that an employee develops regarding “the extent to which the organization values their contributions and cares about their well-being” (pp. 501). The literature on POS consistently shows associations with career outcomes that are important to employers (e.g. Liu, 2004; Stamper & Johlke, 2003). For instance, POS is negatively correlated with absenteeism, positively correlated with in-role and extra-role performance, and positively correlated with job performance (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Eisenberger, Huntington, Hutchison & Sowa, 1986; Lynch, Eisenberger, & Armeli, 1999). While a great amount of literature has focused on the antecedents and consequences of POS, none of this research has been

Rhoades and Eisenberger (2002) conducted a literature review of perceived organizational support. These researchers identified four antecedents of POS from the current literature: job conditions, organizational rewards, supervisor support, fairness. Further, five main consequences of POS were found in the literature: job-related affect, job involvement, performance, strains, and desire to remain (Rhoades & Eisenberger, 2002). The antecedent of fairness is composed of the structural and social aspects of procedural justice. Within the social aspect, employees assign a belief of the organization's justice in terms of being treated fairly, being respected, and being provided with relevant information regarding the organization's decisions (Rhoades & Eisenberger, 2002). As discussed above, the structure of a social network influences one's access to information. The concepts of POS and social networks may also be related with respect to organizational rewards, because social capital directly influences access to resources. Regarding the 'desire to remain' outcome, Lee and Kim (2011) found a U-shaped relationship between affective commitment and number of structural holes within a network. Burt (1992), defines structural holes as the separation between nonredundant contacts (p. 18). A structural hole is a gap within a network in which two nodes are not connected to each other, but they are both connected to a common node. Finally, social network structure has been linked to job involvement (Zagenczyk & Murrell, 2009), further relating these two concepts. While the concept of POS has not been directly studied within a social network framework, there are indirect links between the two.

While these associations have not yet been directly examined, prior research on related topics suggest that an association may exist. Additionally, it would be interesting

to examine these relations within a population that has difficulty with social relatedness; i.e. those with ASD.

Autism Spectrum Disorder in the Workplace

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that is conceptualized as falling on a continuum and is diagnosed based on the severity of symptoms and required level of support (American Psychiatric Association, 2013). Autism is characterized by social skill deficits and restricted, repetitive behaviors. Restricted, repetitive behaviors refer to stereotyped movements, insistence on sameness or routines, highly specific interests, and sensitivity to, or fixation on, sensory input. Social skills deficits include difficulties in social reciprocity, nonverbal communication, and the development and maintenance of relationships (APA, 2013). Being a persistent disorder, deficits in social communication are a characteristic of ASD that begins in infancy and lasts through adulthood (APA, 2013). One study examining the normal distribution of ASD traits among the population found social deficits, a key diagnostic trait in ASD, to be common among the general population (Constantino & Todd, 2003). Thus, the viewpoint of ASD falling onto a continuum may better capture the experiences of the entire population and be more inclusive of all individuals.

Certain activities, such as being employed or receiving vocational rehabilitation services, may help mitigate the adverse effect that poor social skills have on this population, by allowing them to practice and develop their social skills. However, there is a significant barrier between individuals with ASD and the workforce. Two years after completing high school, only 28% of people with ASD were employed or enrolled in furthering their education (Wagner et al., 2005) and at eight years post-high school, only

63% of people with ASD had ever been employed (Newman et al., 2011). This is significantly less than the workforce involvement of the total population (83%) (Howlin, Goode, Hutton, & Rutter, 2004; Taylor & Seltzer, 2011). Of those individuals with ASD who were employed, nearly half were overeducated for their current position (46%) (Baldwin, Costley, & Warren, 2014). This may be a result of frequent job switching and gaps in employment history that inhibit individuals from advancing in their career (Goode, Rutter & Howlin, 1994; Muller, Schuler, Burton, & Yates, 2003). Hillier & Galizzi (2014) found that this lack of advancement opportunity caused frustration in individuals with ASD who no longer wanted to work entry-level positions. The effects of this may lead to psychological difficulties such as stress, depression, and further isolation (Goode, Rutter, & Howlin, 1994; Muller et al., 2003).

Once in the workforce, the job outlook is not optimal for individuals with ASD. These employees tend to work reduced hours, receive little assistance, are paid minimally, and have low retention rates (Newman et al., 2011; Baldwin, Costley, & Warren, 2014). In a study conducted by Baldwin, Costly, and Warren (2014) most participants with ASD reported a deficit in supportive services from their employer and other support systems. Participants indicated not receiving support at work (59%), not receiving specific support related to their disorder (72%), and a desire to receive more ‘autism specific’ support at work (66%) (Baldwin, Costly & Warren, 2014). While being employed may reap benefits for individuals with ASD, the lack of opportunity and support that these individuals receive may adversely affect their satisfaction and success in the workplace. We suggest that symptoms related to ASD may have a significant impact on how the social networks of individuals who exhibit these symptoms are

structured. Specifically, the deficits in social reciprocity may lead to small networks that are composed of weak ties, and provide the individual with little social capital. While a network rich with weak ties might be beneficial to a neurotypical individual, previous findings in the Autism literature suggest that stronger ties may be more beneficial and are more desired by these individuals. Thus, research is needed on the specific differences in ego networks of individuals with ASD and what effects these differences have on their perceived level of organizational support and their organizational self-esteem.

Our general theory is that possessing a strong social network (i.e. having more ties, having an abundance of weak ties, and possessing a lot of social capital) will lead to reports of positive workplace outcomes. Further, possessing traits related to Autism Spectrum Disorder will negatively affect an individual's social network and their perception of workplace experiences. However, we believe that the negative relationship between Autism-related traits and organizational outcomes can be mitigated by maintaining a social network that caters to their unique needs. Our hypotheses for the current study are broken into three groups.

