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# Resilience and Grit in Children and Adolescents with Autism Spectrum Disorder

Danielle Oehring

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# RESILIENCE AND GRIT IN CHILDREN AND ADOLESCENTS WITH AUTISM SPECTRUM DISORDER

by

DANIELLE OEHRING

(Under the Direction of C. Thresa Yancey)

## ABSTRACT

Resilience is the way in which an individual positively adapts to challenging or difficult life experiences. This process is marked by adjustments to external and internal demands through mental, emotional, and behavioral flexibility. Grit is perseverance and passion for long-term goals. Although grit and resilience have been researched in children and adolescents, there is a gap in the literature for how these variables relate to developmental disorders, like autism spectrum disorder, in children and adolescents. This study aimed to explore the relationship between autism spectrum disorder and internalizing and externalizing symptoms and whether grit and resilience moderates these relationships. Based on the literature, it was hypothesized that children with higher severity levels of autism would experience more internalizing and externalizing symptoms and lower levels of grit and resilience. Participants seeking a diagnostic assessment for their child at a private practice completed parent-report measures of these constructs agreed to volunteer for this study. A MANOVA showed a significant group difference for autism spectrum disorder and externalizing symptoms, but not for internalizing symptoms or grit and resilience. Children with reported higher levels of grit and resilience had lower levels of internalizing and externalizing symptoms.

INDEX WORDS: Autism spectrum disorder, Grit, Resilience, Internalizing symptoms, Externalizing symptoms

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SPECTRUM DISORDER

by

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COLLEGE OF BEHAVIORAL AND SOCIAL SCIENCES



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## DEDICATION

To my nephew, Gabriel. This is all for you. Your grit and resilience inspire me every day.

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First, to my mom and dad. I would not have been able to accomplish any of this without your unconditional and unwavering love and support. Your belief in me has carried me through each milestone. There are not enough words to express my gratitude. To my fiancé, Jacob, you are my constant, my rock, my soft place to land. You never doubted me, and never allowed me to doubt myself. My siblings, Nichole, Alex, Jason, and Mikayla, thank you for giving me tough skin and teaching me to keep going.

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## CHAPTER 1

### INTRODUCTION

#### **Purpose of the Study**

Resilience is the means of positively adapting to challenging and difficult life experiences, specifically through mental, emotional, and behavioral flexibility, and includes learning to adjust to external and internal demands (APA, 2022). Resilience is related to better physical and mental health (Ungar, 2005). Grit is perseverance and passion for long-term goals (Duckworth et al., 2007). Individuals with grit are not easily discouraged by challenges and endure to complete their goals (West et al., 2015). Research suggests that children and adolescents diagnosed with developmental disorders, specifically autism spectrum disorder, experience unique challenges and adversity (Li et al., 2019). The current study aimed to investigate the relation between autism spectrum disorder, grit and resilience, and internalizing and externalizing concerns. Additionally, the possibility that grit and resilience moderate the relationship between autism spectrum disorder and internalizing and externalizing symptoms was explored.

#### **Resilience**

Resilience is a strength-based concept rather than emphasizing deficits. Resilience is an important component to maintaining and promoting child and adolescent mental health, and a barrier against potential threats to wellbeing over time (Khanlou & Wray, 2014). Devoting effort to the resilience of individuals leads to lifelong benefits such as improvements in school, employment, and pro-social outcomes and possibly “leveling the playing field” from socioeconomic differences. This exposure to adversity and “positive” adaptation is the most commonly used definition of resilience (Fergus & Zimmerman, 2005; Luthar et al., 2000).

Origins of the concept of resilience in the mental health field are credited to studies of youth demonstrating good overall outcomes in the midst of significant adversity (Khanlou & Wray, 2014). Researchers observed children from at-risk populations presenting good mental and physical health results despite experiencing disadvantages, such as familial or individual stressors, but at inconsistent and unpredictable rates (Ungar, 2005). Most interpretations of resilience have the same underlying recognition of the presence of adaptive coping in response to risk and adversity or challenges - meaning resilience develops as a response to challenges, not in the absence of them (Khanlou & Wray, 2014).

### **Resilience and Grit**

Grit requires persistence toward challenges, while maintaining effort and interest despite failure, adversity, or lack of progress. An individual with grit possesses stamina to approach their goals from a long-term mindset. In times of disappointment or boredom, a person with grit is not easily discouraged.

Researchers commonly group grit with self-control, growth mind-set, and conscientiousness. All of the aforementioned are considered “noncognitive skills” (West et al., 2015). Noncognitive skills are not as concrete as their opposite, “cognitive skills,” including intelligence and achievement, which are often measured in educational contexts. Noncognitive, therefore, is the general term for skills developed outside of intelligence and achievement. Grit includes two of these noncognitive skills: perseverance and consistency of interests toward long-term goals (Duckworth et al., 2007).

Duckworth and colleagues argue that grit may be a measurable personality trait not encompassed in the “Big Five” personality traits (i.e., Extraversion, Agreeableness, Openness, Conscientiousness, and Neuroticism; 2007). Their study aimed to use grit as a predictor for

achievement, unlike traits of the Big Five. Grit overlaps with achievement aspects of conscientiousness within the Big Five, but differs in other aspects, such as stamina in a long-term sense and short-term intensity. An individual with grit is more likely to finish the task at hand, while also pursuing goals taking years to accomplish. Grit also differs from dependability aspects of conscientiousness, including self-control, in its specification of consistent goals and interests (Duckworth et al., 2007).

Grit is not derived from the need for achievement as the desire in completion is not for the immediate feedback on performance (Duckworth et al., 2007). Individuals with a high need for achievement do not create goals to purposefully be easy or difficult, whereas individuals high in grit purposefully set long-term goals for themselves and do not waiver from them - even without positive feedback from others (Duckworth et al., 2007). A second important distinction is that need for achievement is by definition a nonconscious drive for implicitly rewarding activities and, therefore, impossible to measure using self-report methods (McClelland, Koestner, & Weinberger, 1992). Grit, in contrast, includes dedication to either implicitly or explicitly rewarding goals. Further, there does not seem to be a theoretical reason why individuals would lack awareness of their level of grit (Duckworth et al., 2007).

Although noncognitive skills are not systematically measured within schools, they are still important for student outcomes. Grit utilizes two of these noncognitive skills: perseverance and consistency of interests toward long-term goals (Duckworth et al., 2007). Academic settings have begun prioritizing the need to emphasize noncognitive skills as well as academic achievement as evidence shows noncognitive skills can account for variances beyond academic measures (West et al., 2015).

## **Autism Spectrum Disorder**

Autism spectrum disorder is a developmental disability causing social, communication, and/or behavioral challenges. These deficits in social communication and social interaction appear across multiple contexts and can be significant. The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5-TR; APA, 2022) labels these social deficits in three ways. First, deficits in social-emotional reciprocity, such as abnormal social approach, failure of back-and-forth conversation, reduced sharing of interests, emotions, or affect, and a failure to initiate communication or respond to social interactions, are present. The second deficit is within non-verbal communication. This deficit may present as a lack of eye contact, deficits in understanding gestures, and a lack of facial expression. Lastly, social-emotional deficits include difficulties in developing and understanding the range of relationships (APA, 2022).

Individuals with autism spectrum disorder also typically display restricted and repetitive patterns of behaviors or interests. These repetitive patterns are identified in four ways but are not limited to only those listed. The first pattern focuses on stereotyped motor movements (e.g., lining up toys, flipping objects, echolalia). Patterns also include an inflexibility to change in routine, ritualized verbal and nonverbal behavior, and difficulty with transitions. Fixated interests are often atypical in intensity and the objects of interest may be unusual. Finally, patterns may include a hyper- or hypo-reactivity to sensory inputs. These sensory inputs may become an unusual interest as well, such as indifference to pain or heat, an adverse response to textures, visual and oral fixations, or excessive smelling or touching of objects (APA, 2022).

