

The Relationship Among Teacher and Student Gender and the Referral of Students to
Intervention Processes that could Potentially Lead to Special Education Evaluation for
Behavioral Characteristics of Emotional Disability and Attention Deficit Hyperactivity Disorder

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Abstract

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). Male students are disproportionately represented in special education (Bal et al., 2014). Disproportionality in special education is problematic (Chesmore et al., 2016). Research indicates that perceptions of student behavior differ by teacher gender and their years of teaching experience (Alter et al., 2013). Examining the relationship between teacher gender, student gender, and the referral of male students to special education evaluation may assist curriculum development for teacher preparation programs (Sciuchetti, 2017).

This study included 31 survey responses from as many as 11 middle schools located centrally in the Commonwealth of Virginia. Data collected, included teacher gender, years of experience, perception of student behavior, and student gender. Relationships between teacher gender, student gender and referral of males to special education were identified using descriptive statistics.

The study found that male students were more likely to be referred for intervention processes for behaviors that could lead to special education. The study found that teachers with

10 years of experience or more were more likely to refer students for behaviors to intervention processes that could potentially lead to special education evaluation. It also found that nearly all teachers considered behaviors when referring students to interventions that could potentially lead to special education evaluation. Additionally, more than half of survey participants identified specific ADHD and ED behaviors as problematic and the reason for the referral for interventions that could lead to special education. Finally, certain ADHD behaviors were only selected only by female teachers.

Findings suggest a need for social emotional learning to be imbedded in core content instruction. School divisions should train teachers to account for gender differences when designing instruction. School divisions should emphasize training for teachers of the referrals process while making the process uniform. Finally, school divisions should train teachers in interventions for commonly occurring problem behaviors as well as instructional strategies designed to prevent misbehavior.

The Relationship Among Teacher and Student Gender and the Referral of Students to Intervention Processes that could Potentially Lead to Special Education Evaluation for Behavioral Characteristics of Emotional Disability and Attention Deficit Hyperactivity Disorder

General Abstract

Male Students are almost twice as likely to be identified for special education services than female students (Bal et al., 2014). This is problematic as students with disabilities were often less likely to have high expectations in the educational setting (Hibel et al. 2010). Students with disabilities were also less likely to graduate high school, attend college, and were more likely to be incarcerated (Chesmore et al., 2016). Current research indicated that teacher perceptions of student behavior differ by teacher and student gender (Alter et al., 2013). Teacher perceptions of behavior played a central role in the referral of students to be evaluated for special education services related to behavioral needs (Raines et al., 2012).

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). Relationships between variables were examined using an ex post facto survey sent out to 460 middle school teachers across 11 schools. Survey items captured data from teachers who have referred students to interventions for ED and ADHD behavioral characteristics, potentially leading to special education evaluation. Data included teacher gender, years of experience, perception of the severity of student behavior, and the gender of the student referred. Relationships between variables were analyzed using descriptive statistics.

Findings suggest male students were more likely to be referred for intervention processes for behaviors which could lead to special education evaluation for ED and ADHD behaviors. Also, that male and female teachers with 10 years of experience or more were more likely to refer students to intervention processes that could lead to special education evaluation behaviors. Nearly all teachers considered behaviors when referring students to interventions that could potentially lead to special education evaluation. More than half of survey participants identified specific ADHD and ED behaviors as problematic and the reason for the referral for interventions that could potentially lead to special education. Finally, certain behaviors were selected only by females when it pertained to ADHD behaviors.

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Chapter One

Context of the Study

Male students in elementary, middle, and high school were disproportionately represented in special education (Bal et al., 2014). Disproportionality could be defined as a circumstance in which one group of people (culturally, racially, socioeconomically, or gender) was represented in an environment at a higher rate than its representation in the total population (Sciuchetti, 2017). Disproportional rates of certain demographic groups found eligible for special education have been determined problematic (Hibel et al., 2010; Kearney, 2011), as students with disabilities were often less likely to have high expectations placed on them by teachers in the educational setting (Hibel et al., 2010). Disproportional rates of certain demographic groups were also considered to be problematic because students with disabilities were less likely to graduate from high school, or attend college, and were more likely to be incarcerated (Kearney, 2011).

Federal mandates attempted to address systemic factors that play a part in the existence of disproportionality in education (Bal et al., 2014). The No Child Left Behind Act of 2001 (NCLB), Individuals with Disabilities Education Act (IDEA) of 2004, and Every Student Succeeds Act (ESSA) of 2015 put policies in place designed to prevent disproportionality in special education. While each piece of legislation addressed disproportionality at a federal level, they approached different aspects.

The 1997 and 2004 re-authorizations of IDEA required Local Education Agencies (LEA) to report special education data on the race and ethnicity of students receiving services, race, and ethnicity of students within disability categories, and race and ethnicity within the continuum of

special education placements. This was done to identify disproportionality within disability categories, and the location special education services were received (Bal et al., 2014). Additionally, discipline data was collected regarding the suspension or expulsion of students with disabilities (Gardner et al., 2014). Further, IDEA required LEAs to report their findings to the federal government and address any possible policies, practices, or procedures contributing to the identified disproportionality. As an indication of priority, the federal government allocated 15% of federal special education funding to support this requirement (Bal et al., 2014). While LEAs were held accountable for the decisions made regarding special education at the state level, their practices for finding students eligible for special education were impacted by legislation; states provided LEAs regulations and guidance on staying compliant with federal legislation (Cartledge et al., 2016).

The federal government also allocated funds through IDEA of 2004 to support the use of Response to Intervention (RTI) practices before finding a child eligible for special education (Cartledge et al., 2016). According to the National Center for Response to Intervention [NCRTI] (2010), the RTI approach attempted to meet all students' behavioral and academic needs before the referral to special education. This was done through the implementation evidence-based practices that can include a multi-tiered structure of interventions in the general education setting (Mugrove, 2011). In an RTI approach, students received evidence-based instruction and behavioral interventions in the general education setting and performance was monitored (Mugrove, 2011). Students not responding to evidence-based practices in specified areas of deficit, then received more intensive interventions in the small group setting (Cartledge et al., 2016). Students who exhibit no response to these interventions received more intensive support in the individual setting (Cartledge et al., 2016) Pending the progress made, students may be

referred to determine whether they were eligible for special education services (Cartledge et al., 2016).

Further, the No Child Left Behind Act of 2001 attempted to address disproportionality by promising a quality education to every child (U.S. Department of Education, 2003). Under NCLB, schools were assessed on their ability to demonstrate success using standardized assessments used to determine annual yearly progress (AYP). In addition to meeting AYP, schools were required to submit school scores disaggregated by race and socioeconomic status so that all students could be monitored. Despite federal mandates, the disproportionality of certain demographic groups existed in the overall population that received special education services. These disproportionalities were emphasized through disciplinary exclusionary practices of students with disabilities (Sciuchetti, 2017). In spite of the federal government's efforts, the continued existence of disproportionality provided more reason to recognize the need for this topic to be explored (Center for Learning Disabilities, 2020).

Every Student Succeeds Act of 2015 addressed the disproportionality in the quality of education low-income and minority students received. This was achieved by ensuring that low-income and minority students were not served at a higher rate by inexperienced or out-of-field educators compared to other student groups. ESSA required state education agencies (SEA) and local education agencies (LEA) to identify and publicly report their teacher qualification data. Additionally, SEAs and LEAs must submit a plan to address the high number of out-of-field educators serving a large number of low income and minority students (U.S. Department of Education, 2020). While this legislation addressed disproportionality within race and socioeconomic status, ESSA was relevant to special education as students with disabilities fall

into both categories (Hibel et al., 2010; Oswald, 1999). Despite the federal government's efforts, disproportionality remained to exist (Sciuchetti, 2017).

Statement of the Problem

Studies identified that there were a disproportionate number of males in special education (Anyon, 2009; Cartledge et al., 2016; Ford, 2012; Gardner et al., 2014; Hibel et al., 2010; Woodson & Harris, 2018). Disproportional rates of special education were problematic because placement in special education was associated with poor academic outcomes and negative, well-being once students entered adulthood (Chesmore et al., 2016; Kearney, 2011). Students with disabilities were often less likely to have high expectations placed on them in the educational setting (Hibel et al., 2010). Additionally, students with disabilities were less likely to graduate from high school and attend college, and more likely to be incarcerated, experience depression, and abuse substances (Chesmore et al., 2016). Federal policy and mandates put in place to address disproportionality were a recognition that disproportionality in special education were problematic and systemic factors that played a part in its existence (Bal et al., 2014). Thus, disproportionality warranted further investigation.

Purpose

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). Many of the studies conducted in the past ten years primarily focused on race disproportionality in special education (Cartledge et al., 2016; Ford, 2012; Gardner et al., 2014). However, Woods & Harris (2018) looked at teacher demographic variables that had a predictive relationship to the referral of males to special

education. Literature that specifically looked at male students was limited; however, it included other demographic data such as the teacher's race, the race of the student, years of teaching experience, and attitude towards inclusion (Woodson & Harris, 2018). Further studies on this topic might provide insight on to the relationship between teacher and student demographic variables and the referral of males to special education.

Research Questions

The research questions of the study were as follows:

1. What is the relationship between student and teacher gender, disaggregating for teacher experience, when referring students for ADHD/ED behaviors to intervention processes that can potentially lead to special education evaluation?
2. What is the relationship between student and teacher gender, disaggregating for teacher experience, when students are referred for intervention processes that can potentially lead to special education evaluation based upon varying descriptors of ADHD/ED behaviors exhibited in the classroom?

Overview of the Study

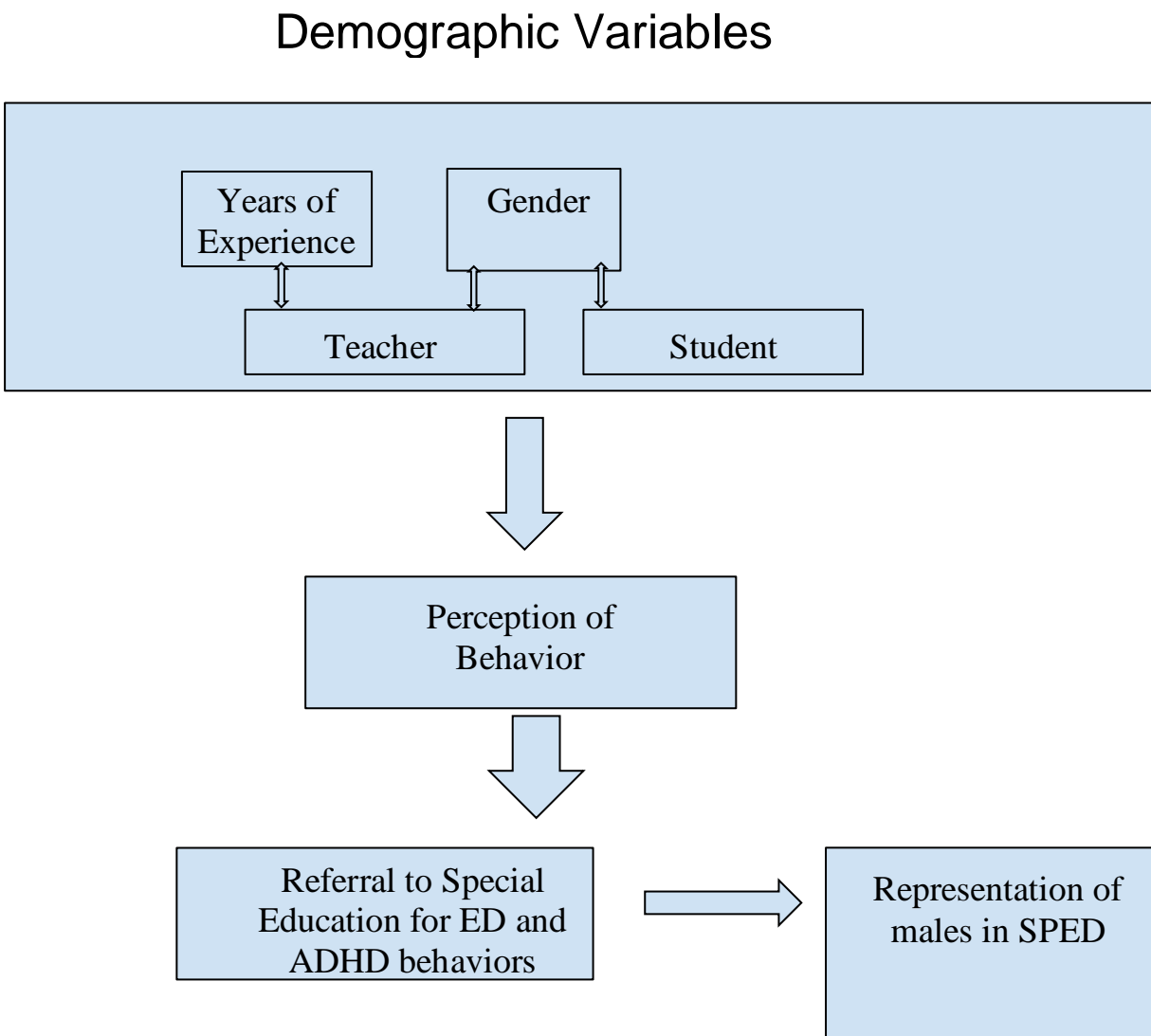
To investigate potential relationships among teacher and student gender and student referral to special education, the researcher administered a survey to collect information from teachers who had referred students to any intervention process that potentially led to special education evaluation. Data collected on teacher gender, years of experience, student gender, teacher perceptions of behavior, and Emotional Disability (ED) and Other Health Impairment (OHI) behavioral descriptors was collected through a survey sent out to 460 middle school teachers serving 11 middle schools in a county located in the central part of the Commonwealth of Virginia. Descriptive statistics were used to identify relationships among variables.

Conceptual Framework

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). The conceptual model described in Figure 1 highlighted the potential relationship between variables that may lead to referral of males to special education. According to Ivey (2015), conceptual frameworks were developed so that researchers could identify concepts, convey ideas, and the connections between them that they wanted others to understand.

Figure 1

Conceptual Framework Illustrating Teacher and Student Gender and their Relationship to Disproportionality of Males in Special Education



The conceptual framework (Figure 1) outlined the hypothesis that there might be a connection between teacher gender, years of teaching experience, and the referral of students to

special education based on how teachers perceive student behavior. Figure 1 showed that teacher years of experience, teacher gender, and student gender influence perception of student behavior might influence male student referrals to special education evaluations. The model suggested that the perception of student behavior might influenced teacher referral of students to special education for ED and ADHD behaviors, which in turn, impacted the representation males in special education.

Definition of Terms

- African American- A person of African descent belonging to a black race. (National Center for Education Statistics, 2021).
- Disproportionality- A circumstance in which one group of people (culturally, racially, socioeconomically, or gender) were represented in an environment at a higher rate than its representation in the total population (Sciuchetti, 2017).
- Economically Disadvantaged – “A student [was] economically disadvantaged if the student [was] eligible for Free [and] Reduced Meals, [received TANF], or [was] eligible for Medicaid” (Virginia Department of Education, n.d, Glossary of Education Terms, E).
- Temporary Assistance for Needy Families (TANF)- is an act that “helps needy families support themselves financially. States, territories, and tribes receiving HHS block grants for TANF cannot discriminate on the basis of race, color, national origin, disability, age, or sex” (HHS.gov, 2021. Civil Rights section).
- Emotional Disability – “a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance.” These characteristics include an inability to learn which

cannot be explained by intellectual, sensory, or health factors; an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; inappropriate types of behavior or feelings under normal circumstances; a general pervasive mood of unhappiness or depression; or a tendency to develop physical symptoms or fears associated with personal or school problems (VDOE, 2021).