The first cluster of hypotheses will examine the relationship between social network composition to OBSE and POS. Based on the existing literature on social networks, OBSE, and POS discussed in the above sections, we hypothesize the following:

H1a. Organization-based self-esteem will be positively related to size of network, strength of tie, and social capital.

H1b. Perceived organizational support will be positively related to size of network, strength of tie, and social capital.

These hypotheses are based on the current theories of social network analysis which suggest that an ideal network is large and composed of a great amount of social capital (Lin, 1999). Counter to general social network theory, we suggest that a network rich with strong ties will result in higher levels of OBSE and POS. We believe that strong ties provide a stronger support for individuals facing workplace challenges that a network rich with weak ties may not provide. Thus, overcoming these challenges may lead to an increase in an individual's workplace experiences. These hypotheses are also founded in

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the overlapping antecedents and consequences of the three concepts (social networks, OBSE, and POS).

The second cluster of hypotheses examine the potential ways in which working individuals who present with ASD-related characteristics vary in terms of their social network size and structure. Limited research has been conducted examining the social networks of employed individuals with ASD. Much of the current literature examining the social network of this population has focused on children (e.g. Lasgaard, Nielsen, Eriksen, & Goossens, 2010; Locke et al., 2013). The small number of studies that have used an employed, adult, ASD population have examined vocational services, level of support received, employment outcomes, workplace discrimination, and methods that could be used to better integrate these individuals into the workplace (e.g. Baldwin, Costley & Warren, 2014; Hillier & Gallizzi, 2014; Jacob, Scott, Falkmer & Falkmer, 2015). It is well known from the existing literature that social skills are critical for successful employment outcomes (e.g. van Asselt-Goverts et al., 2015; Lee & Carter, 2012). However, it is unknown how the workplace social network of an individual exhibiting ASD-related characteristics differs from the general population and what effects that may have on certain workplace outcomes.

As discussed in the previous section, working adults with ASD are reported to have certain qualities that contribute to workplace success; however, they still face many difficulties on the job that may interfere with their ability to build and maintain social ties. Typically, these difficulties fall into three general categories: communication skills (e.g. interview skills, asking for help, and communicating and socializing with coworkers), cognitive functioning (e.g. understanding job applications, independent task

transitioning) and behavioral problems (e.g. abiding by and adjusting to new routines) (Baldwin, Costley & Warren, 2014; Hillier & Gallizzi, 2014; Hillier et al, 2007; Landa & Goldberg, 2005; Kobayashi & Murata, 1992). Communication skills are the most frequently reported barriers by individuals with ASD and by their employers (Lorenz, Frischling, Cuadros & Heinitz, 2016; as cited in Schall, 2010). These difficulties are also the most influential on job obtainability and stability (as cited in Scott, Falkmer, Girdler, & Falkmer, 2015). Concerning job obtainability, communication skills serve as a major barrier during the interview process (Hagner, 2005). Beyond the interview process, social skills remain essential for job success during the full length of employment (Vogeley et al., 2013). As explained by the social network theories, obtainability and stability of jobs are heavily influenced by the strength of connection (Seibert, Kraimer, & Liden, 2001). For this reason, we hypothesize that the social communication deficits inherent to ASD will inhibit these individual's ability to create and maintain a strong professional network. Specifically, these individuals will report smaller social networks, weaker ties and less social capital, due to their communication deficits.

H2. The number of ASD-related symptoms reported will be negatively related to social network composition (i.e. size of network, strength of tie, and social capital).

However, we do not believe that this is the optimal network structure for individuals reporting ASD-related characteristics, thus bringing us to our final cluster of hypotheses. As discussed in the previous section, individual's with ASD often feel a lack of occupational support and a desire for more support. We believe this is influenced by the unique social network structure that is needed to support an individual with ASD. Further, we hypothesize that a failure to create this unique network will result in lower OBSE and

As discussed previously, OBSE is significantly influenced by work autonomy, job complexity, managerial support, high salaries and interpersonal interaction (Bowling, Eschleman, & Wang, 2009). Generally, individuals with ASD receive low salaries, feel a lack of support, and are overqualified for their positions (Newman et al., 2011; Baldwin, Costley, & Warren, 2014). Additionally, a hallmark of ASD is a deficit in communication skills (American Psychiatric Association, 2013). We hypothesize that there will be an inverse relationship between ASD-symptom severity and OBSE.

Rhoades and Eisenberger (2002) identified the importance of personality on POS; specifically, individuals expressing withdrawal behaviors are likely to hinder their workplace relationship, thus eliciting lower levels of POS. Additionally, the reported desire for more organizational support found by Baldwin, Costly, and Warren (2014), lead us to believe that these individuals will exhibit lower levels of POS.

However, we believe that the above two relationships can be mediated by social network composition. While Granovetter (1973) argues that individual's benefit from a network rich in weak ties, we hypothesize that this is not the case for individual's presenting with more ASD-related characteristics. While most individual's in the organization are seeking a network rich in weak ties, the individual exhibiting ASD traits may require stronger ties that will provide more support to the individual. We suggested in our previous hypotheses that individuals exhibiting ASD-related traits will possess less social capital. However, we suggest here that possessing more social capital will have a mediating effect on their organizational outcomes. Thus, our final hypotheses are as follows:

H3a. Social network components (i.e. size, strength of tie, and social capital) mediate the effect of ASD symptom severity on organization-based self-esteem.