An autism spectrum diagnosis includes a specification of level for the severity of symptoms (Weitlauf, 2014). Each level is labeled based upon the support needed. Level one is specified as “requiring support” as individuals may have difficulty initiating social interaction,

Level two is labeled as “requiring substantial support” as social interactions are limited to special interests and individuals with this severity display frequent restricted/repetitive behaviors. Lastly, level three “requires very substantial support” due to individuals displaying severe deficits in social communication and restricted/repetitive behaviors which cause great distress (Weitlauf, 2014).

Autism spectrum disorder can be detected in children as young as 18 months old. Lord et al. (2006) conducted a longitudinal study where autism assessments were completed for children at age two and again at age nine. Clinicians used a parent interview (Autism Diagnostic Interview-Revised (ADI-R)), an observational scale (Pre-Linguistic Autism Diagnostic Observation Schedule/Autism Diagnostic Observation Schedule (ADOS)), and an independent clinical diagnosis. The diagnosis at age two was a strong predictor of the same diagnosis at age nine. Lord and colleagues’ (2006) results demonstrate the diagnostic stability of autism spectrum disorder; however, many children do not receive the clinical assessment or a formal diagnosis until they are much older than 18 months.

Autism spectrum disorder is diagnosed in approximately one of every 36 children in the United States by the age of 8 (Maenner et al., 2023). Gender differences are noted, with autism spectrum disorder identified in one of every 27 boys and one of every 116 girls. Although autism affects all ethnic and socioeconomic groups, children with minoritized ethnic or racial identities are typically diagnosed at an older age and less frequently than White/Caucasian children.

### **Autism Spectrum Disorder and Resiliency**

Little research exists on applying what is known about resilience in developing individuals to the study of the well-being of those on the autism spectrum (Szatmari, 2018). This may be due to the common view that resilience must involve the exposure to explicit and



external adversities such as deprivation, trauma, or physical illness. Autism as a genetic neurodevelopmental condition does not fit within these parameters. Autism may not always be considered an adversity, but the challenges in daily living that autistic people experience can be considered so (Li et al., 2019). These challenges can be viewed as ‘adversities,’ and the processes by which autistic people overcome them reflect resilience. Many of the adversities autistic individuals encounter are associated with disabilities in developmental, social-communication, and behavioral domains – but another aspect of their adversity stems from poor environmental structures and inadequate accommodations. This means the challenges experienced come not only from the individual, but also from their experiences within their environment and other contexts (Lai & Baron-Cohen, 2015). The literature on autism spectrum disorder often focuses on targeting the individuals’ development and skills, without adjusting for environmental or contextual factors. The goal within resilience literature is to change this perspective to create more effective interventions and support (Li et al., 2019).

### ***Autism Spectrum Disorder and Grit***

Compared to research on ASD and resilience, there is even less research on the relation between grit and autism spectrum disorder. Autism spectrum disorder is often combined with other disabilities in a general category when included in research samples. Like autism individually, very little is known about the functionality of noncognitive measures within the context of disability. Because noncognitive skills are not systematically measured in school contexts, measures of noncognitive abilities are still in the early stages of development (West et al., 2015).

Lombardi and colleagues (2019) created a means to psychometrically measure these noncognitive skills within a group of students (ages 12-17), both with and without disabilities. In

their study, grit was measured using two noncognitive skills: perseverance and consistency of interest. For the study, perseverance was defined as accomplishing goals over a long period of time, overcoming setbacks, and showing work ethic and diligence. Consistency of interest was defined as the perception of not changing one's mind: setting goals then pursuing them, keeping interest in ideas, projects, and goals on a monthly or yearly basis, not losing interest over time, and maintaining focus (Lombardi et al., 2019). Unexpectedly, when the two noncognitive skills were split as individual measures rather than an overall measure of grit, an inverse relationship was found between perseverance and consistency of interest in the sample. This result suggests perseverance moderately and negatively relates to consistency of interests and the relation between perseverance and consistency of interests is significantly stronger within the population with disabilities. Lombardi (2019) suggests the inverse relationship between perseverance and consistency of interests relates to adolescents experiencing significant changes in this developmental period. Individuals with disabilities are often encouraged to explore careers within their physical, mental, and developmental ability. This exploration, when met with barriers, often pushes individuals to change their interests or future expectations. Alternatively, these individuals with disabilities show persistent perseverance throughout the changes of interests. Lombardi (2019) used the perseverance scores as a predictor of GPA and academic achievement. The results confirmed that perseverance skills of grit significantly predict academic achievement. This finding suggests that perseverance skills within grit can be a clearer influential factor of academic achievement within adolescents with disabilities than consistency of interests. Overall, this study confirms grit is a measurable predictor of academic success within a population of people with disabilities.

### **Internalizing and Externalizing Behaviors**

Internalizing and externalizing are two categories of behavioral concerns. Internalizing problem behaviors are focused on the individual (e.g., anxiety, depression, withdrawal, thought problems, emotional problems) and externalizing problem behaviors occur in interactions with the individual's social environment (e.g., impulsivity, hyperactivity, deviance, aggression; Nikstat & Riemann, 2020). Understanding the cause, risk, and protective factors of internalizing and externalizing problems for children and adolescents is important in research and academia, as well as in clinical/treatment settings, due to increasing prevalence of these problems (Danielson et al., 2021). Danielson and colleagues found that across different regions and environments, over 30% of student populations are at high risk for externalizing and internalizing problems. Internalizing and externalizing factors in childhood also lead to negative outcomes such as poor academic performance, antisocial behavior, peer problems, and poor mental health (Nikstat & Riemann, 2020). More specifically, adolescents experiencing internalizing and externalizing problems show maladaptive achievement strategies, low self-esteem, and poor school adjustment (Aunola et al., 2000).

### **Internalizing and Externalizing Factors of Grit**

Due to the relation between internalizing and externalizing problems and negative outcomes, research relates the diagnoses of mental health and behavioral disorders with these problems (Krueger & Eaton, 2015). Furthermore, investigations of common symptoms and behaviors in children repeatedly duplicate the internalizing-externalizing model. Internalizing problems account for comorbidity among depression, anxiety, dysthymia, panic, social issues, and stress disorders, while externalizing problems account for comorbidity among antisocial, behavioral, and impulsivity-related disorders (Krueger & Eaton, 2015). Given the high

prevalence of internalizing and externalizing problems, as well as their negative associations, it is important to investigate possible protective factors.

Recent research shows positive effects of grit on various child and adolescent psychosocial functions. Datu (2018) found high levels of grit relate to positive academic engagement and positively predict life satisfaction, positive affect, and interdependent happiness. The findings also suggest that high levels of grit negatively relate to psychological distress. Grit research shows strong relation to well-being, beliefs about well-being, and personality strengths (Disabato et al., 2019). Moreover, high levels of grit are associated with fewer problem behaviors and greater prosocial behaviors (Lan, 2019) and high levels of perseverance and consistency of interests buffer externalizing and internalizing problem behaviors (Lan & Radin, 2020).