- Every Student Succeeds Act 2015 (ESSA) - Every Student Succeeds Act (ESSA) was signed by President Obama on December 10, 2015. This bipartisan measure reauthorized the 50-year-old Elementary and Secondary Education Act (ESEA), the nation’s national education law and longstanding commitment to equal opportunity for all students (US Department of Education, 2021).
- Hispanic – “A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race” (The Integrated Postsecondary Education Data System, n.d, definitions for new race and ethnicity categories).
- Inclusion – “Students with disabilities were [educated] to the greatest extent possible in the general education classroom” with accommodations and adaptations provided (Swain et al., 2012).
- Individuals with Disabilities Education Act (IDEA) – “a federal statute that provides funds and sets standards for the provision of early intervention, education, and related services for children with disabilities. Originally instituted in 1990, IDEA was reauthorized in 1997 and amended many times, most recently in 2004. Although IDEA is considered a civil rights law, states are not required to participate” (IDEA, 1997 and 2004, 20 U.S.C. § 1400 (d) (3)).

- Race – “used to describe groups to which individuals belong, identify with, or belong in the eyes of the community” (The Integrated Postsecondary Education Data System, n.d, Definitions for New Race and Ethnicity Categories section).
- Individualized Education Program – A plan for learning that is developed for students with disabilities by the student's parents, certain school personnel (including the student’s teachers), and other interested parties. The plan was tailored to the individual student's unique needs and abilities and establishes annual, measurable goals for the student (Virginia Department of Education, n.d.)
- Intellectual Disability - significantly sub-average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child’s educational performance (IDEA, 1997, 34CFR 300.7 (c)(6)). This disability was formerly known as Mental Retardation (MR).
- Local Education Agency (LEA) - a public board of education or other public authority legally constituted within a State for either administrative control or direction of, or to perform a service function for, public elementary schools or secondary schools in a city, county, township, school district, or other political subdivision of a State, or for a combination of school districts or counties that is recognized in a State as an administrative agency for its public elementary schools or secondary schools (IDEA, 1997, 34CFR 300.28 (a)).
- Other Health Impairment (OHI) - “Other health impairment means having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that [was] due to chronic or acute health problems such as asthma, attention deficit disorder or

attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome; and adversely affects a child's educational performance" (IDEA, 1997, 300.8 (c)(9) section).

- No Child Left Behind Act 2001 (NCLB) – Federal law that held schools accountable for student performance, and placed importance of research based instructional approaches (Archived: Introduction: No Child Left Behind, 2005).
- Socioeconomic Status – Social standing assessed by wealth, education, and employment. (American Psychological Association, 2021).
- Specific Learning Disability- a psychological disorder that has an impact in the learning in the areas of reading, writing, math, auditory processing, verbal communication, and cognitive processes (IDEA, 1997, 34CFR 300 (a)(30)).
- State Education Agency (SEA) – “The State board of education or other agency or officer primarily responsible for the State supervision of public elementary schools and secondary schools, or, if there is no such officer or agency, an officer or agency designated by the Governor or by State law” (IDEA, 1997, 300.41 (a) section).

Limitations

Rudestam and Newton (2007) described limitations as constraints within a study that the researcher had no control over. Limitations of the study included the bias associated with retrospective surveys (Blackstone, 2012), and the bias associated with social desirability. The descriptors used for the study were limited as only the special education criteria worksheets for ADHD and ED were abundant with behavioral descriptions. Additionally, not all students were referred to special education for behavioral reasons, also limiting the sample size. Due to the sample selection, the study might not be generalizable to areas outside of central Virginia.

Delimitations

Rudestam and Newton (2007) described delimitations as limitations on the design of the research that are imposed purposefully. The delimitations of this study included narrowing the focus to the referral of students to special education by gender and excluding other variables such as teacher race, student race, and attitude towards inclusion. Additionally, teacher and student data were purposely collected from middle schools. The selection of middle schools was made following the review of literature, which identified differences in academic interest, socialization, perceptions, and behaviors among middle school students (Buchmann et al., 2008; Bugler et al., 2015; Cleary & Chen, 2009; Kelley & Decker, 2009; Wang & Dishion, 2012).

Organization of the Study

This study consisted of five chapters. Chapter One included a justification for the study and its organization. Chapter Two was a review of the literature surrounding disproportionality of student gender representation in special education. Chapter Three provided an overview of the methodology, research questions, data collection methods, and the data analysis process. Chapter Four included the data and results of its analysis. Chapter Five established the findings as well as a discussion on those findings. In addition, implications, and recommendations for future research were discussed.

Chapter Two

The Literature Review

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). The literature review addressed disproportionality in the areas of race, disability label, socio-economic status, gender, and explored possible causes. The literature review included areas of disproportionality in special education that include race, and gender as well as their impact in special education identification. Additionally, research on middle school student characteristics by gender on academics and behavior was explored. This review examined studies, study findings focusing on teacher demographic data and establishing possible connections between disproportionality in special education, student gender, and the demographics of the teaching force.

Historical Background

Male students were disproportionately represented in special education (Bal et al., 2014). Disproportionality could be defined as a circumstance in which one group of people (culturally, racially, socioeconomically, or gender) were represented in an environment at a higher rate than its representation in the total population (Sciuchetti, 2017). In the United States, the question of disproportionality in education was first addressed by the Supreme Court of the United States in the wake of the landmark case *Brown vs. the Board of Education* of 1954. This landmark case determined that separate was not equal when it came to the quality of education received by students of different races (Gardner et al. 2014). However, Dunn (1968) was the first case to identify that male students, specifically African American male students were overrepresented

in special education. Disproportional rates of certain demographic groups found eligible for special education had since been determined to be problematic (Hibel et al., 2010; Kearney, 2011). Students with disabilities were often less likely to have high expectations placed upon them in the educational setting (Hibel et al., 2010). Additionally, students with disabilities were less likely to graduate from high school, or attend college, and are more likely to be incarcerated (Kearney, 2011).

Further evidence of the importance of this issue could be drawn from legislation. These legislations included the Individuals with Disabilities Education Act (IDEA) of 2004, No Child Left Behind Act of 2001 (NCLB), and Every Student Succeeds Act (ESSA) of 2015. Each legislation put policies in place designed to prevent over-identification for special education services. The 1997 and 2004 reauthorizations of IDEA required that school districts not only report the race and ethnicity of students receiving special education, but also required Local Education Agencies (LEA) to collect data on disproportionality within disability categories. This included behavior disorder, intellectual disabilities, and specific learning disabilities data, the location where services were provided (self-contained classroom, collaborative classroom), and disciplinary actions taken to discipline students with disabilities to include suspension or expulsion (Gardner et al., 2014). Further, IDEA required LEAs to report their findings to the department of education and address any possible policies, practices, or procedures that contribute to the identified disproportionality. As an indication of priority, the federal government allocated 15% of federal special education funding to support this requirement (Bal et al., 2014).

The federal government provided funds for Response to Intervention (RTI) (Cartledge et al., 2016). According to the National Center for Response to Intervention [NCRTI] (2010),

the RTI approach centered around meeting all students' behavioral and academic needs prior to the referral to special education. This approach stipulated that all students' behavioral and academic needs were met through evidence-based approaches in a structured system of interventions in the general education setting. In this approach, all students received evidence-based instruction and behavioral interventions (Questions, 2009). The progress of all students was systematically monitored through various data collection methods. Students not responding to evidence-based practices then received more intensive interventions deemed to be evidence-based (Questions, 2009). Students that continued to exhibit no response to these interventions were identified and administered more individualized support (Questions, 2009). Pending the progress made, students might then be referred to special education evaluation to determine whether there was a disability that impacted their access to education (Questions, 2009).

The No Child Left Behind Act of 2001 attempted to address disproportionality in special education by providing a quality education to every child (U.S. Department of Education, 2003). Under NCLB, schools were assessed on their ability to demonstrate success using standardized assessments, which were used to determine annual yearly progress (AYP) (U.S. Department of Education, 2003). In addition to meeting AYP, schools were also required to submit school scores disaggregated by race and socioeconomic status so that all students could be monitored (U.S. Department of Education, 2003). Despite federal mandates, disproportionality in special education existed with students who received services (Center for Learning Disabilities, 2020). This disproportionality was more prevalent in specific disability categories, in more restrictive environments, and within exclusionary practices related to discipline (Sciuchetti, 2017). Despite attempts by the federal government to address disproportionality, disproportionalities continued to exist (Center for Learning Disabilities, 2020).

The Every Student Succeeds Act of 2015 addressed disproportionality in the number of low-income and minority students served by inexperienced or out-of-field educators (U.S. Department of Education, 2020). ESSA addressed this concern by requiring SEAs and LEAs to identify and publicly report their teacher qualification data. Along with this report, SEAs and LEAs must submit a plan to address the disproportionality in the number of low-income and minority students served by inexperienced or out-of-field educators (U.S. Department of Education, 2020). While this legislation addressed disproportionality regarding race and socioeconomic status, it was still relevant to the disproportionality in special education referrals as students with disabilities fall into both categories (Hibel et al., 2010; Oswald, 1999). Despite efforts of the federal government, disproportionalities continued to exist in special education (Sciuchetti, 2017).

Search Methods

The search process was conducted through the Virginia Tech Research Data base and Google Scholar. Search methods evolved as the familiarity of available databases increased and relevant terminology was identified. Initial searches focused on using the terms: *Over identification of males in special education, over identification for special education services, over identification of African American males in special education*. Initially, Google Scholar was utilized to research key terms to search for articles between the years of January 2009- January 2021. Selected articles were located on the Virginia Tech Library Database, EBSCOhost, and ProQuest.

As literature was reviewed, the term disproportional became more prevalent. This prompted a change in the terms used. Initial results of searching disproportionality in special education primarily identified articles regarding race and disproportionality in special education. The

search criteria were refined to include disproportionality of gender in special education. About 300 articles, websites, books, and dissertations were reviewed. The research was separated based relevance to disproportionality. In all, 31 sources were utilized to develop this literature review. Mendeley was used to collect, store, annotate articles and organize them into folders by relevance.

Disproportionality and Race

Disproportional representation of African American male students existed in special education (Anyon, 2009; Cartledge et al., 2016; Ford, 2012; Gardner et al., 2014; Hibel et al., 2010; Woodson & Harris, 2018). According to Woodson & Harris (2018), “African American/Black students were 2.8 times more likely to be referred for special education than white students” (p. 36). Hibel et al. (2010) “found that students of minority race/ethnicity are equally or less likely than non-Hispanic whites to be placed into special education in general” (p. 326). Bal et al. (2014) found that “among students identified with disabilities, risk was highest for those who were African American, American Indian, receiving FRL, and male” (p. 8). Further, Bal et al. (2014) found that between the years 2006 and 2010, the number of African Americans identified for special education were more than doubled that of white students while Native Americans were two to three times as likely to be identified. Disproportionality associated with race is not only seen in the sheer number of students identified but also within identification categories (Bal et al., 2014).

American Indian students were disproportionately represented in the identification for high incidence disability categories such as emotional disabilities (ED) and “were 2 to 3 times more likely to receive special education services than their White peers”(Bal et al., 2014, p.8). Between 2006 and 2010, that risk of identification for special education services decreased to

approximately 3.19 times greater risk; however, the likelihood of American Indian students identified for special education services under the label of intellectual disability increased from 1.75 to 3.75 times during the same time period (Bal et al., 2014). Hibel et al. (2010) conducted a statistical analysis using a two-level logistical regression model to predict the likelihood of receiving special education services. When looking at gender, the analysis generated significant findings that identified that male students as more likely than female students to be identified for special education services. In addition, Hibel et al. (2010) identified that African American students are more likely to be identified for special education services than white students and found that Asian students were significantly less likely to be identified than any other group.

Not only was the race of a child determined to be a predictor for identification for special education services, but the race of the teacher appeared to be a statistically significant predictor of the likelihood he or she would refer a child for administrative discipline (Alter et al., 2013; Bradshaw et al., 2010; Vincent et al., 2012). Bryan et al. (2012) found that students were often identified for interventions due to behavioral difficulties. Furthermore, these referrals varied by gender. Bal et al. (2014) concurred with Bryan et al. (2012) and highlighted that gender was a basis of referrals as well as socioeconomic status, and academic achievement. Further, student academic achievement was a predictor of referrals to special education services (Hibel et al., 2010). Alter et al. (2013) utilized teacher perception as a predictor of disproportionality in referrals to special education services. Moreover, Woodson and Harris (2018) considered teacher gender as a contributor to that disproportionality.

Disproportionality and Disability Label

Disproportional representation in special education was not limited to identification for services but included disability labels (Bal et al., 2014). Bal et al. (2014) found that male

students were almost twice as likely to be identified for special education services compared to female students. Furthermore, male students were more likely to be identified for special education services under low incidence categories such as multiple disabilities, autism, traumatic brain injury, hearing, and visual impairments (Bal et al., 2014). According to Harry and Klingner (2006, 2014), African American males were found to be identified, placed, and labeled at a disproportional rate. African American students were often identified with high incidence disabilities such as emotional disabilities (ED), specific learning disabilities (SLD), and mild intellectual disabilities. Snyder et al. (2016) found that the same was true regarding the placement to a more restrictive environment and being subject to exclusionary practices. These findings supported research that identified behavior as a reason for assistance in school (Bryan et al., 2012). Additionally, it supports findings that behavior is a reason for referral to special education (Woodson & Harris, 2018).

Disproportionality and Socio-Economic Status

Hibel et al. (2010) determined that when controlling for socioeconomic status, variations caused by race and/or ethnicity were prevalent. The researchers concluded that students raised in families who are considered to come from a higher SES had a significantly lower chance of being placed into special education. The study statistically controlled for socioeconomic status that was perceived as an attribute of students' race or ethnic background (Hibel et al., 2010). Furthermore, Hibell et al. (2010) stated that:

“Controlling for a family’s SES results in (1) Hispanics being significantly less likely than non-Hispanic whites to be placed into special education and (2) the positive African American coefficient becoming statistically nonsignificant. The male and Asian effects are essentially unchanged” (p. 323).

In other words, when SES was used as a covariate, male students continue to be more likely than female students to be placed in special education programs.

A collaborative mixed-methods design study was conducted in Flen School District located in Wisconsin. Flen School District contains a population of 426,000 with 85% of that population residing in cities. “The district encompasses 32 elementary schools, 12 middle schools, and 4 comprehensive high schools” (Bal et al., 2014, pp. 5-6). Bal et al. (2014) used free and reduced lunch percentages as indicators of socioeconomic status. Their study utilized quantitative data pertaining to student demographics and special education identification for total district enrollment for the 2005-2006, 2007-2008, and 2009-2010 academic years. For each academic year respectively, the district served 24,218 students, 24,268 students, and 24,294 students (Bal et al., 2014). The study utilized qualitative data obtained from meeting notes, observations, and email communication (Bal et al., 2014). The researchers found that students who received free and reduced lunch were 92.5% more likely to receive special education services than students who did not receive free and reduced lunch. In addition, they found that students who were at the most significant risk were students who were African American, Native American, male, and those who received free and reduced lunch (Bal et al., 2014).