H3b. Social network components (i.e. size, strength of tie, and social capital) mediate the effect of ASD symptom severity on perceived organizational support.

Recruitment

A convenience sample was collected via Amazon Mechanical Turk (MTurk). MTurk samples have been found to be more representative demographically than other sample methods frequently used in social science (e.g. college samples, other online samples). Additionally, MTurk respondents are more likely to endorse traits associated with ASD than the general population, and this statistic does not seem to be the result of over-reporting (Chandler & Shapiro, 2016). Participants were compensated one dollar for completion of the entire survey.

Participants

Participants were 540 employed American adults. Respondents who did not report any social network information, who responded to fewer than 80% of the survey, and who failed to correctly respond to an attention check were removed from this sample. The final N for the analyses was 350.

The average participant age was 33.93 with a range of 18 to 65. Most of the participants were male (56.6%), and 12% of the participants reported being in special education when in school. Regarding company size, most participants indicated that they worked for an organization that employs 500 or more individuals (32.3%). Further, 22.3% reported working for a company that employs between 10 and 50 individuals, 21.7% for a company that employs 100-500 individuals, 18.9% for a company employing 50-100 individuals, and only 4.9% for a company employing fewer than 10. Table 1 for additional demographic information.

Table 1. Other Demographic Results

Variable	n	Percentage
Marital Status		
Single	136	38.9%
Married	144	41.1%
Divorced / Widowed	23	6.6%
In a Significant Relationship	47	13.4%
Education		
Less than High School	33	9.4%
High School Diploma	48	13.7%
Some College	7	2.0%
Trade School	72	20.6%
Bachelor's Degree	131	37.4%
Advanced Degree	59	16.9%

Procedure

The present study examined the information obtained from an online survey hosted by Qualtrics, which investigated the influence of ASD traits on workplace social networks and two workplace-related outcomes. Participants answered four qualifying questions before the start of the survey to ensure they were employed, not self-employed, American and over the age of 18. Following this, participants answered a series of demographic questions. Finally, participants responded to the four scales discussed below. Upon completion of the entire survey, participants received their payment through MTurk.

Measures

Measures include a demographic form, the Ritvo Autism Asperger Diagnostic Scale-Revised (Ritvo et al, 2011), a series of social network questions developed for this study, the Organization-Based Self-Esteem Questionnaire (Pierce et al, 1989), and the Survey of Perceived Organizational Support (Eisenberger et al, 1986).

Ritvo Autism Asperger Diagnostic Scale-Revised. The Ritvo Autism Asperger Diagnostic Scale-Revised (RAADS-R) (Appendix A) is an 80-item self-report scale. This diagnostic scale was created to identify high-functioning individuals with autism spectrum disorder who have average or above intelligence. Respondents of MTurk tend to have above average cognitive ability (Chandler & Shapiro, 2016), supporting the choice of this scale. The RAADS-R is divided into four subscales that are the core symptoms of ASD: social relatedness, circumscribed interests, language, and sensory motor (Ritvo et al., 2011). High internal consistency ($\alpha = 0.91 - 0.97$), test-retest reliability ($\alpha = 0.84 - 0.97$), and interrater reliability ($\alpha = 0.74 - 0.95$) suggest that this is a reliable tool for measuring high-functioning individuals with ASD. Responses will be on a 4-point Likert scale (1

True now and when I was young, 2 True only now, 3 True only when I was younger than 16, and 4 Never true). Cronbach's alpha (an estimated of internal consistency) was .959 for the present study.

Social Network. Following the RAADS-R, participants completed a series of social network questions created by the authors of this study (Appendix B). The questionnaire was designed following practices discussed by Burt (1984). The questions aimed to gather relevant information regarding participant social network structure and size. Participants were asked to, "List the co-workers that [they] engage with most frequently during a typical week". Cronbach's alpha of network size was .933 for the present study. Strength of tie was measured by having participants report how close they felt and how frequently they interacted with each node that they listed. Cronbach's alpha was .822 for closeness, and .955 for frequency of contact for the present study. Social capital was assessed by asking participants to indicate how useful each node was with providing the participant with: work advice, building work self-efficacy, providing emotional support, and providing useful information. Cronbach's alpha of social capital was .844 for the present study. Participant responses were used to compute the size of their workplace social network, the average strength of their ties, and their social capital.

Details regarding the computation of network variables are provided in the analysis section.

Organization-Based Self-Esteem. Next, participants completed the organization-based self-esteem questionnaire developed by Pierce et al. (1989). This 10-item questionnaire is a self-report measure using a 5-point Likert scale (Appendix C). Reliability psychometrics reveal high internal consistency ($\alpha = 0.86 - 0.96$) and test-retest reliability ($\alpha = 0.87$). This measure also exhibits high levels of discriminant validity ($\alpha = 0.62 - 0.79$) and predictive

validity (average $r = .55$, $p < .05$). OBSE Cronbach's alpha was .926 for the present study.

Survey of Perceived Organizational Support (SPOS). Finally, participants of the study completed a survey measuring perceived organizational support (Appendix D). This study will use a modified version of the original 36-item questionnaire developed by Eisenberger, Huntington, Hutchison, & Sowa (1986). The modified version of the SPOS is an eight-item questionnaire measured with a seven-point Likert-type scale anchored strongly agree to strongly disagree (Lynch, Eisenberger, & Armeli, 1999). Shore & Tetrick (1991) found the SPOS to have high construct validity (Cronbach's $\alpha = .95$). The items of the shortened SPOS contain high loadings on the main factor of the original survey (Eisenberger et al., 1986). Further, items of the shortened SPOS show high internal reliability (Cronbach's $\alpha = .90$) (Eisenberger et al., 1997). POS Cronbach's alpha was .337. Based on the low internal consistency for perceived organizational support in the present study, findings should be interpreted with caution.