### **Internalizing and Externalizing Factors of Autism Spectrum Disorder**

Individuals diagnosed with autism spectrum disorder experience higher rates of internalizing and externalizing problems than their typically developing peers and their peers with other developmental or intellectual disabilities (Woodman et al., 2015). More specifically, children diagnosed with autism spectrum disorder have a higher risk of comorbid symptoms associated with internalizing and externalizing problems (e.g., anxiety, depression, hyperactivity, aggression). A diagnosis of autism spectrum disorder comorbid with internalizing and/or externalizing problems is associated with poor life outcomes, such as limited social integration, few leisure activities, and health concerns (Gerber et al., 2008). Furthermore, internalizing and externalizing problems of individuals with autism can lead to limited self-determination throughout childhood (Gerber et al., 2008). Increased levels of internalizing and externalizing

symptoms are congruent with difficulties in social and academic competence (Chadwick et al., 2000).

It is important to note that within the literature, individuals with autism spectrum disorder are shown to have a greater range of trajectory in behavioral and emotional symptoms than their typically developing peers (Gray et al., 2012). Research on the trajectory of internalizing and externalizing problems shows mixed results. Some research supports these behavioral and emotional problems typically remain high in adulthood for individuals with ASD (Gray et al., 2012), supporting a strong relationship between autism and externalizing and internalizing problems. There are also several studies reporting greater internalizing and externalizing symptoms among autistic individuals with lower levels of adaptive functioning and more severe levels of autism (Anderson et al., 2011; Toogood, Hastings, & Lewis, 2008). Alternatively, there is research supporting a lack of understanding of the development of internalizing and externalizing problems of children with ASD into adulthood (Trentacosta & Fine, 2010; Vaillancourt et al., 2017). Overall, a better understanding of the relation between autism spectrum disorder and the development of internalizing and externalizing problems needs to be established in the literature.

### **Intelligence Quotient**

Intelligence Quotient (IQ) is a standardized measurement of intelligence based on psychological tests (American Psychological Association, 2023). Deviation IQ is the most commonly used concept for scoring IQ. Deviation IQ uses the discrepancy of an individual score from the mean score (i.e., score below or above a standard score of 100). Average IQ scores fall between 90 and 109. More than two thirds of people's assessed IQ fall within plus or minus 15 points of the mean (one standard deviation), and 95% of all scores fall within two standard

deviations of the mean (i.e., between standard scores of 70 and 130; APA, 2023). In most IQ assessments, IQ is specifically split into two measures: verbal intelligence (VIQ) and nonverbal intelligence (NVIQ), or performance IQ. Verbal intelligence is defined by the American Psychological Association as the ability to use words and combinations of words to effectively communicate and problem solve. Nonverbal intelligence does not require language ability, but instead utilizes visual and hands-on skills to solve problems. Differences between the two within an individual can help detect different learning disabilities or cognitive deficiencies (APA, 2023).

The American Psychiatric Association no longer requires an IQ assessment for an intellectual developmental disorder (IDD) diagnosis, but scores below 75 indicate significantly limited intellectual functioning (APA, 2023). An IDD diagnosis also requires deficits in adaptive functioning. Adaptive functioning is made up of activities done in daily life (i.e., communication, social, and independent living skills). Individuals with intellectual developmental disorder, as well as individuals with autism spectrum disorder, display impairments in adaptive functioning skills across all domains (Kenworthy et al., 2010).

### **Intelligence Quotient Assessments and Autism Spectrum Disorder**

Intelligence quotient scores have a strong, positive relationship with overall adaptive skills (Kanne et al., 2011). Research shows a significant amount of variance in adaptive skills and autism spectrum disorder severity level is, in part, due to IQ (Kanne et al., 2011). These findings indicate IQ is a strong predictor of adaptive behavior, and in turn, a possible predictor of autism severity. Individuals with autism demonstrate more adaptive impairments when there is a larger deficit in IQ. Over 30% of children with autism spectrum disorder have comorbid intellectual disability and 25% have IQ scores in the “borderline” range (Maenner et al., 2021).

Specifically, within individuals diagnosed with autism spectrum disorder, there is a positive relationship between IQ and adaptive communication skills (Kenworthy et al., 2010). Regardless of IQ scores, global adaptive functioning is still negatively associated with severity of autism symptomatology. Research on autism spectrum disorder shows symptomology and adaptive impairment are still significant regardless of intelligence (Liss et al., 2001; Perry et al., 2009). Furthermore, within the social domain, IQ is not a predictor of impairment (Kenworthy et al., 2010). With social domain being the greatest impairment of adaptive skills for individuals diagnosed with autism spectrum disorder, intelligence quotient alone does not predict level of functioning or severity.

### **Autism Spectrum Disorder and Rurality**

Using the U.S. Census Bureau definition (2019), a rural area is defined as an open countryside with a population density of less than 500 people per square mile and places with less than 2,500 people. Similar incidence rates of autism are reported amongst rural (0.9%) and urban (1.0%) areas (Mohamed et al., 2016). Using data from the National Survey of Children's Health (2007), a population based epidemiological sample supports similar rates of autism spectrum disorder in both rural and non-rural areas. Using non-population-based samples could provide a better understanding of the observation of differential rates of diagnosis within these areas (Antezana et al., 2017). These data reveal that although prevalence rates may not differ between areas, more densely populated areas report a greater awareness of autism spectrum disorder (Palmer et al., 2005).

Rural communities report limited access to resources required for early diagnosis and intervention (Antezana et al., 2017). There are a number of reasons why rural areas often report greater barriers to diagnosis, such as less availability of services, lower socioeconomic status,

and lower education level (Hartley, 2004). Specifically for autism spectrum disorder, there is a lack of evidence-based providers offering diagnostic and intervention services for individuals with ASD residing in rural areas (Rhoades et al., 2007). With the lack of early identification and intervention, individuals from rural areas, compared to urban areas, often experience an increase in negative outcomes, such as delays in developmental screenings, delays in diagnosis, and fewer qualified resources, all leading to lower levels of functioning and comparatively worse educational outcomes (Scarpa et al., 2013).

Rural communities often rely on school-based services for referrals and support (Antezana et al., 2017). Children who are first identified through school systems are less likely to receive the interventions they need (Farmer et al., 2003). As a result, children with autism who live in rural communities are less likely to find the needed resources to provide a diagnosis and follow-up or continual treatment. The further rural communities are geographically from qualified practitioners, the less likely individuals with autism are to receive a diagnosis and be connected to proper services (Antezana et al., 2017).

Furthermore, reduced awareness of ASD in rural communities can lead to individuals with autism spectrum disorder remaining undetected. Specifically, individuals without a co-occurring intellectual or development impairment (those typically with a lower severity level) are more likely to be missed or misdiagnosed (Antezana et al., 2017). Higher rates of co-occurring ASD and intellectual disabilities are reported in rural areas, due to only more severe levels of autism spectrum disorder being detected (Antezana et al., 2017). With more severe cases of autism having a higher likelihood of being detected, rates of severity level increase in rural vs. non-rural communities.



### **Current Study**

The current study was designed to investigate the relationships among Autism diagnosis and severity level, grit, and internalizing and externalizing symptoms. Specifically, the aims were to better understand whether grit impacts the relationship between autism severity levels and internalizing and externalizing factors, as well as how grit directly affects each of these variables individually.

### **Hypotheses**

*Hypothesis 1.* Previous research shows children with more severe presentations of Autism also show more internalizing and externalizing symptoms (Woodman et al., 2015). It was hypothesized that there would be a significant relation between Autism severity and internalizing and externalizing symptoms, such that individuals with a higher severity level diagnosis would have more reported internalizing and externalizing symptoms.