Gender and Disproportionality

In addition to race, male students have been found more likely to be identified for special education services Bal et al., (2014). Bal et al. (2014) found that male students were almost twice as likely to be identified for special education services than female students and for low incidence disability categories (visual impairment, orthopedic impairments, traumatic brain injury, hearing impairments, and autism). A study conducted by Bryan et al. (2012) found that males were referred for assistance with behavioral difficulties at three times the rate of females

in English class and at twice the rate as females in math class. This study determined that the in-school referral for assistance for problematic behavior was statistically significant (Bryan et al., 2012). Bradshaw et al. (2010) found that when it came to office disciplinary referrals, male students were referred twice as often as female students.

Woodson & Harris (2018) looked at teacher demographic variables age, gender, years of teaching experience, and attitude towards inclusion as a predictor for student referrals to special education. They used a theoretical framework based on the Cultural Theory, which was summarized as

“The worldviews held by members of various groups frequently lead to cultural biases, which cause the group members to judge others based on the adopted cultural biases. There fore, the major premise of the cultural theory is relevant for explaining how cultural beliefs may influence teacher perceptions of student behavior in the classroom, which in turn may affect teachers’ decisions to refer children for evaluations for special education” (Woodson & Harris, 2018, p. 33).

According to the National Center for Education Statistics (2020), the demographics of the teaching force in the United States experienced little change when comparing teacher demographic data from 1999-2000 and 2017-2018. Most teachers were white females: 79% white and 76% females (National Center for Education Statistics, 2020). Other studies looked at teacher demographic variables related to discipline referrals (Alter et al., 2013; Bradshaw et al., 2010). Woodson & Harris’ (2018) research on the impact of teacher demographics on referrals to special education was the only study to be reviewed that looked at teacher demographic variables in their relation to special education referrals. This research found that teacher gender was not a statistically significant predictor of a child being identified for special education

services. This conclusion contradicted Alter et al.'s (2013) study which found while both male and female teachers found off-task behaviors the most problematic, female teachers were more likely to find off-task behaviors problematic than male teachers. Female teachers were also more likely to find verbal outbursts of students more problematic than male teachers, and male teachers found social isolation more problematic than female teachers (Alter et al., 2013). While this study was not directly related to referral to special education services, behavior has been identified as a reason for referral to special education (Woodson & Harris, 2018). While little was located on the relationship between teacher and or student gender and its potential impact on the referral process, the research into other contributing factors is more abundant in terms of findings.

Disproportionality and Academic Ability

Hibel et al. (2010) addressed academic ability upon entry into kindergarten using a logistical regression model to look at academics as a predictor for being identified for special education services. Hibel et al. (2010) utilized data from The Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 which included 11,138 students from 970 schools (National Center for Education Statistics, n.d.). This study monitored students starting upon entry into kindergarten for a period of 10 years. Hibel et al. (2010) conducted eighth multiple logistical regression model. The models looked at the following areas as predictors of referral to special education: model 1 gender, race/ethnicity, model 2 socioeconomic status (SES), model 3 student mean academic score upon entry into kindergarten, model 4 frequency of student task engagement and externalizing behavior problems, model 5 percentage of minority enrollment at the school level, model 6 school-level SES, model 7 school median test score, and model 8 included all school-level variables (Hibel et al., 2010).

Hibel et al. (2010) determined that academic performance upon entry into kindergarten was the best predictor of the child being identified for special education services before fourth grade. This finding was statistically more significant than the impact of socioeconomic status as a predictor for referral to special education. That is, academic achievement interceded the impact that a family's SES has on the likelihood that a student would be identified for special education (Hibel et al., 2010). The study concluded that a family's SES was not significant when it came to bias of student placement in special education (Hibel et al., 2010). Furthermore, the study found that statistically controlling for the student's initial level of academic achievement resulted in the African American, Hispanic, and Asian students being significantly and strongly under placed into special education (Hibel et al., 2010). These findings suggested that academic readiness is more of a predictor of a student being referred to special education than race or SES. This result contradicted prior research that did not control for individual student achievement test scores (Hibel et al., 2010). Hibel et al. (2010) concluded that when controlling for student achievement at school entry, students who were Hispanic, African American, and Asian were less likely than non-Hispanic white students to be placed into special education (Hibel et al., 2010). Even with this finding, when variations for academic achievement were statistically controlled, male students were still more likely to be identified than females for special education placement (Hibel et al., 2010).

Further, Hibel et al. (2010) found that the overall academic ability of the school has an impact on the likelihood of a child being referred for services. Hibel et al. (2010) hypothesized that if a student was taken from a low performing school and placed in a high performing school, they would be more likely to be identified for services as a result of the teacher's professional opinion being calibrated for a population of high performing students. When Hibel et al. (2010) added a school's average performance as a predicting variable, they found that minority students

were strongly under placed into special education. Woodson and Harris (2018) concurred with these findings and highlighted that teacher perceptions and attitude toward inclusion were predictors of referral to special education.

Disproportionality and Teacher Perceptions and Experience

Teacher attitudes towards inclusion and years of teaching experience have been linked to referral to special education (Alter et al., 2013). Woodson and Harris (2018) conducted a correlational survey research design to investigate this theory. This study was conducted in Pennsylvania in a large urban school district containing 56 accredited high schools. The student demographics for the selected school were as follows: 59% African American, 18% Hispanic, 14% white, and 9% other (Woodson & Harris, 2018). The selected school contained 100 teachers, and a student population that exceeded 1000 students (Woodson & Harris, 2018). The researchers concluded that teachers who held positive attitudes towards inclusion were less likely to refer students for special education services. The inverse relationship between teacher attitude toward inclusion and referral to special education suggested that teachers who are in favor of inclusion were less likely to refer students to special education evaluation (Woodson & Harris, 2018). Additionally, Woodson and Harris (2018) found a positive relationship between years of teaching experience and the likelihood that a teacher would refer a student for special education services. This finding suggested that experienced teachers were more likely to refer a student for special education services.

Teacher perceptions impact the special education referral process (Raines et al., 2012). This potential impact on the process may occur when eligibility teams were tasked with interpreting student behavior (Raines et al., 2012). Maki et al. (2018) indicated that eligibility

teams often have difficulty staying within the parameters of the IDEA criteria which can often be vague and leave room for interpretation.

Characteristics of Middle School Students and How Teacher Perceptions May Differ by Gender

When considering how teacher perceptions influence student referral to special education, it may be essential to consider student demographics (Alter et al., 2013; Woodson & Harris, 2018). With male students making up the majority of enrollment in special education (57%), exploring the characteristics of students by gender may be significant (National Center for Education Statistics, 2017). Gender-based Research conducted on middle school students primarily looked at how males and females differ in the areas of academic performance (Bugler et al., 2015; Cleary & Chen, 2009; Kelley & Decker, 2009), behavior (Bugler et al., 2015; DiPrete & Jennings, 2012; Wang & Dishion, 2012), and social-emotional skills (DiPrete & Jennings, 2012). These differences should be explored since we know that teacher perceptions of behavior differ by gender (Alter et al., 2013) and that males are more than twice as likely as females to be disciplined at school (Bradshaw et al., 2010). Furthermore, behavior is one of the reasons why students were referred for support at school (Bryan et al., 2012).

Academic Characteristics of Middle School Students Impacting Teacher Perceptions

Research related to academic achievement addressed specific aspects of students achieve in school (Bugler et al., 2015; Cleary & Chen, 2009; Kelley & Decker, 2009). Kelley and Decker (2009) looked at middle school students and their motivation to read. The researchers determined that all middle school students exhibited a decrease in how they valued reading as they progressed through grades 6 through 8. Male students, more specifically, reported valuing reading far less than female students did. Female students were more likely to read at home,

than male students were. In addition, female students reported sharing books with friends some of the time while males reported almost never (Kelley & Decker, 2009). This difference in how different genders valued certain aspects of academics was also mirrored by their levels of motivation (Kelley & Decker, 2009). Similar findings were evident in mathematics. According to Cleary and Chen (2009), as students progressed from 6th- to 7th-grade, they perceived math as less valuable. Not only did their perceptions change, but the use of regulatory strategies decreased, and more frequent use of maladaptive behaviors increased. The researchers determined that female students exhibited a greater interest and enjoyment in math. Further, females were identified as exhibiting more frequently self-regulatory characteristics such as seeking assistance and use of time management (Cleary & Chen, 2009).

Bugler et al. (2015) looked at academic behavior and the impact of motivation on 366 female students and 384 male students all ranging in the ages of 11-16 years of age through a survey instrument. The survey identified several correlations. First, male students who identified themselves as having low motivation were more likely to exhibit overt negative classroom behaviors. Female students were more likely to regulate their classroom behaviors (Bugler et al., 2015). While this study was correlational, no causal relationship was identified.

Social-Emotional and Behavioral Characteristics Impacting Teacher Perceptions

Social-emotional development differed between male and female students (DiPrete & Jennings, 2012). DiPrete and Jennings (2012) identified gaps in social and behavioral skills prior to middle school. More specifically, they found that females develop social and behavioral skills more rapidly than males in the first 6 years of school. This lead in the development of skills was shown to persevere into middle school, high school, and college and may be one of the sole

factors contributing to the gender gap regarding college graduation rates (Buchmann et al., 2008).

Student behavior, particularly deviant behavior in school, had relationships to the school environment itself (Wang & Dishion, 2012). Wang (2009) looked at how school climate support impacted behavior, psychological adjustment, and its mediating effect of social competence by analyzing data obtained by using several self-reporting tools. Wang (2009) suggested that boys perceived school environments as less favorable than girls do. Male students in this study reported the reasoning for this was a perceived bias for expectations and behaviors that favored girls. In a later study, Wang and Dishion (2012) supported the same finding. Further, they found that female students reported having more academic support than male students did. Female students also reported more social support from teachers as well as peers than male students did. Additionally, female students reported better ability to manage their own behavior more than males. Further, Wang and Dishion (2012) identified a correlation between decreases in prosocial support and an increase in problematic behavior. This finding was more evident in females than males. Because differences in perceptions of males and females existed within middle school, Woodson and Harris (2018) suggested that teacher perceptions may influence their decision to refer students to special education.

Middle and Elementary School Teacher Demographics that May Contribute to Perception of Student Behavior

Woodson and Harris (2018) investigated teacher and student demographic variables that predict teacher referrals for special education. According to de Brey et al. (2019), the demographics of the teaching force in the United States experienced minor change. Most teachers are white females: 85% white and 75% females (de Brey et al., 2019). When looking at

middle school specifically, demographics continued to show female teachers were the majority educators. Data collected from the National Center for Education Statistics (2019) found that the percentage of female teachers in the field was nearly double that of male teachers, respectively 64% to 36%. Based on Hibel et al. (2010) and NCES (2019) supported that, there existed a disproportionality in male student representation in special education programs and a disproportionality in female teacher representation in the workforce.

Years of Experience Relationship to Special Education Referral

According to the National Center for Education Statistics (2015), years of experience varied by racial and ethnic demographics. In the 2015–2016 school year, it was reported that

“a higher percentage of teachers of two or more races (17 percent) than of black teachers (12 percent), Asian teachers (11 percent), and white teachers (9 percent) had less than 3 years of experience. The percentages of Black (12 percent) and Hispanic (13 percent) teachers with this level of experience were also higher than the percentage for white teachers. At the other end of the experience spectrum, a higher percentage of white teachers (24 percent) than of black teachers (19 percent), Asian teachers (16 percent), teachers of two or more races (16 percent), and Hispanic teachers (15 percent) had over 20 years of experience. The percentage who had over 20 years of experience was also higher for Black teachers than for Hispanic teachers, and higher for American Indian/Alaska Native teachers (26 percent) than for Asian and Hispanic teachers.” (NCES, 2015, para. 5).

These findings may be significant, as we know that teacher attitudes towards inclusion and years of experience had a relationship with the likelihood a teacher would refer a student to special education (Alter et al., 2013; Woodson & Harris, 2018).

Teacher Age and Possible Connections with Special Education Referral

According to the National Center for Education Statistics (2012), the average age of teachers in the United States was 42.4 years. The percentage of teachers who were under the age of 30 was 15.3%. The percentage of teachers between the ages of 30 to 49 years was 54% representing the majority of teachers. The smallest group by age was teachers between the ages of 50 to 54; this group represented 11.9%. The narrow range of age could account for this low number. Finally, the percentage of teachers who were 55 years of age or older was 18.8%. While this researcher recognized that age does not necessarily equate to years of experience, this information may still be relevant as we know that teachers with more experience are more likely to refer students to special education, thus contributing to disproportionality in special education (Woodson & Harris, 2018).

Conclusion

According to this literature review, there was limited available research on the relationship between teacher, student gender and their relationship to disproportionality in special education. The limited amount of literature suggested the need to look at the disproportional representation of male students in special education as it relates to the demographics of the teaching force in the United States. Further research investigating the relationship between teacher gender, years of experiences, and their perceptions of student behavior and referral to special education could prove valuable.

This review established that the teaching force in the United States, at the middle school level, was primarily white females (National Center for Education Statistics, 2019). Teacher perceptions based on years of experience and attitudes towards inclusion influenced professional opinions within the field (Woodson & Harris, 2018). Male students are more often referred to

special education than female students (Bal et al., 2014). Further, female teachers were more likely to identify male students for behaviors that were considered problematic (Alter et al., 2013). Considering this information, a study that further explored the relationship among teacher gender, student gender, and the referral of male students to special education warrants further exploration.

Chapter Three

Methodology

Introduction

Research indicated a disproportional number of male students in special education in United States public schools (Bal et al., 2014; Woodson & Harris, 2018). Disproportional rates of certain demographic groups found eligible for special education are problematic (Chesmore et al., 2016; Kearney, 2011). Students with disabilities were often less likely to have high expectations in the educational setting (Hibel et al., 2010). Further, students with disabilities were less likely to graduate from high school, attend college, abuse substances, and were more likely to be incarcerated (Chesmore et al., 2016). For these reasons, the occurrence of disproportionality in special education and any potential factors influencing its existence merit exploration.

Teacher perceptions of behavior were essential in the referral of students to be evaluated for special education services related to behavioral needs (Raines et al., 2012). It has been established that teacher perceptions of behavior differed by the gender of the teacher and by their years of teaching experience (Alter et al., 2013). In addition, male students were referred for office discipline at twice the rate of female students (Bradshaw et al., 2010).

In this study, teachers who have made referrals to intervention processes for students who exhibit behavioral characteristics of emotional disability (ED), and attention deficit hyperactivity disorder (ADHD) were asked to participate to examine the relationship between teacher gender, student gender, and the referral of males to evaluation for special education services. This ex-post-facto survey collected teacher demographic data and student demographic data. It asked

teachers to select from behaviors they observed when making their referrals for evaluation evaluate how problematic interfering these behaviors were. The data collected were analyzed using descriptive statistics.

