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THE EFFECT OF EXCEPTIONALITY LABEL ON SCHOOL PSYCHOLOGISTS DURING THE EVALUATION PROCESS

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THE EFFECT OF EXCEPTIONALITY LABEL ON SCHOOL PSYCHOLOGISTS
DURING THE EVALUATION PROCESS

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Education at the University of Kentucky

By
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Lexington, Kentucky

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2023

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ABSTRACT OF DISSERTATION

THE EFFECT OF EXCEPTIONALITY LABEL ON SCHOOL PSYCHOLOGISTS DURING THE EVALUATION PROCESS

School psychologists often lead the evaluation process that is responsible for identifying students with an education-based disability. They are also responsible for providing recommendations for the student following the evaluation. The current study is focusing on the variable of exceptionality label as it is a universally present variable that has the potential to affect all evaluations. Two recent studies have examined and found labeling bias on preservice educators (Allday et al., 2011; Fisher et al., 2022). This study sought to expand this research by looking at labeling bias in school psychologists. The study measured the effect of exceptionality label on the collection of momentary time sampling (MTS) data, reported causes of student behavior, and predictions of student academic and social success. The accuracy of participants' MTS data collection as well as the role of theoretical orientation in predicting causes of student behavior were also examined. Data for this study were collected via a survey sent to school psychologists in the state of Kentucky. In addition to answering questions about their daily practices, school psychologists read a vignette and watched a video of a hypothetical student. During the video they collected MTS data; at the conclusion of the video, they answered questions regarding the cause of the student's behavior and made predictions regarding the student's future success. There were no significant findings regarding the biasing effect of exceptionality label on the collection of MTS data, reported causes of student behavior, or predictions of future academic or social success of a student. There were significant findings regarding the endorsed theoretical orientation and reported cause of behavior. School psychologists were not biased by the presence of exceptionality label when collecting data or predicting future student success. This provides evidence to support the objectivity of the evaluation process completed by school psychologists. Limitations of this study include the small sample size, the video, and the setup of the MTS data collection in the survey.

KEYWORDS: School Psychologist, Labeling Bias, Exceptionality Label,
Predictions of Student Success, Behavior Observations

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07/09/2023

Date

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CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW

Background

The purpose of the Individuals with Disabilities Education Act (IDEA) is to provide all students with access to a free and appropriate public education (IDEA, 2004). Part B of this statute requires public schools to locate and evaluate all children, ages 3 through 21, for disabilities that affect their educational performance. Children who are identified with an educational disability are required to be provided with an Individualized Education Program (IEP) in their Least Restrictive Environment (LRE). This provides them with specialized instruction as well as accommodations and modifications in order to access the general education curriculum and succeed in school.

IDEA seeks to protect the rights of students and families of students with a disability. The federal law helps to provide services for students with disabilities, hold school districts accountable for all student outcomes, as well as requires schools to help plan for the transition into life after school. Each of these elements has been determined to be an essential component to ensure that all students will be able to learn, grow, and become contributing members of their community.

Special Education Eligibility

There are thirteen disability eligibility categories under which a child can be found eligible for special education services. Each of these categories has different inclusionary and exclusionary criteria that must be met for a child to qualify under that category. In order to determine if these criteria have been met, a comprehensive psychoeducational evaluation must be conducted (Gresham, 2014). An evaluation can include norm referenced measures of cognition, norm referenced and criterion referenced measures of

academic abilities, interviews with teachers, parents, and the student, behavior rating scales, observations, and measures of adaptive behavior. Additional areas that can be evaluated include communication, fine motor skills, gross motor skills, vision, hearing, and sensory sensitivities. Every evaluation is individualized to the current presenting concerns and includes input from both the parent as well as school personnel. Evaluation committees come together in a formal meeting to plan and decide what types of data will be collected. The student's legal guardian must then sign a consent form prior to beginning the evaluation.

The current study will focus specifically on eligibility criteria and evaluation procedures for the categories of specific learning disability (SLD), autism spectrum disorder (ASD), and emotional disturbance (ED). These specific disabilities have been chosen for multiple reasons. SLD and ED were selected due to precedent set by previous studies examining labeling bias in teachers based on these two categories (Bianco, 2005; Field et al., 1992; Thelen et al., 2003). Replicating components of these studies with school psychologists will help to expand these findings and fill a gap in the current available literature. An additional reason to include SLD and a major motive to include ASD is the high percentage of students who currently qualify under these two categories. As of the 2020-2021 school year, SLD comprised 33% of students with a disability and ASD comprised 12% of students with a disability (The National Center of Education Statistics, 2022). These three categories are qualitatively different in inclusionary and exclusionary criteria. Table 1 provides the IDEA criteria for each of the eligibility categories. Additionally, Table 1 provides the diagnostic criteria included in the DSM-5 for ASD and SLD, as well as the DSM-5 labels that are possible diagnoses for a student

identified with ED. The inclusionary and exclusionary criteria for each area result in academic and social behaviors that are distinctive to the category. An individual who qualifies under each disability category will display a set of either academic and/or behavioral characteristics within the classroom that are hallmarks of that category.