*Hypothesis 2.* Internalizing and externalizing symptoms are associated with lower levels of grit (Lan et al., 2019). Therefore, it was expected that a significant relationship between internalizing symptoms, externalizing symptoms, and grit would be apparent. Specifically, grit was expected to be lowest in those with greater internalizing and externalizing symptoms.

*Hypothesis 3.* The literature notes higher severity levels of Autism, associated with lower educational and functional outcomes, in rural areas (Antezana et al., 2017). The current study examined group differences in autism based on geographic location (rural vs. non-rural) and it was hypothesized that individuals in rural areas would have higher severity level diagnoses of autism.

*Study Aim.* No known research has investigated the relation between grit and Autism severity. This study examined whether grit moderated the relation between autism severity level and externalizing and internalizing symptoms.

*Exploratory analysis.* Research supports a strong, positive relationship between IQ and adaptive functioning (Kanne et al., 2011). This study explored the relationship between IQ and overall grit scores, internalizing and externalizing symptoms, and autism severity.

## CHAPTER 2

## METHOD

**Participants**

Participants were caregivers of 47 children (ages 6 to 17) who attended a local psychology clinic for assessment. Following IRB approval, data were gathered from existing medical records. Clients in the psychology clinic chose to opt into the use of their de-identified information in research. Those who opted in and signed consent were included in the current study. See Appendix A for informed consent. All data, including assessment scores, demographic information, and diagnoses were gathered from medical records, de-identified, and used for analyses. See Table 1 for information on participant demographics.

**Table 1***Participant Demographics*

Variable	Mean	SD
Child's Age	7.70	2.46
	Frequency	Percent
Gender Identity		
Boy	31	66.0%
Girl	16	34.0%
Race/Ethnicity		
White/Caucasian	28	59.6%
African American/Black	10	21.3%
Hispanic/Latino	9	19.1%
Geographic Region		
Rural	21	44.7%
Non-Rural	26	55.3%

## Materials

An intake form was completed by each caregiver to collect demographic information. This information includes age, gender, race, ethnicity, and geographic location (zip code and city to reference rural or non-rural location). Rurality was classified as an area with a population density of less than 500 people per square mile. (See Appendix B).

*Grit and Resilience Scale* (GRS; Hossain et al., 2021). The GRS is a caregiver report measuring a child's ability to overcome obstacles, adapt to changes in their environment, and communicate and advocate for their personal needs. Ratings across 17 items range from "Almost Never" to "Almost Always" on a scale from 1 to 5. Higher scores indicate more attributes of resilience and grit. The grit and Resilience Scale was validated empirically, with high correlations on caregiver-reported grit and resilience within their child. The scale also showed good test-retest reliability, specifically with the parent version having an intraclass correlation of 0.72 (Hossain et al., 2021). The Cronbach's alpha of the GRS for the current study was 0.92.

*Achenbach Child Behavior Checklist* (CBCL; Achenbach, 1999). The CBCL assesses a child's strengths and areas of concern, including emotional, social or behavior difficulties. T-scores at or above 70 are in the clinical range and scores of 65 to 69 are in the borderline clinical range. The CBCL provides syndrome scales (corresponding to child difficulties) and DSM-5 Oriented Scales (corresponding more directly with diagnosable mental health/developmental conditions). For the current study, the CBCL provided a standardized score of internalizing and externalizing problems for each participant. These scores were used to better understand the relationship between autism spectrum disorder, grit, and externalizing and internalizing problems. The overall intraclass correlation coefficient was 1.00 for the 20 competence items and .95 for the 118 specific problem items ( $p < .001$ ; Achenbach & Rescorla, 1991). This

indicates very high test-retest reliability in scores obtained for each item; internalizing problems ( $r = .91$ ,  $\alpha = .90$ ) and externalizing ( $r = .92$ ,  $\alpha = .94$ ; Achenbach & Rescorla, 1991).

*Autism Diagnostic Observation Schedule, second edition* (ADOS-2; Lord et al., 2012).

The ADOS-2 is a semi-structured, standardized assessment of communication, social interaction, and play or imaginative use of materials for individuals referred for assessment of autism or other pervasive developmental disorders. Administration consists of a series of planned social occasions or “presses” in which a behavior of a particular type is likely to occur. Across the session the examiner presents numerous opportunities for the individual being assessed to exhibit behaviors of interest in the diagnosis process. Although the results of, and observations from, the ADOS-2 provide very important information, they should be considered in the context of other clinical information. The ADOS-2 by itself does not rule in or out a diagnosis of autism spectrum disorder. Modules of the ADOS-2 (Toddler Module and Modules 1-4) are selected based on the participant’s language abilities and age. For this study, Modules 1 to 3 were utilized. Three samples were used in the ADOS-2 manual to assess the psychometric properties. Both interrater and test-retest were assessed for Modules 1 through 3 with results from .87 to .96 for an acceptable overall total score reliability (Lord et al., 2012).

ADOS-2 items are rated using scores ranging from 0 (behavior or deficit was not evident) through 2 or 3 (behavior or deficit was definitely present). Based on updated research showing improved psychometrics (i.e., diagnostic sensitivity), a 14-item Social Affect and Restricted and Repetitive Behavior Total is applied to the total score range to differentiate between non-spectrum, autism spectrum, and autism. This refers only to ADOS-2 classification and not overall clinical diagnosis. Additionally, scores are ranked according to a comparison score. This refers only to the number of behaviors seen during the ADOS-2 and not the severity level of

diagnosis. For this study, we used the comparison score to compare autism symptomology with grit and resilience and internalizing and externalizing symptoms.

*Intelligence Quotient Assessment (IQ).* An IQ assessment (i.e., Kaufman Brief Intelligence Test 2nd edition, Wechsler Intelligence Scale for Children 5th edition) was administered to determine cognitive and intellectual abilities for each participant. IQ scores are standardized to be comparable across assessment scales. The Kaufman Brief Intelligence Test 2nd edition (KBIT-2) demonstrates a strong reliability using split-half reliability, coefficients ranging from .85 to .95, and is highly correlated with the Wechsler Intelligence Scale for Children 5th edition (WISC-V; Canivez, 1995). The Full-Scale IQ (FSIQ) of the WISC-V has a generally high internal consistency (reliability), with an average coefficient of all age groups ranging from .84 to .97 (Olivier et al., 2018; Wechsler, 2014).

## **Procedure**

The Grit and Resilience Scale and Child Behavior Checklist were completed by the child's caregiver prior to assessment. The child completed an intelligence assessment and the ADOS-2 (Module 1, Module 2, or Module 3 depending on the age and language ability of the participant) administered by a licensed psychologist. Scores on all measures were recorded anonymously for the purpose of the current study.

## **Planned Analyses**

The study's hypotheses and aims were examined by the following:

1. For hypotheses 1, a MANOVA was conducted to determine group differences among the severity level of autism (level 1, level 2, and level 3), internalizing and externalizing difficulties, and grit using the clinical diagnosis, externalizing symptoms and internalizing symptoms scores on the CBCL, and the overall grit score. Additionally, a

Pearson's *R* correlations were conducted to determine the relationships among the same listed variables (grit, externalizing symptoms and internalizing symptoms) and ADOS-2 composite scores.

2. For hypothesis 2, A Pearson's *R* correlations test was conducted to determine the relationships among overall grit scores and internalizing and externalizing symptoms.
3. For hypothesis 3, a MANOVA was conducted to examine group differences between rural and non-rural populations on internalizing symptoms, externalizing symptoms, and overall grit score. A chi-square test was also used to assess the differences between groups of rurality and level of severity of autism.
4. For the study aim, moderation models were conducted using model one on PROCESS macro for SPSS to determine whether grit, as measured by the GRS, moderated the relationship between autism severity (i.e., ADOS-2 composite scores) and reported internalizing and externalizing symptoms (Internalizing and Externalizing scores from the CBCL).
5. A Pearson's *R* correlation coefficient was used to explore the relationships among intelligence quotient, grit and resilience scores, internalizing and externalizing symptoms, and severity level of autism.