Purpose of the Study and Research Questions

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). Exploring relationships was achieved by asking teachers who have referred students to intervention processes to identify and evaluate student behavior using the characteristics of emotional disability and attention deficit hyperactivity disorder. ED Characteristics were described by the Virginia Department of Education. ADHD characteristics were described by the Behavior Assessment System for Children. These behavioral descriptors were selected as they were recognized by both the federal government and the state of Virginia as characteristics of these disabilities.

The research questions guiding the study in investigating the disproportionality of male students in special education in one county in the Commonwealth of Virginia were:

1. What is the relationship between student and teacher gender, disaggregating for teacher experience, when referring students for ADHD/ED behaviors to intervention processes that can potentially lead to special education evaluation?
2. What is the relationship between student and teacher gender, disaggregating for teacher experience, when students are referred for intervention processes that can potentially lead to special education evaluation based upon varying descriptors of ADHD/ED behaviors exhibited in the classroom?

Research Design

The research study used an ex post facto quantitative survey research design. Ex post facto referred to the information collected after an event has already occurred need (Salkind, 2010). In this study, a survey was used to collect data from teachers who have referred a student for assistance in a way that initiates the special education evaluation process. Answers provided by teachers were quantifiable. Responses were obtained in the form of data sets, and relationships between variables were examined. This study utilized descriptive statistics to analyze data. Descriptive statistics were used to condense data in an organized way by describing relationships between variables of a sample population (Shi & McLarty, 2009). In this study descriptive statistics allowed the researcher to look at relationships between data points by condensing responses into percentages for comparison. In this case, looking at the teacher's perception of student behavior was compared to their gender and the gender of the student.

Using a quantitative survey that collected teacher and student gender and had educators evaluate students' behavior enabled the researcher to examine how male and female teachers described behaviors and what behaviors they identified as problematic. First, the researcher explored teacher gender, student gender, and the referral of male students to any process that could potentially lead to special education. Second, the researcher explored relationships between how male and a female teachers perceived student behavior by having them describe the student's behavior. A quantitative research approach is best utilized when there a need existed to examine relationships using statistical analysis (Hesse-Biber, 2010). A retrospective quantitative survey was beneficial because it was standard and offered the consistency that

qualitative surveys do not. In addition, the consistency of answers make quantitative surveys reliable (Blackstone, 2012).

Data Sources

Data needed for this study originated from at least 5-11 schools from one school division in the Commonwealth of Virginia. Data were collected in the form of a survey. The survey was sent out to 460 general education and special education teachers; however, the criteria to participate was limited to those who have referred a student to a Child Find Team, or Intervention Team where initiation of the special education evaluation process would potentially begin. Survey questions were in multiple-choice format. The data collected through this survey included teacher gender, the teacher's years of experience, teacher's perception of student behavior, student gender, and behaviors exhibited by the student.

Permission to Conduct Study and Use Data

All required data were obtained through an application process with the selected school district that outlined the study's need, purpose, and methodology. Approval from the participating school district was obtained March 21, 2022 (see Appendix A). Approval from the Institutional Review Board (IRB) of Virginia Polytechnic Institute and State University was granted prior to conducting the study (Appendix B). After the study was approved by the school division and the IRB board, data were collected through the school system's Department of Assessment Research and Evaluation.

Site and Sample Selection

The researcher selected to use a centrally located school division in the Commonwealth of Virginia. The demographics of this school system are similar to the demographics of surrounding counties in terms of the percent of the population pertaining to age, race, and gender. The selected sample population was purposeful. The data analyzed for the study was

specifically from middle schools. The selection of middle schools was guided by the review of literature which examined gender differences in academic interest, socialization, perceptions, and behaviors among middle school students (Buchmann et al., 2008; Bugler et al., 2015; Cleary & Chen, 2009; Kelley & Decker, 2009; Wang & Dishion, 2012).

Table 1

Central Virginia School Division Demographic Breakdown

| Demographics | Total Population | Special Education |
|----------------------------|------------------|-------------------|
| Male | 50% | 70% |
| Female | 50% | 30% |
| Economically Disadvantaged | 40% | 50% |
| English Language Learners | 10% | 6% |
| White | 40% | 40% |
| African American | 40% | 50% |
| Hispanic | 10% | 10% |
| Asian | 10% | 0.0% |
| Other | 10% | 5% |

Table 1 provided the overall demographic breakdown for the county in Virginia as well of the percentage of students within that school district receiving special education services (U.S. Census Bureau (2021). It should be noted that in many cases the percentage of the population that received special education did not reflect the overall population. For example, male students represented 50% of the population; however, male students represented 70% of students

receiving special education services. Conversely, female students represented 50% of the population; however, female students only represent 30% of the special education population.

When general demographics for the state of Virginia were compared to that of the targeted school district, there were similarities in population characteristics that may suggest findings could be generalized to other areas of the state. Table 2 presented the similarities and differences between the demographics in the Commonwealth, and the selected school district. Some differences between demographics were as much as 10% such as the percentage of African American and white residents; others are extremely close such as the poverty rate, and household income (U.S. Census Bureau, 2021).

Table 2

Demographic Information from the Commonwealth of Virginia and Targeted School District

| Demographic | Commonwealth of Virginia | Virginia County |
|-------------------------|--------------------------|-----------------|
| White | 67% | % |
| African American | 19.4% | 29.7 |
| American Indian | .2% | .3% |
| Hawaiian | .1% | 0% |
| Asian | 6.6% | 8.3% |
| 2 or more races | 3.8% | % |
| Hispanic | 7.7% | 5.6 |
| Medium Household Income | \$70,307 | \$76,456 |
| Poverty Rate | 9.9% | 9.1% |

Data Gathering Procedures

Following approval of the dissertation committee, approval from the Virginia Polytechnic Institute and State University Institutional Review Board (IRB) was achieved. The IRB letter of approval was shared electronically with the Department of Assessment, Research, and Evaluation for the selected school district. The school district was then able to send the survey instrument (see Appendix B) out to 460 teachers across 11 middle schools through an electronic email correspondence (see Appendix C) that included an informed consent letter (see Appendix D). This survey was sent out two times at the beginning of a 30-day period beginning on September 12, 2022. Demographic data were collected for teachers who have referred students for assistance that could potentially lead to special education evaluation, their years of teaching experience, and the gender of the student they had in mind while filling out the survey. Additional data collected included teacher evaluation of student behavior and descriptions of student behavior. The survey tool was administered through Google Forms. This enabled the researcher to quantify participant answers and load them into Google Sheets which could then be analyzed using descriptive statistics.

Instrument Design

The researcher developed the teacher survey (see Appendix E) using Google Forms so the survey could be distributed efficiently, and submissions could be available immediately to the researcher for analysis. Surveys were considered reliable because they were standard, and the question was always phrased the same way to the respondent (Blackstone, 2012). The instrument was designed to directly capture teachers' demographic data using multiple-choice questions. Teacher perception data were collected using a multiple-choice format where the teacher was asked to rate their level of agreement with the severity of student behavior. Teachers were also asked to select problematic behaviors that the student they referred for assistance exhibited in

their classroom. Behaviors obtained for this survey were derived directly from the emotional disability definition as described by the Virginia Department of Education (2021) and attention deficit hyperactivity disorder as described by Altmann et al. (2018) in the Behavior Assessment System for Children. These behavioral descriptors were selected as they are recognized by both the Federal Government and the state of Virginia as characteristics of these disabilities. The instrument included six questions comprising of two sections. Questions one and two comprised section one and pertain to teacher demographics (see Appendix E). Section two comprised of questions three through six and asked the teacher to describe and evaluate student behavior, as well as asked them for the gender of the referred student (see Appendix E).

Instrument Validation and Reliability

Noble & Smith (2015) described validity as the accuracy of something measured in a quantitative study and reliability as the instrument's accuracy. Quantitative surveys were considered reliable as they were standardized, and questions were phrased the same way each time (Saylor Academy, 2012). Validity and reliability were established for the survey (see Appendix E) through a refinement process. School psychologists, educational professionals, and doctoral candidates with expertise in education leadership reviewed the survey instrument. Reviewers provided feedback on the alignment of research questions and the clarity of questions posed to ensure validity and reliability. This was achieved after each review; the researcher made the recommended adjustments. The alignment of each survey item to the research questions posed in this study can be found in Table 3.

Table 3

Research Questions and Survey Alignment

| Research Question | Aligning Survey Items |
|--|--|
| 1. What is the relationship between student and teacher gender, disaggregating for teacher experience, when referring students for ADHD/ED behaviors to intervention processes that can potentially lead to special education evaluation? | <ol style="list-style-type: none">1. Please select your gender.2. Please provide your years of teaching experience.4. What student gender did you have in mind while filling out this survey?4. What ED behaviors were exhibited that you believe impacted their academic performance or that of others (Select all that apply)5. What OHI behaviors were exhibited that you believe impacted their academic performance or that of others (select all that apply) |
| 2. What is the relationship between student and teacher gender, disaggregating for teacher experience, when students are referred for intervention processes that can potentially lead to special education evaluation based upon varying descriptors of ADHD/ED behaviors exhibited in the classroom? | <ol style="list-style-type: none">1. Please select your gender.2. Please provide your years of teaching experience.3. Please indicate to what extent you agree or disagree with the following statement: I referred this student for additional assistance because their behaviors interfere with tier school performance or that of others.6. What student gender did you have in mind while filling out this survey?4. What ED behaviors were exhibited that you believe impacted their academic performance or that of others (Select all that apply)5. What OHI behaviors were exhibited that you believe impacted their academic performance or that of others (select all that apply) |

Data Management

The Collaborative Institution Training Initiative (CITI) program was completed by the researcher (Appendix F). The researcher implemented appropriate security measures. Teacher and student demographic information was collected through Google Forms. The settings were adjusted so that email addresses were not collected. All results were first saved and encrypted using Microsoft Office products. Next, the encrypted documents were saved in Virginia Tech's Google Drive, which requires two-factor authentication to access files stored in the system. Paper copies are locked in a file cabinet.

Data Analysis Techniques

Following data collection, the researcher used Google Forms and Google Sheets to analyze the data with descriptive statistics. First, response frequency and percentages by survey question were determined by opening the Teacher Referral Survey and clicking "Responses" and then "Summary". This displayed percentages and the frequency of responses by question. To further analyze data, it was sorted in Google Sheets to examine how respondents answered each question. The data were sorted by gender and the percentage of how each gender responded to each question. Next, data were sorted by gender, years of experience, and how each answered the survey questions. For ED and ADHD behaviors, data were sorted by how many respondents selected a specific behavior.

Timeline

Permission to conduct the study was acquired in July of 2022 with the submission of application to the Department of Assessment, Research, and Evaluation for the selected county in the Commonwealth of Virginia. Following approval, data was collected between September of

2022 and October of 2022. After data were acquired, statistical analysis was conducted, and chapters four and five were developed.

Summary

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). This was achieved by using an ex post facto, quantitative, correlational survey research design. This information was analyzed through descriptive statistics methods to determine if any relationships between teacher and student demographics contributed to the disproportionality of males in special education.

Chapter 4: Findings

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). This study examined how teachers perceived student behavior and compared responses to their gender and the gender of the student while controlling for years of experience. The study gathered and analyzed data to address two research questions:

1. What is the relationship between student and teacher gender, disaggregating for teacher experience, when referring students for ADHD/ED behaviors to interventions that can potentially lead to special education evaluation?
2. What is the relationship between student and teacher gender, disaggregating for teacher experience, when students are referred to interventions that can potentially lead to special education evaluation based upon varying descriptors of ADHD/ED behaviors exhibited in the classroom?

Survey Procedures and Data Collection

September 2022 marked the initiation of data collection, and concluded after a three-weeks. An initial email was sent out to 460 middle school special education and general education teachers from 11 middle schools. The email contained a link to the informed consent letter, which contained a link to the survey. This email was followed by two reminder emails asking teachers to complete the survey. The data collection tool used was a survey created using Google Forms and stored in a Google account maintained and secured by Virginia Tech.

Potential participants were sent an email with a link to the informed consent page, which contained a link to the survey which participants were informed would take 15 minutes. The criteria for special and general education teachers to participate in the study was limited as it only pertained to teachers who had referred students to interventions that could lead to special education evaluation for ED and ADHD behaviors. Potential participants were notified of the criteria prior to accessing the survey. The survey contained six questions and collected thirty-one responses of the unknown number of teachers who met the criteria to participate out of the 460 total population. Due to anonymity, precautions were taken before sending the survey; it was unknown how many respondents filled out the survey as multiple attempts were permitted. In addition, a response rate could not be determined due to the unknown number of teachers who met the criteria to participate in the study.

Teacher Demographic Information

Section 1 of the survey contained two questions regarding teacher demographic data. Question 1 asked the teacher to identify their gender, and question two asked them to identify their years of experience. There were 31 responses to the survey. All participants answered questions one and two.

Teacher Gender

Survey Question 1 asked the respondents what their gender was. Of the 31 responses, participants could choose male or female. A summary of responses to question one is displayed in Table 4. The majority of survey participants were female 25 of 31 (80.6%) and the minority were male six of 31(19.4%). It should be noted that because of anonymity, it is unclear as to how many survey submissions were completed by the same participant. As a result, frequency and percent are presented without any adjustment.

Table 4*Frequency and Percentage of Middle School Teacher Gender*

| Teacher Gender | Frequency | Percentage |
|-----------------------|------------------|-------------------|
| Male | 6 | 19.4% |
| Female | 25 | 80.6% |
| Total | 31 | 100 % |

Years of Experience

Survey Question 2 provided data regarding the respondent's years of experience as a teacher (see Table 5). Four participants (12.9%) indicated they had fewer than three years of experience, and five out of 31 participants (16.1%) indicated that they had three to nine years of experience. The two largest groups were respondents who had taught for 10 to 20 years, with 11 out of 31 participants (35.5%), and those with over 20 years of experience, 11 of 31 (35.5%). In all, 22 out of 31 participants (70.96%) had ten or more years of experience.

Table 5*Frequency and Percentage of Years of Teaching Experience*

| Years of Teaching Experience | Frequency | Percentage |
|-------------------------------------|------------------|-------------------|
| Fewer than 3 years | 4 | 12.9% |
| 3 to 9 Years | 5 | 16.1% |
| 10 to 20 Years | 11 | 35.5% |
| Over 20 Years | 11 | 35.5 % |

Demographic data were further analyzed by disaggregating participant data by gender and years of experience. The largest participant group represented in the study were female teachers with over 20 years of experience; 10 out of 31 (32.26%). The second largest group was female teachers with 10-20 years of experience; seven out of 31 (22.58%). Female teachers with

there to nine years of experience represented five out of 31 responses (16.13%). Finally, female teachers with less than three years of experience with three of three (9.68%). Next, males over 20 years of experience had one of 31 (3.23%). Males with 10-20 years of experience had four of 31 (3.23%). Males with three to nine years of experience had zero of 31 (0%). Males with less than three years of experience each received one of 31 (3.23%) (see Table 6).