At the completion of the study, participants were directed to a debriefing page, given a unique code to access their payment through MTurk and given all relevant information regarding how to get in touch with the researchers if needed.

Analysis

A hierarchical regression analysis was conducted to examine the ways in which possessing traits related to ASD may affect workplace social network structure and content, and workplace outcomes including OBSE and POS. Mean imputation was used to replace missing values, except for the Ritvo scale, as to not inflate ASD scores.

An ASD scale score was computed by summing the 80 items included in the Ritvo Autism Asperger Diagnostic Scale- Revised. Size of social network was calculated by summing the number of contacts a respondent reported with a minimum of 1 and a maximum of 20. Two variables were computed to assess strength of tie. The first was an average score of how close a participant felt toward each of their reported contacts (closeness). The second was an average score of how frequently the participant interacted with each of their reported contacts (frequency). The social capital variable was computed by taking the sum of the respondent's reported social capital, which was measured by whether the participant received (1) work advice, (2) support in building self-efficacy, (3) emotional support, and (4) useful information from each contact reported, and dividing this by their network size. The outcome variables, OBSE and POS, are average scores from their respective scale.

Results

Descriptive statistics and correlations between all variables can be found in Table 2. Partial support was found for our first cluster of hypotheses. Regarding hypothesis 1a, a significant relationship was found between OBSE and frequency of interaction ($r = .164$, $p < .01$), closeness ($r = .278$, $p < .01$), and social capital ($r = .248$, $p < .01$). No relationship

partial was found between OBSE and network size. This suggests that Organization-Based Self-Esteem is related to network composition, but not to network size. In regards to hypothesis 1b, there was a moderate positive relationship between POS and average social capital ($r = .241, p < .01$), POS and closeness ($r = .374, p < .01$). No relationship was found between POS and network size or POS and frequency of interaction. These findings indicate that Perceived Organizational Support increases with social capital and with network rich with certain aspects of strong of ties; however, size of network and frequency of interaction does not affect an individual's POS.

Partial support was found for hypothesis 2. As hypothesized, there was an inverse relationship between ASD score and average social capital ($r = -.276, p < .01$), and between ASD score and frequency of contact ($r = -.168, p < .01$). Counter to our hypothesis, there was a positive relationship between ASD score and network size ($r = .242, p < .01$). There was no relationship between ASD score and closeness rating. These findings suggest that as more ASD-related characteristics are indorsed, social capital decreases, as does frequency of contact with ties. Additionally, as ASD-related characteristics are indorsed, network size is increased.

Finally, an inverse relationship was found between ASD score and POS ($r = -.116, p < .05$), and between ASD and OBSE ($r = -.355, p < .01$). This indicates that as ASD-related traits are indorsed, POS decreases and OBSE decreases.

Last, we hypothesized that social network components would mediate the effect of ASD symptoms on our two outcome measures. To analyze these hypotheses, two hierarchical regressions were conducted. Analysis of these data began with a screening of the variables to determine if they met the assumptions of the regression model. There was

a moderate positive skew in the network size variable that was corrected by a square root transformation. There was also a negative skew in the OBSE variable that was corrected by the following transformation: $1 / (k - x)$. Transformations were chosen based on Field (2013). Analysis of boxplots computed on the variables did not reveal any significant outliers.

The purpose of the first regression analysis was to predict overall OBSE from ASD score, and determine if social network size, strength of tie (closeness and frequency), and social capital mediated that association. To determine if a mediation effect was present, we used Baron and Kenny's (1986) mediation technique in which four regression models are conducted to assess the significance of each coefficient. If a regression is not significant, then the analysis ends with the assumption that a mediation does not exist. The first step in this analysis was to determine if zero-order relationships exist. In the first model, which predicted OBSE from ASD, the R^2 of .002 was not significant, $F(1, 345) = 1.505$, $p > .05$. Although this relationship was significant previously, transformation to the OBSE variable resulted in a non-significant linear regression model. Thus, hypothesis 3a was not supported, therefore analysis of this regression ended at this point.

The purpose of the second regression analysis was to assess our final hypothesis and predict overall POS from ASD score, and determine if a mediation effect was present with social network size, strength of tie (closeness and frequency), and social capital. The first model predicted POS score from ASD score. The R^2 of .013 was significant, $F(1, 348) = 4.749$, $p < .05$. The adjusted R^2 was .011. A simple regression analysis was then run with each network variable against ASD score to determine if zero-order relationship exist. Each outcome variable was significantly predicted by ASD, with the exception of

closeness. For this reason, closeness was removed from the remainder of the analyses and was determined to not have a mediating effect on POS and ASD. Three additional simple regression analyses were run using the remaining network variables against POS. There was only a significant relationship between POS and social capital with an R^2 of .026, $F(1, 348) = 9.108$, $p < .01$. No relationship was found between POS and network size; therefore, network size was removed from all further analyses. Our final regression model included ASD score and social capital to predict POS score. The R^2 of .031 was significant, $F(1, 347) = 5.572$, $p < .01$. The adjusted R^2 was .026. Analysis of the model Beta weights reveal support for a full mediation effect (see Table 4). B weights suggest that participant's POS score decreased by .001 for each one-unit increase in ASD score. However, POS score increased by .113 for each additional social capital resource reported. Bootstrapping was performed and support the above analyses. The significance of this mediation suggests that while individuals with ASD-related traits generally report lower levels of Perceived Organizational Support, this relationship can be reversed by possessing a network which provides them with more social capital.