## CHAPTER 3

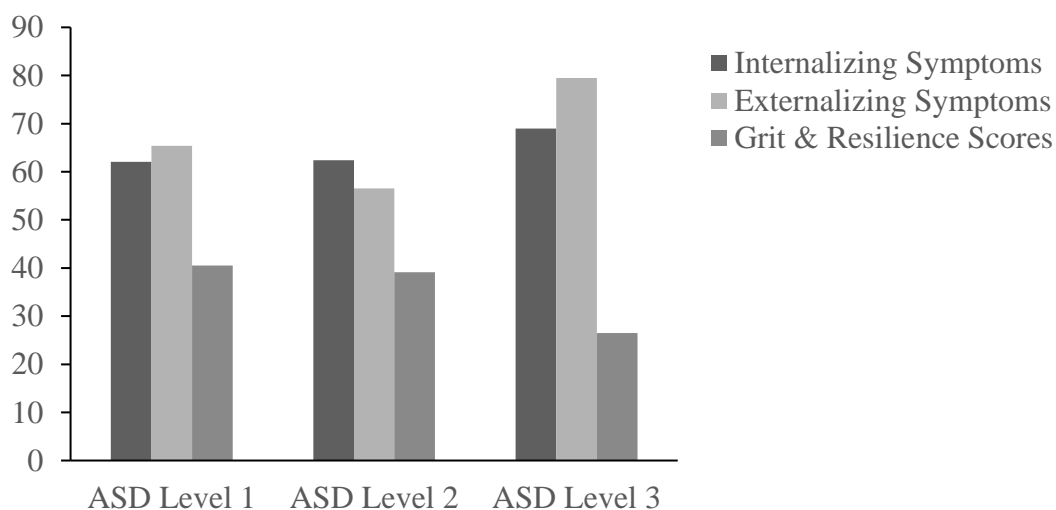
### RESULTS

#### Hypothesis 1

A three way, between-groups MANOVA was used to analyze differences among the severity level of autism groups (level 1, level 2, and level 3) on internalizing and externalizing difficulties, and grit and resilience scores. I expected individuals diagnosed with a higher level of severity of autism would report lower scores on the GRS and higher internalizing and externalizing scores on the CBCL. The findings partially supported this hypothesis. Overall, the multivariate effect was statistically significant,  $Wilks' \Lambda = .639$ ,  $F(2, 44) = 3.52$ ,  $p = .004$ ,  $\eta_p^2 = .201$ . Follow up ANOVAs revealed non-significant differences of CBCL-internalizing scores,  $F(2, 44) = .232$ ,  $p = .794$ , and GRS scores,  $F(2, 44) = 2.624$ ,  $p = .084$ , by autism severity group. However, results did reveal a statistically significant difference on CBCL-externalizing symptoms by autism severity level,  $F(2, 44) = 5.091$ ,  $p = .01$ . See Figure 1.

#### Figure 1

*Means for internalizing symptoms, externalizing symptoms, and grit and resilience for Autism Spectrum Disorder Levels 1, 2, 3.*





A post-hoc analysis of externalizing symptoms among the three levels of autism revealed that caregivers of children diagnosed with level 1 ASD reported more externalizing symptoms for their children ( $M = 65.41$ ,  $SD = 10.72$ ) than those diagnosed with level 2 ASD ( $M = 56.55$ ,  $SD = 11.01$ ). Additionally, individuals diagnosed with level 3 ASD reported more externalizing symptoms ( $M = 79.50$ ,  $SD = 2.12$ ) than individuals diagnosed with level 2 ASD. There was no statistically significant difference in reported externalizing symptoms between individuals diagnosed with level 1 ASD and level 3 ASD. See Table 2.

**Table 2**

*Post-hoc analyses of study variables*

	ASD Level	Mean	SD
CBCL-Internalizing Score	1	62.08	15.34
	2	62.36	7.71
	3	69.00	14.14
$F(2, 44) = .232, p = .794$			
CBCL-Externalizing Score	1	65.41 <sup>a</sup>	10.72
	2	56.55 <sup>ab</sup>	11.01
	3	79.5 <sup>b</sup>	2.12
$F(2, 44) = 5.091, p = .010$			
Grit & Resilience Scores	1	40.50 <sup>c</sup>	8.33
	2	39.09	9.10
	3	26.50 <sup>c</sup>	3.54
$F(2, 44) = 2.624, p = .084$			

*Note.* Mean scores with different superscripts are significantly different at the  $p < .05$  level.

A Pearson's  $r$  correlation matrix was conducted to assess the relationships among the composite scores of the ADOS-2 and CBCL-internalizing and externalizing scores. The results revealed non-significant correlations between the ADOS-2 scores and CBCL-internalizing or CBCL-externalizing scores. See Table 3.

## Hypothesis 2

A Pearson's  $r$  correlation matrix was conducted to assess the relationships among grit and resilience scores and CBCL-internalizing and externalizing scores. It was expected that there would be a negative relationship between grit and resilience and internalizing and externalizing symptoms. A strong, negative correlation was revealed between grit and resilience and internalizing score. Additionally, a strong, negative relationship was detected between grit and resilience ( $M = 39.57$ ,  $SD = 8.73$ ) and externalizing score ( $M = 63.94$ ,  $SD = 11.58$ ). Thus, the findings provide evidence that grit and resilience are inversely related to internalizing and externalizing symptoms. See Table 3.

**Table 3**

*Intercorrelations of study variables*

Variable	1	2	3	4
1. ADOS Severity Score				
2. CBCL-Internalizing Score	.18			
3. CBCL-Externalizing Score	-.13	.55*		
4. IQ Score	-.20	-.17	-.09	
5. Grit and Resilience Score	-.23	-.58*	-.67*	.42*

*Note.* \* indicates  $p < .05$

## Hypothesis 3

A two way, between-groups MANOVA was used to measure rural differences (living in a rural vs. non-rural area) on CBCL-internalizing and externalizing scores and grit and resilience scores. It was expected that caregivers of children living in rural areas would report more internalizing and externalizing difficulties and less grit and resilience in their children than those

in non-rural areas. The results revealed non-significant differences on internalizing and externalizing scores or grit and resilience scores by rural status,  $Wilks' \Lambda = .968$ ,  $F(1, 45) = .480$ ,  $p = .698$ . None of the follow up ANOVAs detected significant differences based on rural status.

A chi-square test was used to assess the relationship between rurality and the level of severity of autism. It was expected that individuals from rural areas would be diagnosed with higher severity levels of autism than those from non-rural areas. There was no statistically significant difference between living in a rural or non-rural area and level of severity of autism,  $\chi^2(2, 47) = 3.38$ ,  $p = .184$ .

### **Study Aim**

A linear regression was used to investigate whether grit and resilience moderates the relationship between severity of autism and externalizing symptoms. Both predictors were centered around their means (Aiken & West, 1991) before computing the interaction term, and all terms were entered into the PROCESS macro model simultaneously. The results indicated that grit and resilience ( $b = -.99$ ,  $SE = .14$ ,  $p < .001$ ) was negatively associated with externalizing symptoms. However, the interaction between grit and resilience and severity level of autism ( $b = -1.52$ ,  $SE = .49$ ,  $p = .004$ ) did not account for unique variance in externalized behavior scores. See Table 4.