Table 6

Teacher Gender and Years of Experience

| Gender | Years of Experience | Frequency | Percent |
|---------------|----------------------------|------------------|----------------|
| Female | Over 20 Years | 10 | 32.26% |
| Female | 10-20 Years | 7 | 22.58% |
| Female | 3-9 Years | 5 | 16.13% |
| Female | Less than 3 Years | 3 | 9.68% |
| Male | Over 20 Years | 1 | 3.23% |
| Male | 10-20 Years | 4 | 12.9% |
| Male | 3-9 Years | 0 | 0% |
| Male | Less than 3 Years | 1 | 3.23% |
| Total | | 31 | 100% |

Reported Data by Research Question

Survey items were designed to answer research questions one and two. Section one of the survey asked questions pertaining to teacher demographic information. Section two of the

survey asked questions requiring the participant to describe behaviors, followed by a final question asking them to identify the gender of the student they had in mind while filling out the survey.

Presentation of Data

The following presentation of data is designed to answer research question one, which asks: What is the relationship between student and teacher gender, disaggregating for teacher experience, when referring students for ADHD/ED behaviors to intervention processes that can potentially lead to special education evaluation?

Data were analyzed to examine the possible relationship between student and teacher gender, disaggregating for teacher experience, and referring students with ADHD/ED behavior to intervention processes that could potentially lead to special education evaluation. Data were sorted to identify the gender of the student referred for assistance (Table 7). All but one respondent answered this question out of 31 survey responses (96.7%). Of the responses received, 25 respondents (83.3%) indicated that they had a male student in mind while filling out the survey. Five respondents (16.7%) indicated they had a female in mind while filling out the survey.

Table 7

Student Gender

| What Student Gender Did You Have in Mind? | Frequency | Percent |
|---|-----------|---------|
| Male | 25 | 83.3% |
| Female | 5 | 16.7 % |

Table 8 summarized the gender of the teacher and the gender of the student they referred for assistance. Results in Table 8 indicated that the highest referral rate of 21 of 30 (70%) came

from female teachers who referred male students. The second highest response of four out of 30 (13%) was female teachers' referral of female students. Male teachers who referred male students four of 30 (13%). The group with the lowest response frequency was male teachers who referred female students one of 30 (3.3%). In all, female teachers referred more students than male teachers 83.33%, 16.66% respectively.

Table 8

Teacher and Referred Student Gender

| Teacher Referrals by Gender | Frequency | Percent |
|------------------------------------|------------------|----------------|
| Female Teacher -Male Student | 21 | 70% |
| Female Teacher- Female Student | 4 | 13% |
| Male Teacher- Male Student | 4 | 13% |
| Male Teacher- Female Student | 1 | 3.3% |

Table 9 displayed the data sorted by teacher gender, student gender, and years of teaching experience. Of the six males only five indicated student gender. The following percentages from male teachers are from the five responses collected. The highest referral percentages come from female teachers who have referred male students and have over 20 years of experience nine of 25 (36%). The second highest referral rate came from female teachers who referred males and who have 10-20 years of experience six of 25 (24%). The third highest response rate of five of 25 (20%) came from female teachers who referred male students with three to nine years of experience. Finally, female teachers who referred male students and have less than three years of experience had a response rate of one of 25 (4%). Subsequently, males with 10-20 years of experience who referred male students had a response rate of two of five (40%) and female teachers who had less than three years of experience who referred female students had a frequency of two of 25 (8%). Male teachers with over 20 years of experience referred male students had a frequency of one of five (20%), male teachers with less than three years of

experience who referred males had a frequency of one of five (20%). Male teachers who referred female students with 10-20 years of experience had a frequency of one of five (20%). Female teachers with over 20 years of experience who referred females had a frequency of one of 25 (4%). Female teachers with 10-20 years of experience who referred females had a frequency of one of 25 (4%). Female teachers with less than three years of experience who referred males had a frequency of one of 25 (4%). There were no responses that indicated male teachers with three to nine years of experience participated (0%). Overall, the group with the largest number of student referrals were female teachers with ten or more years of experience 15 (50%).

Table 9

Teacher and Student Gender Disaggregated by Years of Experience

| Years of Teaching Experience | Male Teacher – Male Student Frequency | Male Teacher – Male Student Percent | Male Teacher – Female Student Frequency | Male Teacher– Female Student Percent | Female Teacher– Female Student Frequency | Female Teacher– Female Student Percent | Female Teacher– Male Student Frequency | Female Teacher– Male Student Percent |
|------------------------------|---------------------------------------|-------------------------------------|---|--------------------------------------|--|--|--|--------------------------------------|
| Over 20 Years | 1 | 20% | 0 | 0.00% | 1 | 4% | 9 | 36% |
| 10-20 Years | 2 | 40% | 1 | 20% | 1 | 4% | 6 | 24% |
| 3-9 Years | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 5 | 25% |
| Less Than 3 Years | 1 | 20% | 0 | 0.00% | 2 | 8 % | 1 | 4% |

In the following seven tables data are presented to answer the second research question which asks: What is the relationship between student and teacher gender, disaggregating by experience, when students are referred for intervention processes that can potentially lead to

special education evaluation based upon varying descriptors of ADHD/ED behaviors exhibited in the classroom? In the presentation of data that are disaggregated by gender, the percentages shown were representative of the total population for that gender, and were not further disaggregated by years of experience because of the small numbers for those groupings.

Table 10 displayed how participants indicated the extent to which they agreed with the statement: *I referred this student for additional assistance because their behaviors interfere with their school performance or that of others*. Respondents could choose strongly agree, agree, disagree, strongly disagree, and does not apply to this student. Of the 31 responses, 21 strongly agreed (67.7%), nine agreed (29%), and one disagreed (3.2%). Overall, 97% of participants either agreed or strongly agreed with the statement posed.

Table 10

Teacher Agreement with Behaviors

| Agreement with Disruptive Behavior | Frequency | Percentage |
|------------------------------------|-----------|------------|
| Strongly Agree | 21 | 67.7% |
| Agree | 9 | 29% |
| Disagree | 1 | 3.2% |
| Strongly Disagree | 0 | 0% |
| Does Not Apply | 0 | 0% |

Table 11 analyzed survey data provided by Survey Question 3 in which teachers indicated to what extent they agreed with the statement: *I referred this student for additional assistance because their behaviors interfere with their school performance or that of others*. Response data were then disaggregated by data collected by Survey Question 1 and Survey Question 2, teacher gender, and years of experience, respectively. Overall, 30 of 31 responses (96.7%) indicated agreement with this statement. The largest demographic group of

participants were female teachers with over 20 years of experience and who strongly agreed eight of 25 (32%). The second largest group of participants came from female teachers with 10-20 years of experience who strongly agreed (4 of 25, 16%). Female teachers with three to nine years of experience who strongly agreed, followed with three of 25 (12%). Female teachers with fewer than three years of experience and strongly agreed followed with two of 25 (8%). Female teachers with three to nine years of experience and agreed, totaled two of 25 (8%). Female teachers with 10-20 years of experience and who agreed, totaled two of 25 (8%). Female teachers with over 20 years of experience and agreed, totaled two of 25 (8%). Male teachers with 10-20 years of experience who strongly agreed, totaled two of 6 (33.33%). Male teachers who had 10-20 years of experience and agreed, totaled two of 6 (33.33%). Male teachers with over 20 years of experience and who strongly agreed had one of 6 (16.67%). Male teachers with fewer than three years who strongly agreed, totaled one of 6 (16.67%). Female teachers with fewer than three years and agreed, totaled one of 25 (4%). Female teachers with 10-20 years who disagreed, totaled one of 25 (4%). In all 30 of 31 (96.7%) respondents indicated agreement with the statement: *I referred this student for additional assistance because their behaviors interfere with their school performance or that of others*. Furthermore, agreement was indicated from every reporting group within years of experience which ranged from fewer than three years, to over 20 years of experience.

Table 11

Teacher Agreement of Behaviors by Years of Experience and Gender

| Teacher Gender | Years of Experience | Agreement | Frequency | Percent |
|----------------|---------------------|----------------|-----------|---------|
| Female | Over 20 years | Strongly Agree | 8 | 32% |
| Female | 10-20 Years | Strongly Agree | 4 | 16% |
| Female | 3-9 years | Strongly Agree | 3 | 12% |
| Female | Less than 3 years | Strongly Agree | 2 | 8% |

| | | | | |
|--------|--------------------|----------------|---|--------|
| Female | Over 20 years | Agree | 2 | 8% |
| Female | 10-20 years | Agree | 2 | 8% |
| Female | 3-9 years | Agree | 2 | 8% |
| Female | Fewer than 3 years | Agree | 1 | 4% |
| Female | 10-20 years | Disagree | 1 | 4% |
| Male | Over 20 years | Strongly Agree | 1 | 16.67% |
| Male | 10-20 years | Strongly Agree | 2 | 33.33% |
| Male | 10-20 years | Agree | 2 | 33.33% |
| Male | 3-9 years | No Response | 0 | 0.00% |
| Male | Fewer than 3 years | Strongly Agree | 1 | 16.67% |

Table 12 summarized data provided by Survey Question 4 asking participants to identify what ED behaviors were exhibited that they believed had an impact on the student's academic performance or that of other students. The 31 respondents could select any behaviors that applied and were not limited to one answer. Table 12 reflected that 23 of 31 participants (79.19%) identified *difficulty establishing and maintaining relationships* as a behavioral characteristic observed, whereas 20 of 31 participants (64.5%) identified *inappropriate feeling or behaviors under normal circumstances* as a behavioral characteristic observed.

Table 12 also reflected that 12 of 31 of participants (38.7%) identified *General pervasive mood of unhappiness or depression* as a behavioral characteristic observed, whereas six of 31 participants (19.3%) identified *physical symptoms or fears associated with persons or school* as the behavioral characteristic observed. In all, the ED behaviors selected by the majority of respondents were *difficulty establishing and maintaining relationships* with 23 of 31 respondents (74.19%), and *inappropriate feelings or behaviors under normal circumstances* 20 of 31 respondents (64.5%).

Table 12

Survey Question 4- ED Behaviors Exhibited that Impacted Academic Performance

| ED Behaviors | Frequency | Percentage |
|--------------|-----------|------------|
|--------------|-----------|------------|

| | | |
|---|----|--------|
| Difficulty establishing and maintaining relationships | 23 | 74.19% |
| Inappropriate feeling or behaviors under normal circumstances | 20 | 64.5% |
| General pervasive mood of unhappiness or depression | 12 | 38.7% |
| Physical symptoms or fears associated with persons or school | 6 | 19.3% |

To further analyze data from Survey Question 4, data were disaggregated by gender and years of experience. Table 13 reflected male teachers who selected *difficulty establishing and maintaining relationships* also reported having the following years of experience: males over 20 years of experience one of six (16.66%), males with 10-20 years of experience one of six (16.66%), males with 3-9 years of experience zero of six (0%), and males with less than three years of experience zero of six (0%). Female teachers who selected *difficulty establishing and maintaining relationships* reported having the following years of experience: Females over 20 years 10 of 25 (40%), females with 10-20 years of experience six of 25 (24.0%) females with three to nine years of experience three of 25 (12.0%), females with less than three years of experience two of 25 (8.0%). Overall, the majority of participants found this behavior to be problematic 23 of 31 (74.9%).

For male teachers who selected, *inappropriate feelings or behaviors under normal circumstances* also reported having the following years of experience: males with over 20 years of experience zero of six (0%), males with 10-20 years of experience one of six (16.66%), males with three to nine years of experience zero of six (0%), and males with less than three years of experience one of six (16.66%). Female teachers who selected *inappropriate feelings or behaviors under normal circumstances* reported having the following years of experience:

Females over 20 years eight of 25 (32%), females with 10-20 years of experience six of 25 (24.0%), females with three to nine years of experience three of 25 (12%), females with less than three years of experience three of 25 (12%). Overall, more than half of participants found this behavior to be problematic 20 of 31 (64.5%).

For male teachers who selected, *general pervasive mood of unhappiness or depression* also reported having the following years of experience: males over 20 years of experience one of six (16.66%), males with 10-20 years of experience zero of six (0%), males with three to nine years of experience zero of six (0%), and males with less than three years of experience one of six (16.66%). Female teachers who selected *general pervasive mood of unhappiness or depression* reported having the following years of experience: Females over 20 years six of 25 (24.0%), females with 10-20 years of experience three of 25 (12%), females with three to nine years of experience one of 25 (4.0%), females with less than three years of experience one of 25 (4.0%). Overall, less than half of the participants found this behavior to be problematic 12 of 31 (38.7%).

For male teachers who selected, *physical symptoms or fears associated with person or school* also reported having the following years of experience: males over 20 years of experience one of six (16.66%), males with 10-20 years of experience zero of six (0%), males with three to nine years of experience zero of six (0%), and males with less than three years of experience one of six (16.66%). Female respondents who selected *physical symptoms or fears associated with person or school* reported having the following years of experience: females over 20 years two of six (33.33%), females with 10-20 years of experience two of six (33.33%), females with three to nine years of experience zero of six (0%), females with less than three years of experience one of six (16.66%). Overall, less than half of participants found this behavior to be problematic six of 31 (19.3%).

Due to limits with sample sizes associated with gender, results should be interpreted with caution when comparing male and female data. All male and female teachers with over 20 years of experience selected “*Difficulty establishing and maintaining relationships*”.

Table 13

Research Question 2- Teacher Gender, Years of Experience and ED Descriptors

| Male Years of Experience | Relationships Frequency | Relationships Percent | Female Years of Experience | Relationships Frequency | Relationships Percent |
|--------------------------|----------------------------------|--------------------------------|----------------------------|----------------------------------|--------------------------------|
| Over 20 years | 1 | 16.66% | Over 20 years | 10 | 40% |
| 10-20 years | 1 | 16.66% | 10-20 years | 6 | 24% |
| 3-9 years | 0 | 0% | 3-9 years | 3 | 12% |
| Less than 3 years | 0 | 0% | Less than 3 years | 2 | 8% |
| Male Years of Experience | Inappropriate Feelings Frequency | Inappropriate Feelings Percent | Female Years of Experience | Inappropriate Feelings Frequency | Inappropriate Feelings Percent |
| Over 20 years | 0 | 0% | Over 20 years | 8 | 32% |
| 10-20 years | 1 | 16.66% | 10-20 years | 4 | 16% |
| 3-9 years | 0 | 0% | 3-9 years | 3 | 32% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 3 | 32% |
| Male Years of Experience | Depression Frequency | Depression Percent | Female Years of Experience | Depression Frequency | Depression Percent |
| Over 20 years | 1 | 16.66% | Over 20 years | 6 | 24% |
| 10-20 years | 0 | 0% | 10-20 years | 3 | 12% |
| 3-9 years | 0 | 0% | 3-9 years | 1 | 4% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 1 | 4% |
| Male Years of Experience | Physical Fears Frequency | Physical Fears Percent | Female Years of Experience | Physical Fears Frequency | Physical Fears Percent |
| Over 20 years | 1 | 16.66% | Over 20 years | 2 | 8% |
| 10-20 years | 0 | 0% | 10-20 years | 2 | 8% |
| 3-9 years | 0 | 0% | 3-9 years | 0 | 0% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 1 | 4% |

Data displayed in Table 14 were analyzed from Survey Question 5 which asked participants to identify behaviors associated with ADHD that impacted the student's academic performance or that of others. Respondents could select any number of the 18 ADHD behaviors

identified. Table 14 examined how the 31 survey responses answered this question in both frequency and percent in ascending order. Behaviors selected by 50% or more of participants were, *difficulty sustaining attention to tasks* (80.6%); *does not follow through on instructions or finish schoolwork (not oppositional)* was selected 22 of 31 (70.96%) times. *Exhibits difficulty organizing tasks and activities* was selected 22 of 31 (70.96%) times. *Easily distracted by extraneous stimuli* was selected 22 of 31 (70.96%) times. *Avoids tasks that require sustained mental effort* was selected 21 of 31 (67.74%) times. *Does not seem to listen when spoken to directly* was selected 17 of 31 (54.83%) times. *Fails to give close attention to detail* was selected 16 of 31 (51.61%) times. *Often leaves seat when sitting is required* was selected 16 of 31 (51.61%) times. *Interrupts or intrudes on others* was selected 16 of 31 (51.61%) times. In all, the three chosen behaviors selected the second most frequently were: *does not follow through on instructions or finish schoolwork (not oppositional)*, *exhibits difficulty organizing tasks and activities*, and *easily distracted by extraneous stimuli* with 22 of 31 (70.96%) respondents each.