Table 2. Means, Standard Deviations, Internal Consistencies and Intercorrelations Between Main Variables

Correlations Between Main Variables									
Variables	Mean	SD	1	2	3	4	5	6	7
1. OBSE Score	4.221	.727	.926						
2. POS Score	4.608	.700	.637**	.337					
3. ASD Score	78.33	43.752	-.355**	-.116*	.959				
4. Network Size	7.226	4.778	.011	.049	.242**	.933			
5. Closeness	2.693	0.620	.278**	.372**	-.049	-.095	.882		
6. Frequency of Contact	4.048	0.801	.164**	.092	-.168**	-.311**	.422**	.955	
7. Social Capital	1.995	0.859	.248**	.160**	-.276**	-.372**	.297**	.265**	.844

Note. * = $p < .05$; ** = $p < .01$; SD = Standard Deviation; Coefficients on the diagonal in bold are Cronbach's alpha of each scale

Table 3. Summaries of Regression Analyses of ASD Predicting Each Social Network Variable ($N = 350$)

Variable	B	SE	β	95% CI
Network Size	.026	.006	.242**	[0.015, 0.038]

Note. CI = confidence interval; SE = coefficients standard error;
 $*p < .05$; $**p < .01$
 $R^2 = .107$; $F = 10.291$

Variable	B	SE	β	95% CI
Social Capital	-.005	.001	-.276**	[-0.007, -0.003]

Note. CI = confidence interval; SE = coefficients standard error;
 $*p < .05$; $**p < .01$
 $R^2 = .076$; $F = 28.613$

Variable	B	SE	β	95% CI
Frequency of Interaction	-.003	.001	-.168**	[-0.005 , -0.001]

Note. CI = confidence interval; SE = coefficients standard error;
 $*p < .05$; $**p < .01$
 $R^2 = .028$; $F = 10.168$

Variable	B	SE	β	95% CI
Closeness	-.001	.001	-.049	[-0.002, 0.001]

Note. CI = confidence interval; SE = coefficients standard error;
 $*p < .05$; $**p < .01$
 $R^2 = .002$; $F = .847$

Table 4. Summary of Multiple Regression Analysis Predicting of POS Score ($N = 350$)

Variable	B	SE	β	95% CI
ASD Score	-.001	.001	-.078	[-0.002, 0.000]
Social Capital	.113	.045	.138*	[0.025, 0.201]

Note. CI = confidence interval; SE = coefficients standard error;

* $p < .05$

$R^2 = .031$; $F = 5.572$

Discussion

The aim of this study was to analyze the relationship between ASD, social networks, and two organizational outcome measures. To the knowledge of the authors, none of these concepts have been assessed together prior to this study. We believe that support for our hypotheses would help to expand our understanding of how the experiences of working individuals with Autism related characteristics differ from neurotypical individuals. We also believe that understanding the subjective experience of these individuals will help in the development of effective vocational and related services.

Our analysis showed a positive relationship between social capital and OBSE, and a positive relationship between social capital and POS. This suggests that as social capital increases, so do organizational outcomes such as OBSE and POS. Individuals with high social capital likely feel more in control and supported within their organization. This relationship was expected based on the OBSE findings of Bowling and Colleagues (2009) and general network theory. These previous findings link situational antecedents of OBSE (e.g. work autonomy and salary) and social capital. Our findings suggest that social capital may also be a strong predictor of OBSE. A similar conclusion can be made related to POS. Social capital may be a better antecedent of POS than access to resources and organizational rewards (two current antecedents of POS) given our findings and previous findings linking social resources to both of the above antecedents (Seibert, Kraimer, & Liden, 2001).

Additionally, there was a positive relationship between closeness and OBSE, and between closeness and POS. Individuals who felt closer to their network ties possessed higher levels of OBSE and POS. Frequency of interaction was only related to OBSE.

Individuals who had more contact with their network ties reported higher levels of OBSE. These findings align with prior research which suggests that managerial support and interpersonal interaction are strong predictors of both OBSE and POS (Bowling et al, 2009; Seibert et al, 2001).

Network size was not significantly related to either OBSE or POS. This may be partially explained by the relationship between network size and frequency of contact and between network size and social capital. Consistent with current network theory, a negative relationship was found between network size and frequency of contact (see table 2). This suggests that individuals who possess larger organizational social networks engage with their ties less frequently. Additionally, a negative relationship was found between network size and average social capital (see table 2). This suggests that as networks grow, each node provides less social capital to the ego. It appears that network size is inversely related to network composition. Thus, network composition, not network size, is related to OBSE and POS.

When comparing ASD scores to network variables, there was an inverse relationship between social capital and ASD and between ASD and frequency of contact. This aligns with our hypotheses, and is likely a result of communication deficits inherent in ASD. There was a positive relationship between network size and ASD. This relationship was surprising and counter to what current theory would suggest given the social skill deficits these individuals exhibit. One possible explanation for this relationship is the support within the workplace that are available to those exhibiting ASD-related traits. Organizations may be providing these individuals with more contacts as a method of support; however, the increase in contacts are not providing these individuals with more

social capital or more frequent contact. No relationship was found between closeness rating and ASD. It appears that individuals presenting with ASD-related traits perceive the closeness of their workplace relationships similarly to neurotypical individuals.