Specific Learning Disability

According to IDEA Sec. 300.8 (IDEA, 2004), SLD is a disability in one or more of the psychological processes that results in difficulty in oral expression, listening comprehension, written expression, basic reading, reading fluency, reading comprehension, mathematics calculation, or mathematics reasoning. In practice, SLD under the umbrella of reading, math, and/or writing are the most common and empirically supported (Peterson et al., 2021). The exclusionary criteria for this category include learning difficulties that are the primary result of visual, hearing, or motor disabilities, an intellectual disability, an emotional disturbance, or environmental, cultural, or economic disadvantage. No specific behavioral challenges are noted in these criteria. While there may be comorbid behavioral difficulties that result from the learning frustrations associated with SLD, the core of this eligibility category is an academic deficit.

In the classroom, a student with a SLD will require specialized instruction in the specific academic area in which they are identified. They may also require accommodations for that specific academic deficit such as a calculator or a reader (Burns et al., 2020). This student would require additional support in order to be academically successful in the classroom. With no behavioral comorbidities, this student may present socially and behaviorally indiscriminate from their peers (Jordan et al., 2020). Some students with a SLD are reported to have difficulty maintaining attention in the classroom

(Gadeyne et al., 2004) or have comorbid diagnoses of anxiety, depression, or attention deficit hyperactivity disorder (ADHD) (Ayar et al., 2022; Capozzi et al., 2008; McDowell, 2018). These specific cases could be addressed through the IEP if there are adverse impacts on the behavior in the classroom.

There are multiple ways to evaluate for a learning disability. The three most commonly referenced models are the Ability-Achievement Discrepancy, Intra-Individual Differences, and Response to Intervention (RTI) models (Lichtenstein, 2014; Maki & Adams, 2019; Maki & Adams, 2020). Each model identifies its own specific criteria that must be met that falls within the federal guidelines.

The Ability-Achievement model compares a student's overall IQ score to each individual academic area. The difference between these two scores is compared to a discrepancy table or to a predetermined numerical gap based off the standard deviation of the test. If the discrepancy between these two scores is wide enough, a disability is considered present in that area (Benson et al., 2020; Lichtenstein, 2014; Maki & Adams 2020).

The Intra-Individual Differences approach encompasses multiple models that all focus on the relation between specific cognitive processes and how those relate to deficits in specific academic areas. If a child has a deficit in a specific cognitive area, such as verbal comprehension, and this is related to a deficit in their academic performance, such as basic reading skills, they may be eligible for services as a student with a SLD (Benson et al., 2020; Lichtenstein, 2014; Maki et al., 2022).

The RTI model does not require measure of cognitive scores. This model relies on two elements: 1) The child's academic performance is below their peers, and 2) the

child's learning is progressing slowly despite appropriate interventions in the general education setting (Benson et al., 2020; Lichtenstein, 2014). When using the RTI method, a comprehensive evaluation cannot only rely on the student's intervention data, but it must include a variety of sources to show the impact of the child's disability (Gartland & Strosnider, 2020). A child is found eligible for a SLD when they have received intervention in a specific area, and they are not making the expected growth following this targeted instruction.

A survey of school psychologists evaluating the trends of SLD evaluations found that across the United States, the model that school districts prefer their psychologists to use is almost equal. This survey found that 35% of school districts preferred they use the Intra-Individual Differences model, also known as Pattern of Strengths and Weaknesses (PSW), 34% preferred the RTI model, and 30% preferred the Ability-Achievement Discrepancy model. When asked about personal preferences, a small majority of school psychologists reported to prefer the RTI model (46%) to any other model (Maki & Adams, 2019). There is some evidence to suggest that the RTI model leads to the most accurate diagnosis of SLD followed by the Ability-Achievement Discrepancy and then the Intra-Individual Differences model (Maki & Adams, 2020). Additionally, there was no evidence to support background information or observations increasing the accuracy of school psychologists (Maki & Adams, 2020).

A best practices comprehensive evaluation for SLD includes a review of existing data, recent assessment scores, observations by teachers and services providers, and any additional data the evaluation team determines is necessary. Depending on the model used, this additional evaluation data can include a standardized measure of cognitive

functioning, neuropsychological testing, academic testing, and any measure of related developmental needs (Hajovsky et al., 2022; Lichtenstein, 2014). The most commonly used measures by practitioners in the field are reportedly intelligence tests and norm-referenced achievement tests. Additionally, measures that are also frequently included are structured interviews, direct observations, and behavior rating scales and checklists (Shapiro & Heick, 2004).