Behaviors selected by less than 50% of teachers were, *loses things necessary to complete tasks or activities* was selected 13 of 31 (41.93%) times. *Forgetful in daily activities* was selected 11 of 31 (35.48%) times. *Talks excessively* was selected 11 of 31 (35.48%) times. *Blurts out before questions can be completed* was selected 11 of 31 (35.48%) times. *Fidgets with hands or feet often* was selected 8 of 31 (25.8%) times. *Often on the go as if driven by a motor* was selected seven of 31 (22.58%) times. *Difficulty waiting turn* was selected seven of 31 (22.58%) times. *Often is unable to engage in leisure activities quietly* was selected five of 31 (16.12%) times. *Often runs about or climbs excessively when not appropriate* was selected four of 31 (12.9%) times. The behavioral character with the lowest selection rate was *often runs about or climbs excessively when not appropriate*, selected four of 31 (12.9%) times.

Table 14

Survey Question 5- OHI Behaviors Exhibited that Impacted Academic Performance

| OHI Behaviors | Frequency | Percentage |
|---|-----------|------------|
| Difficulty sustaining attention to tasks | 25 | 80.6% |
| Does not follow through on instructions or finish schoolwork (not oppositional) | 22 | 70.96% |
| Exhibits difficulty organizing tasks and activities | 22 | 70.96% |
| Easily distracted by extraneous stimuli | 22 | 70.96% |
| Avoids tasks that require sustained mental effort | 21 | 67.74% |
| Does not seem to listen when spoken to directly | 17 | 54.83% |
| Fails to give close attention to detail | 16 | 51.61% |
| Often leaves seat when sitting is required | 16 | 51.61% |
| Interrupts or intrudes on others | 16 | 51.61% |
| Loses things necessary to complete tasks or activities (e.g., pencils, schoolwork, tools) | 13 | 41.93% |
| Forgetful in daily activities | 11 | 35.48% |
| Talks excessively | 11 | 35.48% |
| Blurts out before questions can be completed | 11 | 35.48% |
| Fidgets with hands or feet often | 8 | 25.8% |
| Often on the go as if driven by a motor | 7 | 22.58% |
| Difficulty waiting turn | 7 | 22.58% |
| Often is unable to engage in leisure activities quietly | 5 | 16.12% |
| Often runs about or climbs excessively when not appropriate | 4 | 12.9% |

Table 15 examined data from Survey Question 5, which asked respondents to identify ADHD behaviors that they believed impacted the student's academic performance or the academic performance of others. The data were filtered by ADHD behaviors, gender, and years of experience. For male teachers who selected *difficulty sustaining attention* also reported having the following years of experience: males over 20 years of experience one of six (16.66%), males with 10-20 years of experience four of six (66.66%), males with three to nine years of experience zero of six (0%), and males with less than three years of experience one of six (16.66%). Female teachers who selected *difficulty sustaining attention* reported having the following years of experience: females over 20 years six of 25 (24%), females with 10-20 years

of experience seven of 25 (28%), females with three to nine years of experience four of 25 (16%), females with less than three years of experience two of 25 (8%). Overall, majority of participants 25 of 31 (80.6%) found this behavior to be problematic.

Male teachers who selected, *does not seem to listen when spoken to directly* also reported having the following years of experience: males over 20 years of experience zero of six (0%), males with 10-20 years of experience zero of six (0%), males with three to nine years of experience zero of six (0%), and males with less than three years of experience one of six (16.66%). Female teachers who selected *does not seem to listen when spoken to directly* reported having the following years of experience: females over 20 years 8 of 25 (32%), females with 10-20 years of experience four of 25 (16%), females with 3-9 years of experience two of 25 (8.0%), females with less than 3 years of experience two of 25 (8.0%). Overall, the majority of participants 17 of 31 54.83% found this behavior to be problematic.

Male teachers who selected *does not follow through on instructions or finish schoolwork (not oppositional)* also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience, three of six (50%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience, one of six (16.66%). Female teachers who selected *does not follow through on instructions or finish schoolwork (not oppositional)* reported having the following years of experience: females over 20 years seven of 25 (28%), females with 10-20 years of experience, seven of 25 (28%), females with three to nine years of experience, three of 25 (12%), females with less than three years of experience, one of 25 (4%).

Male teachers who selected *exhibits difficulty organizing tasks and activities* also reported having the following years of experience: males over 20 years of experience, one of six (16.66%), males with 10-20 years of experience, four of six (66.66%), males with three to nine

years of experience, zero of six (0%), and males with less than three years of experience zero of six (0%). Female teachers who selected *exhibits difficulty organizing tasks and activities* reported having the following years of experience: females over 20 years, seven of 25 (28%), females with 10-20 years of experience, six of 25 (24%), females with three to nine years of experience, two of 25 (8%), females with less than three years of experience, two of 25 (8%). Overall, the majority of participants 22 of 31 (70.96%) found this behavior to be problematic.

Male teachers who selected, *avoids tasks that require sustained mental effort* also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience, two of six (33.33%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience, one of six (16.66%). Female teachers who selected *avoids tasks that require sustained mental effort* reported having the following years of experience: females over 20 years, seven of 25 (28%), females with 10-20 years of experience, seven of 25 (28%), females with three to nine years of experience, two of 25 (8%), females with less than 3 years of experience, two of 25 (8%). Overall, the majority of participants, 21 of 31 (67.74%) found this behavior to be problematic.

Male teachers who selected, *fails to give close attention to detail* also reported having the following years of experience: males over 20 years of experience, zero of 6 (0%), males with 10-20 years of experience, one of 6 (16.66%), males with three to nine years of experience, zero of 6 (0%), and males with less than three years of experience, one of 6 (16.66%). Female teachers who selected *fails to give close attention to detail* reported having the following years of experience: females over 20 years, six of 25 (24%), females with 10-20 years of experience five of 25 (20%), females with three to nine years of experience, one of 25 (4%), females with less than three years of experience, two of 25 (8%). Overall, more than half of participants found this behavior problematic, 16 of 31 (51.61%).

Male teachers who selected *loses things necessary to complete tasks or activities* (e.g., pencils, schoolwork, tools) also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience, zero of six (0%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience, zero of six (0%). Female teachers who selected *loses things necessary to complete tasks or activities* (e.g., pencils, schoolwork, tools) reported having the following years of experience: females over 20 years, five of 25 (20%), females with 10-20 years of experience, six of 25 (24%), females with three to nine years of experience, one of 25 (4%), females with less than three years of experience, one of 25 (4%). Overall, less than half of participants found this behavior problematic 13 of 31 (41.93%).

Male teachers who selected, *easily distracted by extraneous stimuli* also reported having the following years of experience: males over 20 years of experience, one of six (16.66%), males with 10-20 years of experience, three of six (50%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience, one of six (16.66%).

Female teachers who selected *easily distracted by extraneous stimuli* reported having the following years of experience: females over 20 years, six of 25 (24%), females with 10-20 years of experience, six of 25 (24%), females with three to nine years of experience, three of 25 (12%), females with less than three years of experience two of 25 (8%). Overall, the majority of participants found this behavior problematic, 22 of 31 (70.96%).

Male teachers who selected, *forgetful in daily activities* also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience, zero of six (0%), males with three to nine years of experience, zero of six (0%), and males with less than 3 years of experience, zero of six (0%). Female teachers who selected *forgetful in daily activities* reported having the following years of experience: females

over 20 years, four of 25 (16%), females with 10-20 years of experience, four of 25 (16%), females with three to nine years of experience, one of 25 (4%), females with less than three years of experience, two of 25 (8%). Overall, less than half of participants found this behavior problematic, 11 of 31 (35.48%).

Male teachers who selected, *fidgets with hands or feet often* also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience zero of six (0%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience, zero of six (0%). Female teachers who selected *fidgets with hands or feet often* reported having the following years of experience: females over 20 years, three of 25 (12%), females with 10-20 years of experience, three of 25 (12%), females with three to nine years of experience, one of 25 (4%), females with less than three years of experience, one of 25 (4%). Overall, less than half of participants eight of 31 (25.8%) found this behavior problematic.

Male teachers who selected, *often leaves seat when sitting is required* also reported having the following years of experience: males over 20 years of experience, one of six (16.66%), males with 10-20 years of experience, two of six (33.33%), males with three to nine years of experience, zero of 6 (0%), and males with less than three years of experience, one of six (16.66%). Female teachers who selected *often leaves seat when sitting is required* reported having the following years of experience: females over 20 years, three of 25 (12%), females with 10-20 years of experience, three of 26 (12%), females with three to nine years of experience two of 25 (8%), females with less than three years of experience four of 25 (16%). Overall, the majority of participants found this behavior problematic, 16 of 31 (51.61%).

Male teachers who selected, *often runs about or climbs excessively when not appropriate* also reported having the following years of experience: males over 20 years of experience, zero

of six (0%), males with 10-20 years of experience, zero of six (0%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience one of six (16.66%). Female teachers who selected *often runs about or climbs excessively when not appropriate* reported having the following years of experience: females over 20 years, zero of 25 (0%), females with 10-20 years of experience, three of 25 (12%), females with three to nine years of experience, zero of 25 (0%), females with less than three years of experience, zero of 25 (0%). Overall, less than half of participants or four of 31 (12.9%) found this behavior problematic.

Male teachers who selected, *often is unable to engage in leisure activities quietly* also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience, zero of six (0%), males with three to nine years of experience, zero of six (0%), and males with less than 3 years of experience, zero of six (0%). Female teachers who selected *often is unable to engage in leisure activities quietly* reported having the following years of experience: females over 20 years, one of 25 (4%), females with 10-20 years of experience, two of 25 (8%), females with three to nine years of experience, one of 25 (4%), females with less than three years of experience, one of 25 (4%). Overall, less than half of participants found this behavior problematic, five of 31 (16.12%).

Male teachers who selected, *often on the go as if driven by a motor* also reported having the following years of experience: males over 20 years of experience, one of six (16.66%), males with 10-20 years of experience, one of six (16.66%), males with three to nine years of experience, zero of six (0%), and males with less than 3 years of experience, zero of six (0%). Female teachers who selected *often on the go as if driven by a motor* reported having the following years of experience: females over 20 years, one of 25 (4%), females with 10-20 years of experience, two of 25 (8%), females with three to nine years of experience, one of 25 (4%),

females with less than three years of experience, one of 25 (4%). Overall, a small portion of the sampled population found this problematic, seven of 31 (22.58%).

Male teachers who selected, *talks excessively* also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience, one of six (16.66%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience zero of six (0%). Female teachers who selected *talks excessively* reported having the following years of experience: females over 20 years, one of 25 (4%), females with 10-20 years of experience, four of 25 (16%), females with three to nine years of experience, four of 25 (16%), females with less than three years of experience, one of 25 (4%). Overall, less than half of participants 11 of 31 (35.48%) found this behavior problematic.

Male teachers who selected, *blurts out before questions can be completed* also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience, zero of six (0%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience, zero of six (0%). Female teachers who selected *blurts out before questions can be completed* reported having the following years of experience: females over 20 years 2 of 25 (8%), females with 10-20 years of experience, four of 25 (16%), females with three to nine years of experience, three of 25 (12%), females with less than three years of experience, two of 25 (8%). Overall, less than half of participants found this behavior problematic 11 of 31 (35.48%).

Male teachers who selected, *difficulty waiting turn* also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience, one of six (16.66%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience, zero of six (0%). Female teachers who

selected *difficulty waiting turn* reported having the following years of experience: females over 20 years, zero of 25 (0%), females with 10-20 years of experience, three of 25 (12%), females with three to nine years of experience, two of 25 (8%), females with less than three years of experience one of 25 (4%). Overall, less than half of participants found this behavior problematic, seven of 31 (22.58%).

Male teachers who selected, *interrupts or intrudes on others* also reported having the following years of experience: males over 20 years of experience, zero of six (0%), males with 10-20 years of experience, one of six (16.66%), males with three to nine years of experience, zero of six (0%), and males with less than three years of experience, one of six (0%). Female teachers who selected *interrupts or intrudes on others* reported having the following years of experience: females over 20 years, four of 25 (16%), females with 10-20 years of experience, four of 25 (16%), females with three to nine years of experience, four of 25 (16%), females with less than 3 years of experience, two of 25 (8%). Overall, the majority of participants, 16 out of 31 (51.61%) found this behavior to be problematic.

Difficulty sustaining attention to tasks was the most frequently selected behavioral characteristic amongst all participating teachers 25 of 31 (80.6%). Overall, *easily distracted by extraneous stimuli* was selected by, 22 of 31 (70.96%) of participants and *often leaves seat when sitting is required*, was selected by, 16 of 31 (61.6%) participants. The study identified several behavioral characteristics only selected by female participants. These characteristics included: *blurts out before questions can be completed*, *often is unable to engage in leisure activities quietly*, *fidgets with hands or feet often*, *forgetful in daily activities*, and *loses things necessary to complete tasks or activities (e.g., pencils, schoolwork, tools)*. Due to the limitation of a small sample size of males, this result should be interpreted with caution.