In terms of ASD and the two outcome measures, an inverse relationship was found between ASD and POS, and between ASD and OBSE. This relationship was expected and suggests that ASD-related traits negatively influence subjective experiences in the workplace, such as OBSE and POS. This finding was expected based on the findings of Hillier & Galizzi (2014), which suggested that individuals diagnosed with ASD have a difficult time advancing in their career, and experience feelings of frustration as a result. Additionally, the lack of support within the workplace reported by individuals with ASD (Baldwin, Costly & Warren, 2014), support this finding.

Finally, when testing for mediation effects in a regression analysis, the mediation hypothesis for OBSE was not supported. However, the mediation hypothesis for POS was supported. Social capital fully mediated the relationship between ASD and POS. Those who endorsed more ASD symptoms had lower social capital, and this was responsible for their lower perceived organizational support. None of the other network variables provided a significant impact on the relationship between ASD and POS. One explanation for this is that even though these individuals possess more ties, they do not perceive this as being provided to them given their social deficits. While organizations may be attempting to provide support to these individuals, these individuals do not perceive this as support, they perceive it as inadequate support, or they may need help identifying this as a method of support. The question becomes, how can support be given that is more instrumental to the success of these individuals? Our results suggest that working toward increasing social

capital would be more influential to these individuals. Given the low internal consistency of the POS in the present study, these conclusions are hypothetical and should be interpreted with caution.

Individual perception is an important aspect of organizational experience. As discussed in the introduction, both of our outcome measures are related to subjective experience, and have a significant impact on several employee outcomes. For this reason, it is important to understand how a mental disability, such as Autism, may influence individual perception in the workplace. Support for our final hypothesis suggests that while certain aspects of network structure (i.e. closeness and social capital) are significant predictors of POS, the perception of that support is only partially the same in individuals exhibiting ASD-related traits. POS has been found to lead to success in many ways. Several consequences of POS include peer approval and respect, pay and promotion, and access to information (Rhoades & Eisenberger, 2002). Further, certain consequences of POS may also benefit the organization, such as increased affective commitment, increased performance and reduced turnover (Rhoades & Eisenberger, 2002). Our findings suggest that individuals possessing ASD related characteristics feel less supported by their workplace and exhibit lower levels of self-esteem related to their organizational experiences. Further, the social capital component of network analysis serves as a mediator to the relationship between ASD and POS. Organizations may use these findings to assist individuals exhibiting ASD related characteristics in increasing their POS. Specifically, managers can help these individuals build their social capital and thus better integrate individuals with ASD into their teams. Our findings showed that individuals presenting with ASD-related traits reported larger networks, but less social capital. Organizations

should aim to strategically aid in the creation of strong networks that will provide these individuals with greater levels of social capital.

Limitations

Several limitations are present within the current study. Specifically, reported ASD scores were significantly higher than one would expect from an MTurk study. However, respondents did complete an attention check to ensure that they were not simply clicking through the survey without reading the questions. The inflated ASD scores may be the result of participants feigning symptoms in an attempt to create the data that they predicted was desired by the researchers.

Another limitation of the present study is the use of ego networks as opposed to collecting a full network. In our study, we only have the information reported to us by each disconnected individual. By using a full social network, a researcher can compare responses and understand reciprocated relationships. These reciprocated relationships may be important when investigating Autism and the effects of ASD on organizational outcomes.

Finally, the low internal reliability in the POS scale is a significant limitation to this study. The above results and discussion should be taken in context of this finding. To mitigate this limitation, future research should attempt to replicate the findings in this paper.

Future Research

While not all our hypotheses were supported, we believe this is a sound start to an interesting area of research. While our study focused on only ego networks and the ego's connections between their nodes, future research should expand on the social network data that is collected. For example, researchers may investigate complete networks by sampling

an entire company. Additionally, alter-alter interactions may play a role in the mediation between ASD and various organizational outcome measures such as OBSE and POS. Alter-alter interactions examines the relationships between all of the nodes within an ego's network. For example, understanding if node A interacts with node B. Researchers may examine this by collecting structural hole information and computing Burt's constraints. Qualitative data may also help elucidate the meaning of the findings.

In understanding the experiences of individuals exhibiting ASD-related traits, researchers may expand on the above findings.

In our study, social capital was the most consistent predictor of subjective workplace experiences. It was also the only variable that mediated the relationship between ASD and a workplace outcome measure. Therefore, we suggest that future research focus on ways in which individuals with ASD may increase their social capital, thus improving their workplace experiences. Additionally, other aspects of social capital should be measured for further support of our findings.

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Appendices

Appendix A: IRB Approval Letter

IRB Approval 1707021231

The IRB has approved your protocol “**Social Network Variance and Organizational Outcomes: A Comparison Between Individuals With and Without Autism Traits**” as exempt, **effective 7/10/2017.**

Your IRB protocol can now be viewed in MyOSPR. **Student investigators: protocols can be viewed by your faculty advisor.** For more information, please visit: <http://www.towson.edu/academics/research/sponsored/myospr.html>

Please Note: Formal approval letters are now provided upon request. If you would like to have one drafted, please notify the IRB staff.

If you should encounter any new risks, reactions, or injuries to subjects while conducting your research, please notify IRB@towson.edu. If your research has been approved as expedited and will extend beyond one year in duration, you will need to submit an annual renewal notice. Should there be substantive changes in your research protocol, you will need to submit another application.

We do offer training and orientation sessions for faculty/staff:
<http://fusion.towson.edu/www/signupGeneric/index.cfm?type=OSPR>

Check back to that registration site frequently – we do not have training sessions available right now, but will post additional sessions soon. An announcement on the next available sessions will be posted via *T3 Daily Announcements*.