**Table 4***Externalizing Symptoms Moderation*

Variables	<i>b</i>	SE	Z	<i>p</i>	95% LL	95% UL
ADOSc	-1.52	.49	-3.07	.004	-2.51	-.52
Grit and Resilience Scale	-.99*	.14	-7.08	.000	-1.27	-.71
Interaction	-.09	.07	-1.25	.218	-.23	.05

*Note.* ADOSc = ADOS composite score; LL = Lower limit confidence interval; UL = Upper limit confidence

interval; \* indicates  $p < .001$

A linear regression was used to investigate whether grit and resilience moderates the relationship between severity of autism and internalizing symptoms. Both predictors were centered around their means (Aiken & West, 1991) before computing the interaction term, and all terms were entered into model simultaneously. The results indicated that grit and resilience ( $b = -.88$ ,  $SE = .20$ ,  $p < .001$ ) is negatively associated with internalizing symptoms. However, the interaction between grit and resilience and severity level of autism ( $b = .36$ ,  $SE = .71$ ,  $p = .611$ ) did not account for variation in internalizing symptoms. See Table 5.

**Table 5***Internalizing Symptoms Moderation*

Variables	<i>b</i>	SE	Z	<i>p</i>	95% LL	95% UL
ADOSc	.36	.71	.51	.611	-1.07	1.80
Grit and Resilience Scale	-.88*	.20	-4.40	.000	-1.29	-.48
Interaction	.04	.10	.36	.723	-.17	.24

*Note.* ADOSc = ADOS composite score; LL = Lower limit confidence interval; UL = Upper limit confidence

interval; \* indicates  $p < .001$

### **Exploratory Analysis**

A Pearson's  $r$  correlation coefficient was used to assess the relationships among intelligence quotient, grit and resilience scores, internalizing and externalizing symptoms, and severity level of autism. A strong, positive correlation between grit and resilience and intelligence quotient was demonstrated. Furthermore, the results did not show significant correlations among intelligence quotient and internalizing symptoms, externalizing symptoms, or severity level of autism. See Table 3.

## CHAPTER 4

### DISCUSSION

Autism spectrum disorder is a growing diagnosis within children and adolescents (Maenner et al., 2023). Individuals with autism spectrum disorder experience a unique set of challenges that can include impulsivity, hyperactivity, emotional problems, and being withdrawn (i.e., internalizing and externalizing problems; Woodman et al., 2015). Internalizing and externalizing symptoms can lead to more severe concerns, such as antisocial behavior, peer problems, and poor mental health (Nikstat & Riemann, 2020). Grit and resilience are suitable to serve as protective factors against internalizing and externalizing problems as they are connected to prosocial behaviors, good mental health, and overall positive well-being (Datu, 2018; Lan, 2019; Khanlou & Wray, 2014). Therefore, this study aimed to examine the relationships between autism level severity and internalizing and externalizing symptoms and evaluate whether grit and resilience moderate these relationships.

#### **Hypothesis 1**

**Autism severity and internalizing and externalizing symptoms.** The results of the first hypothesis led to interesting findings and pose valuable questions. A significant difference between the groups of autism severity and externalizing symptoms was found. Specifically, caregivers of individuals diagnosed as either level 1 or level 3 autism spectrum disorder reported more externalizing symptoms in their children than those whose children were diagnosed as level 2. It was expected that externalizing symptoms would be highest in those diagnosed with level 3, but it was unexpected that severity level 1 would be higher than severity level 2. It was also expected that internalizing symptoms would be different between groups of severity level, but the results proved to be non-significant. One reason for these results could be overall sample size

and the number of children diagnosed at each level. Of the 47 children, 34 were diagnosed level 1, 11 level 2, and only two were diagnosed level 3. Although the results show a relationship between an autism diagnosis and externalizing symptoms, the low heterogeneity of diagnostic levels within the sample may have contributed to the skewedness of the results. A low heterogeneity in this study created an inability to generalize the results across group samples within each severity level, as well as making it difficult to account for outliers.

Another reason for severity level two having the lower externalizing concerns could be the use of the Child Behavior Checklist (CBCL) and how it labels internalizing and externalizing symptoms compared to the symptoms that individuals with autism spectrum disorder experience. The CBCL for school aged children (ages 6-17) is designed as a diagnostic screener for behavioral and emotional problems (Mazefsky et al., 2011). Autism spectrum disorder is not individually assessed for in the CBCL, but related behaviors such as thought and social problems are included on the assessment. As the CBCL is created to capture a range of symptoms and screen for a variety of diagnoses, the internalizing and externalizing problems are not limited to autism specific behaviors (Mazefsky et al., 2011). For this reason, there could be some disconnect between autism severity and CBCL behavioral scales. Additionally, the CBCL requires the caregiver to respond with 0, 1, or 2 to reflect “Not True,” “Somewhat/Sometimes True,” or “Always True.” There are some items included on the CBCL that may be outside of the skill level of an individual with more severe autistic behaviors (i.e., non-verbal). Caregivers must select 0 or “Not True,” even if that means the child is not capable of the task in question. Due to this lack of discernment between ability to complete a behavior and an absence of a problematic behavior, the CBCL may not accurately reflect problems a child with autism is experiencing.

For insight from a different perspective, an analysis was conducted to examine if any relationships existed between the ADOS-2 composite scores and internalizing and externalizing symptoms. The results indicated no significant group differences between the composite scores and internalizing and externalizing symptoms. The reasoning for this could be due to the fact that composite scores of the ADOS-2 reflect a standardized number of autistic behaviors an individual presents. These specific behaviors of autism do not always reflect as internalizing or externalizing problems (Lefort-Besnard et al., 2020). The ADOS-2 domains capture autism specific behaviors that may not always reflect to match the severity of autism. Measures such as the Autism Diagnostic Interview-Revised (ADI-R) may be a more useful tool to capture level severity using their social and communication domains (Lefort-Besnard et al., 2020). Additionally, level severity is diagnosed at the discretion of the testing clinician.

## **Hypothesis 2**

**Grit and resilience with internalizing and externalizing symptoms.** Results from analyses indicated a strong, inverse relationship between grit and resilience scores and internalizing and externalizing symptoms. These findings supported the hypothesis that children whose caregivers reported they display higher levels of grit and resilience experience lower levels of internalizing and externalizing symptoms compared with children reported to display lower levels of grit and resilience. These findings are consistent with previous literature finding that high levels of grit negatively relate to psychological distress (Datu, 2018). Additionally, high levels of grit are associated with fewer behavior problems and externalizing symptoms in the current study and in the literature (Lan, 2019). These findings, at a base statistical level, suggest grit and resilience may serve as protective factors to psychological well-being. More research is needed to evaluate whether and how such factors minimize distress.



### **Hypothesis 3**

**Rurality.** The results from the third hypothesis reveal non-significant rural differences on reports of autism, grit and resilience, and internalizing and externalizing symptoms. These findings are inconsistent with previous research. Previous findings suggest that people from more densely populated areas have greater awareness of autism spectrum disorder and that there is a lack of diagnostic services for ASD in rural areas (Palmer et al., 2005, Rhoades et al., 2007). There are several possible reasons why the current study does not reflect the findings reported in the literature. Research suggests that more severe levels of autism are more likely to be detected in rural areas, therefore indicating higher severity levels than in non-rural areas (Antezana et al., 2017). In the current study, most children were diagnosed at a severity level 1. This finding did provide evidence that when a rural individual is diagnosed as a lower level, their behavior is comparable to individuals from a non-rural area. Further, although this study had a closely even split between participants in rural versus non rural areas, the representation of level of severity of autism may have been insufficient to accurately understand group differences.