Table 15*Research Question 2- Teacher Gender, Years of Experience and ADHD Descriptors*

| Male Years of Experience | Sustaining Attention Frequency | Sustaining Attention Percent | Female Years of Experience | Sustaining Attention Frequency | Sustaining Attention Percent |
|--------------------------|---------------------------------|-------------------------------|----------------------------|---------------------------------|-------------------------------|
| Over 20 years | 1 | 16.66% | Over 20 years | 6 | 24% |
| 10-20 years | 4 | 66.66% | 10-20 years | 7 | 28% |
| 3-9 years | 0 | 0% | 3-9 years | 4 | 16% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 2 | 8% |
| Male Years of Experience | Listening Frequency | Listening Percent | Female Years of Experience | Listening Frequency | Listening Percent |
| Over 20 years | 0 | 0% | Over 20 years | 8 | 32% |
| 10-20 years | 0 | 0% | 10-20 years | 4 | 16% |
| 3-9 years | 0 | 0% | 3-9 years | 2 | 8% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 2 | 8% |
| Male Years of Experience | Follow Through Frequency | Follow Through Percent | Female Years of Experience | Follow Through Frequency | Follow Through Percent |
| Over 20 years | 0 | 0% | Over 20 years | 7 | 28% |
| 10-20 years | 3 | 50% | 10-20 years | 7 | 28% |
| 3-9 years | 0 | 0% | 3-9 years | 3 | 12% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 1 | 4% |
| Male Years of Experience | Difficulty Organizing Frequency | Difficulty Organizing Percent | Female Years of Experience | Difficulty Organizing Frequency | Difficulty Organizing Percent |
| Over 20 years | 1 | 16.66% | Over 20 years | 7 | 28% |
| 10-20 years | 4 | 66.66% | 10-20 years | 6 | 24% |
| 3-9 years | 0 | 0% | 3-9 years | 2 | 8% |
| Less than 3 years | 0 | 0% | Less than 3 years | 2 | 8% |
| Male Years of Experience | Avoids Tasks Frequency | Avoids Tasks Percent | Female Years of Experience | Avoids Tasks Frequency | Avoids Tasks Percent |
| Over 20 years | 0 | 0% | Over 20 years | 7 | 28% |
| 10-20 years | 2 | 33.33% | 10-20 years | 7 | 28% |
| 3-9 years | 0 | 0% | 3-9 years | 2 | 8% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 2 | 8% |
| Male Years of Experience | Attention to Detail Frequency | Attention to Detail Percent | Female Years of Experience | Attention to Detail Frequency | Attention to Detail Percent |
| Over 20 years | 0 | 0% | Over 20 years | 6 | 24% |

| 10-20 years | 1 | 16.66% | 10-20 years | 5 | 20% |
|--------------------------|------------------------|----------------------|----------------------------|------------------------|----------------------|
| 3-9 years | 0 | 0% | 3-9 years | 1 | 4% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 2 | 8% |
| Male Years of Experience | Loses Things Frequency | Loses Things Percent | Female Years of Experience | Loses Things Frequency | Loses Things Percent |
| Over 20 years | 0 | 0% | Over 20 years | 5 | 20% |
| 10-20 years | 0 | 0% | 10-20 years | 6 | 24% |
| 3-9 years | 0 | 0% | 3-9 years | 1 | 4% |
| Less than 3 years | 0 | 0% | Less than 3 years | 1 | 4% |
| Male Years of Experience | Distracted Frequency | Distracted Percent | Female Years of Experience | Distracted Frequency | Distracted Percent |
| Over 20 years | 1 | 16.66% | Over 20 years | 6 | 24% |
| 10-20 years | 3 | 50% | 10-20 years | 6 | 24% |
| 3-9 years | 0 | 0% | 3-9 years | 3 | 12% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 2 | 8% |
| Male Years of Experience | Forgetful Frequency | Forgetful Percent | Female Years of Experience | Forgetful Frequency | Forgetful Percent |
| Over 20 years | 0 | 0% | Over 20 years | 4 | 16% |
| 10-20 years | 0 | 0% | 10-20 years | 4 | 16% |
| 3-9 years | 0 | 0% | 3-9 years | 1 | 4% |
| Less than 3 years | 0 | 0% | Less than 3 years | 2 | 8% |
| Male Years of Experience | Fidgets Frequency | Fidgets Percent | Female Years of Experience | Fidgets Frequency | Fidgets Percent |
| Over 20 years | 0 | 0% | Over 20 years | 3 | 12% |
| 10-20 years | 0 | 0% | 10-20 years | 3 | 12% |
| 3-9 years | 0 | 0% | 3-9 years | 1 | 4% |
| Less than 3 years | 0 | 0% | Less than 3 years | 1 | 4% |
| Male Years of Experience | Leaves Seat Frequency | Leaves Seat Percent | Female Years of Experience | Leaves Seat Frequency | Leaves Seat Percent |
| Over 20 years | 1 | 16.66% | Over 20 years | 3 | 12% |
| 10-20 years | 2 | 33.33% | 10-20 years | 3 | 12% |
| 3-9 years | 0 | 0% | 3-9 years | 2 | 8% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 4 | 16% |
| Male Years of Experience | Runs About Frequency | Runs About Percent | Female Years of Experience | Runs About Frequency | Runs About Percent |
| Over 20 years | 0 | 0% | Over 20 years | 0 | 0% |
| 10-20 years | 0 | 0% | 10-20 years | 3 | 12% |
| 3-9 years | 0 | 0% | 3-9 years | 0 | 0% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 0 | 0% |

| Male Years of Experience | Leisure Activities Frequency | Leisure Activities Percent | Female Years of Experience | Leisure Activities Frequency | Leisure Activities Percent |
|---------------------------------|------------------------------|----------------------------|----------------------------|------------------------------|----------------------------|
| Over 20 years | 0 | 0% | Over 20 years | 1 | 4% |
| 10-20 years | 0 | 0% | 10-20 years | 2 | 8% |
| 3-9 years | 0 | 0% | 3-9 years | 1 | 4% |
| Less than 3 years | 0 | 0% | Less than 3 years | 1 | 4% |
| Male Years of Experience | Driven by Motor Frequency | Driven by Motor Percent | Female Years of Experience | Driven by Motor Frequency | Driven by Motor Percent |
| Over 20 years | 1 | 16.66% | Over 20 years | 1 | 4% |
| 10-20 years | 1 | 16.66% | 10-20 years | 2 | 8% |
| 3-9 years | 0 | 0% | 3-9 years | 1 | 4% |
| Less than 3 years | 0 | 0% | Less than 3 years | 1 | 4% |
| Male Years of Experience | Talks Excessively Frequency | Talks Excessively Percent | Female Years of Experience | Talks Excessively Frequency | Talks Excessively Percent |
| Over 20 years | 0 | 0% | Over 20 years | 1 | 4% |
| 10-20 years | 1 | 16.66% | 10-20 years | 4 | 16% |
| 3-9 years | 0 | 0% | 3-9 years | 4 | 16% |
| Less than 3 years | 0 | 0% | Less than 3 years | 1 | 4% |
| Male Years of Experience | Blurts Out Frequency | Blurts Out Percent | Female Years of Experience | Blurts Out Frequency | Blurts Out Percent |
| Over 20 years | 0 | 0% | Over 20 years | 2 | 8% |
| 10-20 years | 0 | 0% | 10-20 years | 4 | 14% |
| 3-9 years | 0 | 0% | 3-9 years | 3 | 12% |
| Less than 3 years | 0 | 0% | Less than 3 years | 2 | 8% |
| Male Years of Experience | Waiting Turn Frequency | Waiting Turn Percent | Female Years of Experience | Waiting Turn Frequency | Waiting Turn Percent |
| Over 20 years | 0 | 0% | Over 20 years | 0 | 0% |
| 10-20 years | 1 | 16.66% | 10-20 years | 3 | 12% |
| 3-9 years | 0 | 0% | 3-9 years | 2 | 8% |
| Less than 3 years | 0 | 0% | Less than 3 years | 1 | 4% |
| Male Years of Experience | Interrupts Frequency | Interrupts Percent | Female Years of Experience | Interrupts Frequency | Interrupts Percent |
| Over 20 years | 0 | 0% | Over 20 years | 4 | 16% |
| 10-20 years | 1 | 16.66% | 10-20 years | 4 | 16% |
| 3-9 years | 0 | 0% | 3-9 years | 4 | 16% |
| Less than 3 years | 1 | 16.66% | Less than 3 years | 2 | 8% |

Summary

All participants in this study identified themselves as a teacher who had referred a student to intervention processes that could lead to special education. Female teachers were the dominant participant group in this study, with 25 of 31 (80.6%). The majority of participants, 30 of 31 (96.7%) agreed that the behaviors exhibited by the student they had in mind were problematic and interfered with the learning of that child or others. All but one participant identified the gender of the student they had in mind while filling out the survey 30 of 31 (96.7%). The majority of participants, 30 of 31 (96.7%) respondent reported varying degrees of agreement with the statement, *I referred this student for additional assistance because their behaviors interfere with their school performance or that of others*. Most participants shared that the student they had in mind while filling out the survey was male 25 (83.3%). According to the survey responses, female student referrals constituted 16.7% of the referrals to intervention processes that could potentially lead to special education evaluation.

Regarding behaviors that respondents found to be problematic and interfered with academic performance, the majority of the survey participants identified the following ED behaviors *Difficulty establishing and maintaining relationships*, and *inappropriate feelings or behaviors under normal circumstances* as problematic behaviors that interfered with academic performance. The majority of participants indicated that the following ADHD behaviors were problematic: *difficulty sustaining attention to tasks, does not follow through on instructions or finish schoolwork (not oppositional)*, *exhibits difficulty organizing tasks and activities*, *avoids tasks that require sustained mental effort*, and *easily distracted by extraneous stimuli*.

In Chapter 5, the findings are summarized. Alignment of literature with findings is also discussed. Implications for the refinement of the special education referral process, and the implications for professional development centering around this referral process are discussed. Finally, suggestions for future research are put forward.

Chapter 5: Discussion

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). The study explored how male and female teachers with varied years of experience described the behavior of male and female students they had referred for additional assistance due to ADHD and ED behaviors. The research addressed the following questions:

1. What is the relationship between student and teacher gender, disaggregating for teacher experience, when referring students for ADHD/ED behaviors to intervention processes that can potentially lead to special education evaluation?

2. What is the relationship between student and teacher gender, disaggregating for teacher experience, when students are referred for intervention processes that can potentially lead to special education evaluation based upon varying descriptors of ADHD/ED behaviors exhibited in the classroom?

Presentation of Findings

The data collected and analyzed indicated that male students were more likely to be referred for assistance that could lead to special education evaluation for ED and ADHD behaviors. Further, majority of teachers (21 out of 31; 70%) with over 10 years of experience were more likely to refer students for such assistance. Data also indicated that teachers considered behavior when referring students for assistance 30 of 31 (96.7%). Majority of survey respondents indicated that there were specific ED behaviors (64.5%) and ADHD behaviors (67.7%) that were problematic and had a negative impact on the academic performance of the student or that of others.

Following data collection, the information was reviewed and analyzed. Major findings were identified and linked to previous research. These findings and supporting research are in the following section.

Finding 1

Male students are more likely than female students to be referred for intervention processes for behaviors, which could lead to special education evaluation for ED and ADHD behaviors. Survey Question 6 asked respondents to identify the gender of the student they had in mind while filling out the survey. Of the 30 respondents who answered this question, 25 (83.3%) indicated that they had a male student in mind. In addition, this finding was consistent with male and female teachers. Female teachers accounted for 21 (70%) male referrals and male teacher referrals accounted for four (13%) male student referrals (see Table 8).

It should be noted that there were five student referrals made by male teachers: four male students, and one female student. While this finding should be interpreted with caution because of the small sample size, it was noteworthy as the four male student referrals account for 80% of referrals made by male teachers. Female teacher referrals of male students accounted for 21 of 25 (84%) referrals. A summary of all responses to Survey Question 6 can be found in Table 7.

Results from this survey are aligned with literature by Bal et al. (2014) who found that male students were almost twice as likely to be identified for special education services than female students. Bryan et al. (2012) found that male students were three times more likely to be referred for assistance because of behaviors in English class than female students and two times more likely to be referred in math class. Bradshaw et al. (2010) found that when it came to office disciplinary referrals, male students were referred twice as often as female students.

Finding 2

Teachers with more than 10 years of experience referred students for intervention processes that could potentially lead to special education evaluation for ED and ADHD behaviors. Data collected and analyzed from Survey Question 2, which asked teachers to indicate their years of teaching experience, showed that 5 out of 6 (83.33%) male teachers with 10 or more years of experience referred students with ED and ADHD behaviors to intervention processes that could potentially lead to special education evaluation. Data also indicated that female teachers with more than 10 years of experience 17 out of 25 (68%) were more likely to refer students with ED and ADHD behaviors to intervention processes that could potentially lead to special education evaluation. Collectively, 22 of 31 (71%) of respondents had more than 10 years of experience and had referred a student with ED or ADHD behaviors to intervention processes that would potentially lead to special education evaluation. A summary of these

findings can be found in Table 5. This finding is supported by Woodson & Harris (2018) who found a positive relationship between years of teaching experience and the likelihood that a teacher would refer a student for special education services. This finding suggested that experienced teachers were more likely to refer a student for special education services.

Finding 3

Nearly all teachers regardless of gender considered male and female student ED and ADHD behaviors when referring students to intervention processes that could potentially lead to special education evaluation. Survey Question 3 asked participants to indicate their agreement with the statement *I referred this student for assistance because their behaviors interfere with their school performance or that of others*. Of the 31 responses, 30 (97%) reported that they either agreed or strongly agreed with this statement. A summary of responses can be found in Table 10. Furthermore, 6 of 6 (100%) male teachers, and 24 of 25 (96%) of female teachers either agreed or strongly agreed with the statement *I referred this student for assistance because their behaviors interfere with their school performance or that of others* (see Table 11). The only group not included in this finding are male teachers with 3-9 years of experience as 0 of 6 (0%) male participants reported having years of experience within this range. For summary of data supporting this finding, refer to Table 11.

These findings were consistent with Bryan et al. (2012) who found that overall behavior was one reason students were referred for extra support in school. In their study, male students were three times more likely than female students to be referred for additional support in English class for behaviors. Also, male students were two times more likely than female students to be referred for support in math class for behaviors (Bryan et al., 2012). These finding are also

consistent with finding from Woodson and Harris (2018) who identified student behavior was a reason for referral to special education.

Finding 4

The majority of survey responses indicated specific ED behaviors (*difficulty establishing and maintaining relationships and inappropriate feelings or behaviors under normal circumstances*) as problematic and the reason for the referral to intervention processes that could potentially lead to special education evaluation. Survey Question 4 asked participants to choose from ED behaviors that they believed impacted academic performance. Of the 31 survey responses, 23 (74.19%) indicated *difficulty establishing and maintaining relationships*, and 20 of 31 (64.5%) indicated *inappropriate feelings or behaviors under normal circumstances*. A summary of responses can be found in Table 12. This finding was also aligned with Woodson and Harris (2018) identifying student behavior was a reason for referral to special education.

Finding 5

The majority of survey responses indicated specific ADHD behaviors as problematic and the reason for the referral to intervention processes that could potentially lead to special education evaluation. Survey Question 5 asked participants to choose from ADHD behaviors that they believed impacted academic performance. The majority of participants identified the following ADHD behaviors: *difficulty sustaining attention to tasks* 25 (80.6%), *does not follow through on instructions or finish schoolwork (not oppositional)* 22 (70.96%), *exhibits difficulty organizing tasks and activities* 22 (70.96%), *easily distracted by extraneous stimuli* 22 (70.96%), *avoids tasks that require sustained mental effort* 21 (67.74%), *does not*

seems to listen when spoken to directly 17 of 31 (54.83%), *fails to give close attention to detail* 16 of 31 (51.61%), *often leaves seat when sitting is required* 16 of 31 (51.61%). A summary of responses can be found in Table 14. These results were aligned with previous research by Alter et al. (2013) which determined that all respondents in their study identified off-task behaviors to be frequent and problematic. This finding was also aligned with Woodson and Harris (2018) identifying student behavior was a reason for referral to special education.

Finding 6 (Tentative Finding)

Selection of specific ADHD behaviors differed by gender of the teacher. The study determined that female teachers were the only group to select the following ADHD behaviors. These behaviors included: *blurts out before questions can be completed, often is unable to engage in leisure activities quietly, fidgets with hands or feet often, forgetful in daily activities, and loses things necessary to complete tasks or activities (e.g., pencils, schoolwork, tools)*. Due to the limitation of a small sample size of males, this result should be interpreted with caution (see Table 15).