Regards,
Towson IRB

Appendix B: Informed Consent Form

The follow information was provided to participants prior to beginning the online survey:

July 14, 2017

Dear Participant,

My name is Kristine Powers and I am a graduate student in the Department of Psychology at Towson University. As part of the research for my master's thesis, I will be conducting a survey to determine whether individual differences, and social networks affect workplace outcomes. We hope to use this information to better understand workplace dynamics and improve organizational resources to address individual needs. Participation in this study is voluntary. However, to participate in this study you must be at least 18 years of age, be employed, and reside in the United States of America. The researchers may terminate the participation in this study if a participant does not meet any of the above conditions.

If you do choose to participate in the study, your participation will be completely confidential. No one reading the results of the study will be able to identify you. The data will be stored in the secure Mturk and Qualtrics sites and all results will be aggregated, without any reference to individual identifying information.

Participants in this study will be rewarded via Mturk in the amount of \$1.00. The Principle Investigators do not foresee any risks for participation in this study. If you decide to withdraw from the study before completion, you will forfeit the payment for the participation. Other than the payment, the withdrawal from research will not result in any penalty or loss to which you are otherwise entitled.

If you have any questions about the project, you may contact me at (302) 670-7967, my faculty advisor, Dr. Bogdan Yamkovenko at 650-714-9726 or the Chairperson of Towson University's Institutional Review Board for the Protection of Human Participants, Dr. Elizabeth Katz, at (410) 704-3207.

By advancing to the survey (clicking 'next') at the bottom of the informed consent content you affirm that you have read and understood the information outlined in this consent form.

Thank you for your time.

Sincerely,

Kristine Powers
Graduate Student

THIS PROJECT HAS BEEN REVIEWED BY THE INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN PARTICIPANTS AT TOWSON UNIVERSITY.

RAADS-R

Some life experiences and personality characteristics that may apply to you	Check only one column			
	True now and when I was young	True only now	True only when I was younger than 16	Never true
1* I am a sympathetic person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I often use words and phrases from movies and television in conversations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I am often surprised when others tell me I have been rude.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Sometimes I talk too loudly or too softly, and I am not aware of it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I often don't know how to act in social situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6* I can "put myself in other people's shoes."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I have a hard time figuring out what some phrases mean, like "you are the apple of my eye."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I only like to talk to people who share my special interests.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I focus on details rather than the overall idea.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I always notice how food feels in my mouth. This is more important to me than how it tastes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11* I miss my best friends or family when we are apart for a long time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Sometimes I offend others by saying what I am thinking, even if I don't mean to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I only like to think and talk about a few things that interest me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I'd rather go out to eat in a restaurant by myself than with someone I know.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I cannot imagine what it would be like to be someone else.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I have been told that I am clumsy or uncoordinated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Others consider me odd or different.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18* I understand when friends need to be comforted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I am very sensitive to the way my clothes feel when I touch them. How they feel is more important to me than how they look.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. I like to copy the way certain people speak and act. It helps me appear more normal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. It can be very intimidating for me to talk to more than one person at the same time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I have to "act normal" to please other people and make them like me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23* Meeting new people is usually easy for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I get highly confused when someone interrupts me when I am talking about something I am very interested in.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. It is difficult for me to understand how other people are feeling when we are talking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26* I like having a conversation with several people, for instance around a dinner table, at school or at work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. I take things too literally, so I often miss what people are trying to say.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. It is very difficult for me to understand when someone is embarrassed or jealous.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Some ordinary textures that do not bother others feel very offensive when they touch my skin.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. I get extremely upset when the way I like to do things is suddenly changed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. I have never wanted or needed to have what other people call an "intimate relationship."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. It is difficult for me to start and stop a conversation. I need to keep going until I am finished.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33* I speak with a normal rhythm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. The same sound, color or texture can suddenly change from very sensitive to very dull.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. The phrase "I've got you under my skin" makes me very uncomfortable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. Sometimes the sound of a word or a high-pitched noise can be painful to my ears.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37* I am an understanding type of person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. I do not connect with characters in movies and cannot feel what they feel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. I cannot tell when someone is flirting with me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. I can see in my mind in exact detail things that I am interested in.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. I keep lists of things that interest me, even when they have no practical use (for example sports statistics, train schedules, calendar dates, historical facts and dates).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. When I feel overwhelmed by my senses, I have to isolate myself to shut them down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43* I like to talk things over with my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. I cannot tell if someone is interested or bored with what I am saying.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

45. It can be very hard to read someone's face, hand and body movements when they are talking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. The same thing (like clothes or temperatures) can feel very different to me at different times.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47* I feel very comfortable with dating or being in social situations with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48* I try to be as helpful as I can when other people tell me their personal problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. I have been told that I have an unusual voice (for example flat, monotone, childish, or high-pitched).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50. Sometimes a thought or a subject gets stuck in my mind and I have to talk about it even if no one is interested.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51. I do certain things with my hands over and over again (like flapping, twirling sticks or strings, waving things by my eyes).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52. I have never been interested in what most of the people I know consider interesting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53* I am considered a compassionate type of person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54. I get along with other people by following a set of specific rules that help me look normal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55. It is very difficult for me to work and function in groups.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56. When I am talking to someone, it is hard to change the subject. If the other person does so, I can get very upset and confused.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57. Sometimes I have to cover my ears to block out painful noises (like vacuum cleaners or people talking too much or too loudly).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
58* I can chat and make small talk with people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
59. Sometimes things that should feel painful are not (for instance when I hurt myself or burn my hand on a stove).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
60. When talking to someone, I have a hard time telling when it is my turn to talk or to listen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
61. I am considered a loner by those who know me best.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62* I usually speak in a normal tone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63. I like things to be exactly the same day after day and even small changes in my routines upset me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
64. How to make friends and socialize is a mystery to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
65. It calms me to spin around or to rock in a chair when I am feeling stressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
66. The phrase, "He wears his heart on his sleeve," does not make sense to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
67. If I am in a place where there are many smells, textures to feel, noises or bright lights, I feel anxious or frightened.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
68* I can tell when someone says one thing but means something else.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