### **Study Aim**

**Moderation.** The results of the analysis indicate resilience and grit does not moderate the relationship between level of severity of autism and internalizing or externalizing symptoms. These findings are inconsistent with the literature stating that individuals with higher grit and resilience experience less psychological distress (Disabato et al., 2019). Although these were not predicted results, they do provide valuable information in understanding the relationship among autism, grit, and internalizing and externalizing symptoms. The results show that some individuals with autism possess moderate levels of grit and resilience and that those with higher levels of these traits experienced fewer internalizing and externalizing symptoms. This result

aligns with previous research showing that individuals with disabilities show perseverance and consistency of interests over time as well as adaptive coping skills (Lombardi, 2019; Khanlou & Wray, 2014). Although literature focused solely on autism spectrum disorder and grit and resilience is limited, the current findings provide some context to research that generalizes individuals with disabilities.

### **Exploratory Analysis**

The results of the exploratory analysis aligned closely with previous research. The findings indicated a strong positive relationship between IQ and grit and resilience. In alignment with previous research, IQ is a strong predictor for adaptive behaviors (Kanne et al., 2011). Further, the results did not show a statistically significant correlation between IQ, autism level severity, internalizing, or externalizing symptoms. These findings are also consistent with literature showing intelligence quotient is not a sole predictor of functioning or level of severity for individuals with autism (Kenworthy et al., 2010).

### **Advancement of Theory**

The current study opens opportunities to evaluate grit in different ways and within different populations. Research on the concept of grit has gained traction in recent years, especially within education and how having traits of grit benefit children as they complete grade school. The majority of prior research focuses specifically on academic achievement (Duckworth et al., 2007). The research on grit within individuals with developmental and behavioral disorders has not been explored to its potential. Lombardi (2019) explored grit within different populations, but different diagnoses were grouped together, and no data were presented on specific diagnostic categories. Although the current study did not show a moderating relationship among autism, grit, and internalizing and externalizing symptoms, the results do show that

individuals who possess grit and resilience experience fewer externalizing symptoms. These results provide an additional perspective to existing literature and offer ideas for further research to explore the relationship between grit and resilience and autism spectrum disorder.

### **Future Directions for Research**

Future research should focus on expanding a sample size to better represent each level of autism. Using a larger group of participants can help generalizability to the full autism community and protect against outliers. Additionally, future research should expand beyond the caregiver perspective. Grit scales can be completed by both self-report and teacher-report. Collecting multiple scales for individuals would allow for a more robust comprehension of their capabilities. Lastly, future research should focus on how grit may present differently across developmental disabilities within and outside of autism spectrum disorder. In order to be effective from a therapeutic or academic standpoint, grit must be examined across different populations and neurodivergences.

### **Broad Implications to Clinical Psychology**

Research surrounding grit has been predominately focused on academic outcome and achievement (Duckworth et al., 2007). Some research has applied grit beyond academics to view its influence on psychological factors. Grit positively predicts greater prosocial behaviors and overall well-being (Datu, 2018; Lan, 2019). Previous research also supports the notion that grit serves as a protective factor against the negative impacts of internalizing and externalizing problems (Lan & Radin, 2020). Clinical research and practice could benefit from viewing grit as a protective factor to mood and behavioral disorders, rather than solely using grit to predict academic achievement. The results of the current study offer some insights into the capabilities of grit and resilience within a population of individuals diagnosed with autism spectrum disorder.

The focus on abilities and grit instead of a focus on deficits may lead to more positive outcomes and overall well-being for individuals.

### **Implication for Rural Psychology**

The current study holds an interesting perspective for rural psychology. Participants were fairly evenly distributed between rural and non-rural populations. As rurality did not have an effect on the overall results within the group, this introduces possibilities of more opportunities within rural populations. It can be viewed from a positive standpoint that living in a rural was not related to level of grit or internalizing and externalizing symptoms. These results open a possibility for further research to investigate rurality's relationship with grit and if grit is a protective factor to the outcomes of disparities in rural areas. The current study also showed no difference in level of severity of autism between rural and non-rural individuals. These results support the notion that current statistics pointing to higher levels of autism severity in rural areas may be reflective of lack of diagnostic resources (Antezana et al., 2017) rather than actual symptomatic presentation.

### **Limitations**

There are limitations to acknowledge that may impact the current study's results and their meaning. The current study used one private practice to collect diagnostic and symptomatic information on individuals. This method impacted sample size, general geographic location of participants, and may have influenced diagnostic decisions. A larger sample size is necessary to create more generalizable results. A larger and more diverse sample would also provide the opportunity to examine possible differences related to autism severity level, allowing a better comparison between groups. Using one private practice also limits the research to their preferred methods of measures and assessments, such as only having access to the CBCL instead of other

behavioral screeners to measure for internalizing and externalizing problems and the sole use of the ADOS-2 instead of other available assessments to measure for severity of autism. Finally, measures of grit, internalizing difficulties, and externalizing behaviors were all completed by the caregiver. Having multiple raters (e.g., other caregivers, teachers) would provide more information about the children's behaviors and capabilities in multiple settings.

### **Conclusion**

Grit and resilience have a positive relationship with overall well-being and a decrease in mental health concerns. It is important to explore how these traits may influence individuals with developmental disabilities, specifically autism spectrum disorder, as a way to shift the focus from solely examining deficits to including individual strengths. The current study found that individuals with high levels of grit and resilience, reported by caregivers, also rated fewer internalizing and externalizing concerns. There were also significant differences between autism level severity and externalizing concerns. However, not all findings detected significance. Grit and resilience did not moderate the relationship between an individual's level of autism and internalizing and externalizing problems. There also did not appear to be a significant relationship between autism spectrum disorder severity level and internalizing concerns. The current study does demonstrate the need for further research exploring protective factors for those with autism, as well as continuing to explore the influence of grit outside of academic settings.

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## APPENDIX A

### **Informed Consent**

#### **INFORMED CONSENT FOR SERVICES: MINOR**

##### WELCOME

At the clinic, we employ a highly trained team of individuals with training and experience in a wide range of behavioral child and adolescent mental-health issues. Specialized behavioral health services are available for children, adolescents, and their families.

##### CONFIDENTIALITY

We take seriously our responsibility to hold in confidence what you share with us. In general, communications between a patient and mental-health practitioner are protected by law. We also maintain records of all patients and professional contacts, which are restricted to internal use, and their confidentiality is strictly safeguarded at all times. Written or verbal information regarding your file at our clinic is released only with your expressed written permission and only to specific and clearly identified individuals. However, there are some exceptions listed below:

- 1) In some legal proceedings, a judge may order our testimony if she/he determines the issues demand it.
- 2) There are some situations in which we are legally obligated to take action to protect others from harm, even if some information must be revealed about a patient. By law, we are required to report any suspicions of child abuse, elderly abuse, or abuse of other protected populations. Also, in cases of danger or imminent risk of harm to a patient or others, we may be required to take protective actions, including notifying potential victims, contacting family members who can provide protection, or seeking hospitalization. These situations occur rarely, and we will make every effort to discuss the matter with you before disclosing information.

At times, we may find it helpful to consult with other professionals, including other professionals at the clinic not directly involved in your care, about your case. During these consultations, every effort will be made to avoid revealing any identifying information about the patient or family. The consultant(s) are also bound to keep all information confidential. In general, these consultations will not be discussed with you unless we believe it is central to your treatment.