Alter et al. (2013) determined that all respondents in their study identified off-task behaviors to be frequent and problematic which is supported by findings in this study. In addition, Alter et al. (2013) found that female teachers were more likely to find off-task behaviors and verbal outbursts more problematic than male teachers were. Further, Alter et al. (2013) supported by the absence of male teacher responses to specific ADHD behaviors to include *blurts out before questions can be completed, often is unable to engage in leisure activities quietly, fidgets with hands or feet often, forgetful in daily activities, and loses things necessary to complete tasks or activities (e.g., pencils, schoolwork, tools)*. Due to the limitations of a small sample size, this finding should be interpreted with caution.

Implications of Findings

Following these findings, several implications for school-based administrators have been identified. School administrators can implement these measures by collaborating with support staff, such as school psychologists and special education leadership, to work towards proportionality in special education.

Implication 1

School divisions should emphasize social-emotional learning by infusing it throughout the core content instruction. The study identified specific behaviors that teachers found most problematic for the students' academic achievement. Further, the study determined that male students are more likely to be referred for assistance due to ED and ADHD behaviors. Teaching students' skills to support self-awareness, social awareness, and relationship skills could be important in a class setting. We know that not all students come to us at the same developmental level, just as they do not come to us at the same academic level. Taking time to infuse some of these skills within core content areas might help provide some coping strategies when faced with an uncomfortable environment or situation within a safe and familiar environment. This implication is associated with *Finding 1* and *Finding 4*.

Implication 2

School divisions should train teachers to account for gender differences when designing instruction. The study determined that male students were more likely to be referred for assistance, which could lead to special education evaluation for ED or ADHD behaviors. Additionally, the study found that ADHD behaviors were identified as problematic by more than half of participants. These behaviors included *difficulty sustaining attention to tasks* 25 (80.6%), *does not follow through on instructions or finish schoolwork (not oppositional)* 22 (70.96%), *exhibits difficulty organizing tasks and activities* 22 (70.96%), *easily distracted by extraneous*

stimuli 22 (70.96%), avoids tasks that require sustained mental effort 21 (67.74%), does not seems to listen when spoken to directly 17 of 31 (54.83%), fails to give close attention to detail 16 of 31 (51.61%), often leaves seat when sitting is required 16 of 01 (51.61%). Further, the researcher determined that certain ADHD behaviors were only selected by females. Those behaviors included *blurts out before questions can be completed, often is unable to engage in leisure activities quietly, fidgets with hands or feet often, forgetful in daily activities, and loses things necessary to complete tasks or activities (e.g., pencils, schoolwork, tools).* Male inattention may indicate that gender differences should be considered when planning instruction. Training teachers to understand and identify common characteristics of how males and females learn, behave, and socialize may help with student engagement and inattention. This implication is associated with *Finding 1, Finding 4, Finding 5, and Finding 6.*

Implication 3

School divisions should provide professional development to teachers to better understand the behavioral interventions and the special education referral process. The study established that more experienced teachers referred students for supports that could lead to special education. Less experienced teachers might not be as familiar with such processes and might be reluctant to increase an already demanding workload. Training teachers might be infused throughout regularly scheduled staff meetings in manageable portions. Teachers might benefit from understanding the components of the special education identification process. This implication is associated with *Finding 2.*

Implication 4

School divisions should formally train teachers on Tier 1 behavioral interventions for commonly occurring behavior problems as well as on instructional strategies designed

to prevent misbehavior. The study highlighted that more than 60% of participant identified ED and ADHD behaviors that interfered with academic performance. Further, the researcher established that survey participants considered behavior when referring students for support. Tier 1 classroom management interventions and preventative measures such as instructional strategies are often overlooked by school districts and building administrators who assume licensed teachers possess this knowledge. This implication is associated with *Finding 2, Finding 3, Finding 4, and Finding 5.*

Suggestions for Future Research

The purpose of this study was to investigate the relationship among teacher gender, student gender, and the referral of students to intervention processes that could potentially lead to special education evaluation for behavioral characteristics of emotional disability (ED) and attention deficit hyperactivity disorder (ADHD). This study was limited to middle school teachers who referred students to an intervention process that could potentially lead to special education evaluation, because they exhibited what they perceived to be ED and ADHD behaviors. As a result, the sample size limited the ability to examine gender differences and the referral of students to intervention processes that could lead to special education evaluation. Future studies should consider teacher demographic variables and their relationship to special education referral at the elementary level as this might yield a larger sample size as many initial evaluations occur in elementary school.

Despite a low sample size that precluded any comparisons regarding differences in what male participants and female participants observed as problematic behaviors, the overall sample of selected behaviors covered a wide range of observed behaviors. A study that categorizes

behaviors possibly into internalizing or externalizing behaviors and their relationship to student gender might provide additional insights.

Summary

Chapter 5 provided a summary and discussion of the findings as well as an overview of the implications of those findings and suggestions for future research. This study found that male students were more likely to be referred for intervention processes for behaviors, which could lead to special education evaluation for ED and ADHD behaviors. Teachers with more than 10 years of experience were more likely to refer students for intervention processes that could potentially lead to special education evaluation for ED and ADHD behaviors. The study also found that all teachers, considered male and female student ED and ADHD behaviors when referring students to intervention processes that could potentially lead to special education evaluation. Finally, majority of survey responses identified specific ADHD and ED behaviors as problematic and as the reason for the referral to intervention processes that could potentially lead to special education evaluation. Findings suggest that school districts should take student gender into consideration when designing instruction.

Reflections

This study has been a journal of personal and professional growth for me. Many challenges along the way came with additional demands on educators caused by COVID-19. My survey was delayed in its distribution to alleviate additional demands on educators. Unfortunately, upon our return to normal, the demands have not seemed to let up for educators and have required them to do more with fewer resources. I believe this is the reason for the lower response rate on my survey. Additionally, COVID-19 interfered with many students who would have been referred to special education during a typical school year and who did not go through eligibility because of distance learning. When these students returned to the building, teachers

and administrators were having difficulty assessing the needs of the student population. This is when my survey went out, which may have impacted the response rate.

Overall, conducting a study has made me a stronger building administrator. The knowledge I have gained has assisted in examining and evaluating operations and processes my school has in place for behavioral and learning interventions. It has helped me make tough decisions as the LEA representative in Child Find meetings. My district is one of many districts with a disproportionate number of male students in special education. As I transitioned through my doctoral journey, I gained an in-depth understanding of why this is problematic and what factors may contribute to disproportionality. When problems can be isolated, it is much easier to develop a plan of action when possible. I hope this study provides some insight to other practitioners so they can also identify these issues and address them, whether schoolwide or through one Child Find meeting at a time.

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Appendix A

Department of Assessment, Research and Evaluation

3/21/2022

Mr. David Jarman
[REDACTED]
[REDACTED]

Dear Mr. Jarman:

The Department of Assessment, Research and Evaluation has reviewed and approved your research study entitled "*Disproportionality of Males in Special Education*". Your study was approved by the review committee with revisions and/or conditions. Please see the attached document for the revisions. Once the revisions are completed and approved and IRB is on file, you can start your research.

Approval to conduct the study is limited to one year from the time of proposal submission. If the research timeline or any other aspect of your study changes during the time frame, please contact [REDACTED] and submit the changes for review prior to proceeding. If you are affiliated with an organization with an Institutional Review Board (IRB), the IRB approval letter must be on file in our office prior to beginning the study. Although your study has been approved, participation by individuals and schools is completely voluntary. Reports and publications generated from this study should not identify the individuals, schools, or the division and all research materials should accurately represent the party conducting the study. It is our expectation that you will submit a final report upon completion of the study to the Department of Assessment, Research and Evaluation.

Please contact [REDACTED] or [REDACTED] who will assist you in the process of beginning your research studies in the schools or offices that you have requested.

Thank you for your interest in [REDACTED] Public Schools.

Sincerely,

[REDACTED]

[REDACTED] Ph.D.
Director of Assessment, Research and Evaluation
[REDACTED] Public Schools
[REDACTED]

[REDACTED]

[REDACTED] Ph.D.
Educational Specialist - Research
[REDACTED] Public Schools
[REDACTED]

Appendix B



Division of Scholarly Integrity and
Research Compliance
Institutional Review Board
North End Center, Suite 4120 (MC 0497)
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-3732
irb@vt.edu
<http://www.research.vt.edu/sirchrrp>

MEMORANDUM

DATE: July 11, 2022
TO: Jodie Lynn Brinkmann, David R Jarman
FROM: Virginia Tech Institutional Review Board (FWA00000572)
PROTOCOL TITLE: Teacher Gender, Student Gender, and Their Relationship to Male Representation in Special Education
IRB NUMBER: 22-602

Effective July 11, 2022, the Virginia Tech Human Research Protection Program (HRPP) determined that this protocol meets the criteria for exemption from IRB review under 45 CFR 46.104(d) category (ies) 2(i).

Ongoing IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit an amendment to the HRPP for a determination.

This exempt determination does not apply to any collaborating institution(s). The Virginia Tech HRPP and IRB cannot provide an exemption that overrides the jurisdiction of a local IRB or other institutional mechanism for determining exemptions.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<https://secure.research.vt.edu/external/irb/responsibilities.htm>

(Please review responsibilities before beginning your research.)

PROTOCOL INFORMATION:

Determined As: Exempt, under 45 CFR 46.104(d) category(ies) 2(i)
Protocol Determination Date: July 11, 2022

ASSOCIATED FUNDING:

The table on the following page indicates whether grant proposals are related to this protocol, and which of the listed proposals, if any, have been compared to this protocol, if required.

Invent the Future

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An equal opportunity, affirmative action institution

Appendix C

ELECTRONIC SURVEY EMAIL CORRESPONDENCE

Email Subject line: Examining the Relationship Between Teacher Gender, Student Gender, and Student Representation in Special Education

Dear Prospective Participant,

My name is David Jarman. I am a doctoral student at Virginia Polytechnic Institute and State University (VT) in the Educational Leadership and Policy Studies program. I am conducting research to examine the relationship between teacher gender, student gender, and how teacher perception of behavior influences the referral of students to special education. I am looking for teachers who have referred a student to an intervention team or child find as a result of behavior they have exhibited in the educational setting (Specific to ED and OHI behaviors) to take a Google Forms survey. Upon accessing the link, prospective participants will be presented with a consent information sheet to learn more about the research and have the opportunity to participate. The Google Form survey should take you no longer than 5 minutes to complete. If you are interested in learning more about this research and participating in the survey please select this [link](#). No identifying information will be collected from participants and all data will be stored securely using a two-factor identification system. Thank you for taking the time to consider participation in this study.

Regards,

David Jarman

Doctoral Candidate

Virginia Polytechnic Institute and State University

Appendix D

INFORMED

CONSENT



Information Sheet for Participation in a Research

Study Principal Investigator: Dr. Jodi Brinkmann

IRB# 22-602

You are invited to participate in a research study. This form includes information about the study and contact information if you have any questions.

I am a **doctoral** student at Virginia Tech, conducting this research as part of my course work.

WHAT SHOULD I KNOW?

If you decide to participate in this study, you will complete a *survey*. *As part of the study, you will be asked to share information about a student you referred to any process that potentially leads to special education evaluation. You will be asked to identify and describe behavior(s) of concern for that student. You will be asked to identify your gender, years of experience, and the gender of the student you had in mind while completing this survey.* The study should take approximately 15 minutes of your time. **You may complete the survey more than one time if you have more than one student in mind.** We do not anticipate any risks from completing this study.

You can choose whether to be in this study or not. You may also refuse to answer any questions you don't want to answer and submit your answers. The investigator may withdraw you from this research if circumstances arise that warrant doing so.

CONFIDENTIALITY

Upon submitting your survey, no identifying information will be collected. At the beginning of the survey, you will be asked to identify yourself as a male or female, and indicate your years of teaching experience. Your responses are anonymous so no one can associate your answers back to you.

Any data collected during this research study will be kept confidential by the researchers. Electronic submissions will be encrypted, stored in a Google Drive account maintained by Virginia Tech, and protected by two-factor authentication. Hard copies of any data will be

locked and stored securely. Data will be stored for 3 years after the study has been completed and then destroyed.

locked and stored securely. Data will be stored for 3 years after the study has been completed and then destroyed.

WHO CAN I TALK TO?

If you have any questions or concerns about the research, please feel free to contact **Dr. Jodie Brinkmann** (sammy1@vt.edu) or **David Jarman** (davidrj@vt.edu). You are not waiving any legal claims, rights, or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, contact the Virginia Tech HRPP Office at 540-231-3732 (irb@vt.edu).

Please print out a copy of this information sheet for your records.

[If applicable: If you would like to participate in this survey, click [yes](#) to begin or no to exit].

Appendix E

Section 1 of 2

Teacher Referral Survey Section 1



Please answer the following questions regarding your demographics.

1. Please select your gender.

☐ Female

☐ Male

2. Please provide your years of teaching experience

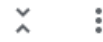
1. Less than 3 years

2. 3 to 9 Years

3. 10 to 20 Years

4. Over 20 Years

Teacher Referral Survey Section 2



Please answer the following questions with a student in mind that you referred to any additional supports that could have potentially lead to special education evaluation. Some examples of such referrals would be to child find, or intervention team.

3. Please indicate to what extent you agree or disagree with the following statement: I referred this student for additional assistance because their behaviors interfere with their school performance or that of others.

- ☐ Strongly agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ Does not apply to this student

4. What student ED behaviors were exhibited that you believe impacted academic performance (Select all that apply)

Column 1

- | | |
|---|--------------------------|
| Difficulty establishing and maintaining relationships | <input type="checkbox"/> |
| Inappropriate feelings or behaviors under normal cir... | <input type="checkbox"/> |
| General pervasive mood of unhappiness or depressi... | <input type="checkbox"/> |
| Physical symptoms or fears associated with person ... | <input type="checkbox"/> |

5. What student OHI behaviors were exhibited that you believe impacted academic performance
(Select all that apply)

Column 1

- | | |
|--|--------------------------|
| Difficulty sustaining attention to tasks | <input type="checkbox"/> |
| Does not seem to listen when spoken to directly | <input type="checkbox"/> |
| Does not follow through on instructions or finish sch... | <input type="checkbox"/> |
| Exhibits difficulty organizing tasks and activities | <input type="checkbox"/> |
| Avoids tasks that require sustained mental effort | <input type="checkbox"/> |
| Loses things necessary to complete tasks or activiti... | <input type="checkbox"/> |
| Easily distracted by extraneous stimuli | <input type="checkbox"/> |
| Forgetful in daily activities | <input type="checkbox"/> |
| Fidgets with hands or feet often | <input type="checkbox"/> |
| Often leaves seat when sitting is required | <input type="checkbox"/> |
| Often runs about or climbs excessively when not ap... | <input type="checkbox"/> |
| Often is unable to engage in leisure activities quietly | <input type="checkbox"/> |
| Often on the go as if driven by a motor | <input type="checkbox"/> |

Talks excessively

☐

Blurts out before questions can be completed

☐

Difficulty waiting turn

☐

Interrupts or intrudes on others

☐

Fails to give close attention to detail

☐

6. What student gender did you have in mind while filling out this survey?

☐ Male

☐ Female

Appendix F