69. I like to be by myself as much as I can.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
70. I keep my thoughts stacked in my memory like they are on filing cards, and I pick out the ones I need by looking through the stack and finding the right one (or another unique way).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
71. The same sound sometimes seems very loud or very soft, even though I know it has not changed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
72* I enjoy spending time eating and talking with my family and friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
73. I can't tolerate things I dislike (like smells, textures, sounds or colors).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
74. I don't like to be hugged or held.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
75. When I go somewhere, I have to follow a familiar route or I can get very confused and upset.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
76. It is difficult to figure out what other people expect of me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
77* I like to have close friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
78. People tell me that I give too much detail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
79. I am often told that I ask embarrassing questions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
80. I tend to point out other people's mistakes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Social Network Measure

Developed by the authors to assess the social networks of participants in this study.

1. Please indicate how many individuals are employed at your current company.
2. List the co-workers that you engage with most frequently during a typical week.
3. How often do you interact with co-worker X? etc.
4. How close are you to co-worker X? (Closeness here is more than just frequency of the interaction. Being especially close to others means we trust them to have our best interest in mind).
5. Thinking about the contacts that you listed, please indicate how useful each individual is with providing you the following:
 - a. Work advise
 - b. Building your work self-efficacy
 - c. Providing emotional support
 - d. Providing you with useful information

Organization-Based Self-Esteem Measure

Original 10-item questionnaire developed by Pierce et al. (1989):

1. I COUNT around here
2. I am TAKEN SERIOUSLY around here
3. There is FAITH IN ME around here
4. I am TRUSTED around here
5. I am HELPFUL around here
6. I am a VALUABLE PART OF THIS PLACE
7. I am EFFICIENT around here
8. I am an IMPORTANT PART OF THIS PLACE
9. I MAKE A DIFFERENCE around here
10. I am COOPERATIVE around here.

Each item is measured on a five-point Likert-type scale anchored strongly agree to strongly disagree.

Survey of Perceived Organizational Support

Shortened version of the survey of perceived organizational support modified by Lynch, Eisenberger, & Armeli (1999):

1. My organization strongly considers my goals and values.
2. My organization really cares about my well-being.
3. My organization shows very little concern for me. (Reverse)
4. My organization would forgive an honest mistake on my part.
5. My organization cares about my opinions.
6. If given the opportunity, my organization would take advantage of me. (Reverse)
7. Help is available from my organization when I have a problem.
8. My organization is willing to help me when I need a special favor.

Each item is measured on a seven-point Likert-type scale anchored strongly agree to strongly disagree.

CURRICULIM VITA

NAME: Kristine Powers

[REDACTED]

PROGRAM OF STUDY: Psychology

DEGREE AND DATE TO BE CONFERRED: Master of Arts, 2017

Collegiate Institutions Attended	Dates	Degree	Date of Degree
Towson University	2015 - 2017	Master of Arts	Summer 2017
Frostburg State University	2011 - 2015	Bachelor of Arts	Winter 2015

Major: Psychology, Clinical Concentration

Professional Publications:

Chasson, G. S., Luxon, A. M., **Powers, K. W.**, Divecha, P., Bean, Y. F., & Alapati, S. (2016). *Keep it in the Family: Reporter Patterns of Family Functioning and Distress in Individuals with Hoarding and their Relatives*. Poster presented at the 50th annual Association for Behavioral and Cognitive Therapies conference, New York, NY.

Bean, Y. F., Luxon, A. M., Alapati, S., Divecha, P., **Powers, K. W.**, & Chasson, G. S. (2016). *Autism Characteristics as Predictors of Treatment Motivation and Outcome in Adults with Hoarding Disorder involved in FAM Training*. Poster presented at the 50th annual Association for Behavioral and Cognitive Therapies conference, New York, NY.

Bean, Y. F., Alapati, S., Luxon, A. M., Divecha, P., **Powers, K. W.**, & Chasson, G. S. (2016). *Multi-Informant Evaluation of Autism Characteristics in Adults with Hoarding Disorder*. Poster presented at the 50th annual Association for Behavioral and Cognitive Therapies conference, New York, NY.

Alapati, S., Chasson, G. S., Divecha, P., Luxon, A. M., & **Powers, K. W.** (2016). *Family Support and Intervention for Hoarding and Clutter: Introduction to Family-As-Motivators Training*. Paper presented at the 23rd Annual OCD Conference, Chicago, IL.

Powers, K., & Bradley, M. (2015). *The Effects of Gratitude on Individual Well-Being*. Poster Presented at the 86th annual Eastern Psychological Association Conference, Philadelphia, PA.

Professional Positions Held:

Graduate Assistant *Fall 2016 – Spring 2017*
Towson University, Psychology Department – Human Resource Development

Research Assistant *Fall 2016 – Spring 2017*
Towson University- Human Resource Development Research Lab

Intern *Fall 2016 – Spring 2017*
Renewal Counseling Center, Bel Air, MD

Research Assistant *Fall 2015 – Spring 2017*
Towson University- SOAR Lab