##### TRAINING, SUPERVISION, & RESEARCH

The clinic is a training/research facility. Psychology and counseling students and postdoctoral residents may observe sessions and administer services (under the supervision of a licensed professional) as part of their training, and we may use your child's de-identified data in research projects. You may, at any time, request students not observe sessions or help with assessments or treatment. You may also request your child's de-identified data not be used in any research projects.

##### ASSESSMENT APPROACH

During the initial session, we will talk about why you are here and about your current concerns. We will then select a battery of measures that best answers your concerns. The assessment plan will be presented to you for approval before moving forward. Testing will be completed across multiple sessions if needed for you and your family. Once all parent and teacher forms have been

returned and testing is completed, you will receive a written report within 30 days. We will not release the full report if your account balance has not been paid.

### TREATMENT APPROACH

We use an active, practical, brief, and research-supported approach to treatment. We will work directly with you on current problems and concerns and make accommodations to help improve the patient's and/or family's functioning. These accommodations may require parents/guardians to make changes in their own interactions with their child and/or other family members, both in the clinic and at home. In some cases, especially with very young children, this approach to treatment may involve physical interactions with the patient, including, but not limited to, physical guidance and physical enforcement of instructions or commands. If at any time before or during treatment you are unclear about these methods, please discuss your concerns with us. During the initial sessions, we will talk about why you are here and about your current concerns. A general treatment plan will be developed with your input and reviewed within the first one or two sessions. Additional sessions are usually scheduled weekly or every other week, and each scheduled session typically lasts 50 minutes. The number of additional sessions depends on the nature and severity of the issue, but 10 to 15 visits is common.

### MINORS

Both therapy and assessment sometimes involve individual work with minors. Treatment is most effective when a trusting relationship exists between the psychologist and patient. One goal of treatment is to provide a stronger relationship between children and their parents; however, it is often necessary for children/teens to develop a "zone of privacy" whereby they feel free to discuss personal matters with greater freedom. This is particularly true for teens, who are naturally developing a greater sense of independence and autonomy. By signing this agreement, you waive your right of access to your child's verbatim/raw treatment records. We will provide you with general information about treatment status, and you will be informed if there is ever a suspicion your child is in any danger. We can also provide a written treatment summary for a fee.

### TELE-MENTAL HEALTH

In some cases, we do allow sessions via tele-mental health. We currently use the platform doxy.me, a free and HIPAA-compliant software. You must have internet connection or wireless data to use this platform but do not need to download any applications.

### FEES

We bill a set amount to all insurances, but each insurance sets their own rates that are lower than the billed amount. How much you will owe depends on what insurance coverage you have, and we are happy to check your rates for you prior to your first session. The fees below are subject to change; for current rates, please call the main office. If you do not want to use your insurance for services, please ask us about self-pay discounts.

Assessment fees billed to insurance are as follows: \$300 for an intake session and \$250 an hour for each hour of assessment and report writing. Feedback sessions are also billed at \$250 per hour. After the initial intake session, we will put together an assessment plan (with total cost) for your approval based on your individual insurance plan.

Therapy fees billed to insurance are as follows: \$300 for an intake session, which includes the clinic visit, records review, scoring and interpretation of behavior ratings, and initial treatment planning, and \$250 for a 53 to 60-minute therapy session. If you do not need the full therapy session, fees are \$200 per session for a 38 to 52-minute session and \$140 for a 16 to 37-minute session. The patient (or the patient's parent, legal guardian, or authorized representative) retains responsibility for payment of all fees, whether or not they are covered by insurance. Collection of co-pays and deductibles is required by law for all providers accepting insurance reimbursement, so unpaid balances will be sent to collections. It is expected that you will pay all fees at the time of your office visit. If you have questions regarding fee payment, please contact us prior to your scheduled appointment.

### SECONDARY INSURANCE REIMBURSEMENT

If you have secondary insurance, you must provide this information prior to your first appointment. If you do not, we will only be able to bill your primary insurance, and you will be responsible for any copays charged by your primary insurance.

### CANCELLATION POLICY

You are responsible for canceling your appointment (or your child's appointment) with AT LEAST a 24 hour notice. Cancelled sessions without at least a 24 hour notice will result in a cancellation fee of \$50. Your appointment is reserved for you, and it can be filled with a patient from the wait list only if we have time to fill the appointment.

### IN CASE OF AN EMERGENCY

The clinic is considered to be an outpatient facility, and we are set up to accommodate individuals who are reasonably safe and resourceful. We do not carry cell phones/pagers nor are we available at all times. If at any time this does not feel like sufficient support, please inform me and we can discuss additional resources or transfer your case to a provider or clinic with 24-hour availability. Generally, we will return phone calls within two business days. If you have a mental health emergency, we encourage you not to wait for a call back, but to call 9-1-1 or go to the nearest emergency room.

### YOUR SATISFACTION IS IMPORTANT

Please feel free to raise any concerns about treatment with your provider at any time. An open, honest relationship with your mental-health provider is crucial to the successful resolution of your concerns.

### STATEMENT OF UNDERSTANDING

**I have read and understand all of the above information and agree to the provisions as described. I have had an opportunity to ask questions about the terms of this agreement. I also attest that I was given a copy of the Notice of Privacy Practices to review. I understand I can request copies of any documents I have read or signed at any time.**

Name of Child: \_\_\_\_\_ Child's Date of Birth: \_\_\_\_\_  
 Your Name: \_\_\_\_\_ Your Relationship to the Child: \_\_\_\_\_  
 Your Signature: \_\_\_\_\_ Today's Date: \_\_\_\_\_



CUSTODY STATEMENT: Please check one of the following:

I am the only legal parent/guardian

I share legal decision making with another parent/guardian

**I attest I have checked the correct box above and have notified all parties who share legal decision making.**

Your Signature: \_\_\_\_\_ Today's Date: \_\_\_\_\_

EMAIL/TEXT CONSENT

**I consent to allow my provider to email/text me and other individuals for whom I have signed a release using either the Release of Information form or the Authorization for Release/Exchange of Information form. I understand that emails/texts are not always secure and some of my protected health information may be included in texts/emails.**

Your Signature: \_\_\_\_\_ Today's Date: \_\_\_\_\_

## APPENDIX B

**Intake Information (Minor)**  
**CONFIDENTIAL**

Child's Full Legal Name: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

What name does your child like to be called? \_\_\_\_\_

Your Name: \_\_\_\_\_ Your Relationship to Child: \_\_\_\_\_

Do you currently have legal guardianship of this child? (*check one*) ☐ yes ☐ noHome Address: \_\_\_\_\_  
(Street Address) (City) (State) (Zip Code)

Your Phone Number: \_\_\_\_\_ Your Email Address: \_\_\_\_\_

How do you prefer to receive appointment reminders? (*choose one*) email phone call*\*\*\*Unless otherwise specified, we will use email for appointment reminders.\*\*\**

Who referred you to this clinic? \_\_\_\_\_

What is your primary reason for coming into the clinic?

\_\_\_\_\_  
\_\_\_\_\_**Child Background/Family Dynamics:**Child's Age: \_\_\_\_\_ Sex (*check one*): ☐ male ☐ female ☐ intersex Gender: \_\_\_\_\_

Child's Grade: \_\_\_\_\_ School: \_\_\_\_\_

Child's Medication(s), if any: \_\_\_\_\_

Besides you, please list any other parents/guardians with **legal access to your child's records**:

Name: \_\_\_\_\_ Relationship to Child: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email: \_\_\_\_\_

Other individuals **living in the home** (siblings, grandparents, etc.):NameAgeGenderRelationship to Patient