Autism Spectrum Disorder

Section 300.8 of IDEA identifies the criteria for ASD. This section identifies ASD as a developmental disability that significantly affects verbal communication, nonverbal communication, and social interaction. Other potential symptoms include engagement in repetitive activities, stereotyped movements, resistance to change, and unusual responses to sensory stimuli. These symptoms must be present before the age of three, and they must adversely affect the child's educational performance. The statute states eligibility may still be found if the child manifests symptoms after the age of three. The exclusionary clause states that a child cannot be found eligible under this category if their symptoms are better explained by an emotional disturbance. The DSM-5 provides more specific behavioral criteria in their definition of ASD (Stichter et al., 2021) (see Table 1). Part A of the criteria is most similar to IDEA eligibility. It identifies the persistent deficits in social communication and social interactions manifested by deficits in social-emotional reciprocity, deficits in nonverbal communicative behaviors used for social interactions, and deficits in developing, maintaining, and understanding relationships. Part B is not always expressly outlined in the IDEA criteria of ASD. This part of the criteria identifies the presence of restricted or repetitive patterns of behavior that may

manifest as stereotyped or repetitive motor movements, insistence on sameness or routine, restricted interests that are abnormal in intensity, and hyper- or hyporeactivity to sensory input (American Psychiatric Association, 2013). The DSM-5 describes a specific behavioral pattern for children with ASD that can differentiate them from a neurotypical peers.

A student with ASD can present in a variety of ways in the classroom. A student with this label can vary widely in their academic skills and be either below, at, or above their grade level (Clark et al., 2014). Many students with ASD will struggle with social relationships and communication in the classroom (Boyd et al., 2008; Clark et al., 2014; Holmes & Willoughby, 2005; Stichter, 2021). This may present itself in their ability to create and maintain friendships as well as understand social cues. A student with ASD may also struggle to receptively understand classroom expectations and expressively communicate their thoughts effectively. A student may also engage in repetitive behaviors or vocalizations, have difficulty with their social-emotional regulation, and struggle to accept changes in their typical routine. In the school setting, children with ASD may receive speech therapy, occupational therapy, counseling, and/or a one-on-one aid in addition to typical special education services (McDonald et al., 2019).

A best practices comprehensive evaluation for ASD, in either the medical or educational setting, is conducted by a multidisciplinary team (Dale & Bray, 2022; Schwartz & Davis, 2014). In the school setting this includes the parents/guardians, school psychologist, speech and language pathologist, occupational and physical therapist, teachers, and any other relevant educational professionals (Schwartz & Davis, 2014). A comprehensive educational evaluation for ASD includes a developmental history of the

child, behavior observations across settings, adaptive measures, gross and fine motor measures, communication measures, social interaction measures, and tools specific to ASD-related symptoms. Additional recommendations include a structured or semi-structured interview with parents, ASD-specific checklists from both parents and teachers, and the Autism Diagnostic Schedule-Second Edition (ADOS-2) and/or Autism Diagnostic Interview-Revised (ADI-R) (Clark et al., 2014; Margiano et al., 2023; Schwartz & Davis, 2014). However, less than 25% of school psychologists engage in comprehensive assessments, which was defined as evaluating all areas of development including the use of ASD-specific measures (Aiello et al., 2017). Only 15 states specifically require an autism-specific assessment when evaluating for ASD (Pennington et al., 2014). A large portion of school psychologists in the field report never using the ADI-R (98%) or ADOS (71%) during ASD evaluation in the school setting. Eighty-four percent of practitioners report using the Childhood Autism Rating Scale (CARS) for reporting symptoms of ASD in the school setting. Other measures that school psychologists report using during ASD assessments include a measure of cognitive functioning, an observation of the child, developmental questionnaire, adaptive rating measure, an interview with the parent, academic assessments, and a non-ASD behavior rating scale (Allen et al., 2008; Clark et al., 2014; Schwartz & Davis, 2014).

Emotional Disturbance

The eligibility category of ED is described under IDEA Section 300.8. A child who qualifies under this category must exhibit one or more of the following criteria for a “long period of time and to a marked degree that adversely affects a child’s educational performance”: 1) An inability to learn that cannot be explained by intellectual, sensory,

or health factors, 2) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, 3) inappropriate types of behavior feelings under normal circumstances, 4) a general pervasive mood of unhappiness or depression, or 5) a tendency to develop physical symptoms or fears associated with personal or school problems. This category includes students with schizophrenia, but it does not include those who are socially maladjusted. It can be noted that these criteria, as well as the name of the category, can vary by state. A child identified with ED can exhibit a broad variety of behaviors, but there is typically a behavior present that is interfering with the student's ability to learn successfully.

In the classroom, a student with ED can present in a variety of ways depending on which criteria they qualify under (Gage, 2012; Hollo et al., 2019). A student with internalizing symptoms, such as anxiety or depression, may appear withdrawn or shy. They may have difficulty self-advocating, maintaining attention, or completing class work or tests (Gage, 2012; Whitcomb & Merrell, 2013). Students with only internalizing symptoms make up 7% of this category (Gage, 2012). A student with more externalizing symptoms may have difficulty with emotional regulation or becoming argumentative with adults and peers. Their behaviors may appear more disruptive to the classroom environment (Soles et al., 2008). Both types of symptom profiles require specialized instruction as well as accommodations and modifications specific to the student (Harrison et al., 2013). However, due to this wide variety of symptomatology, there is variability in assessment practices and specificity of children served under this category (Hanchon & Allen, 2018). Research has even found that after looking at the same data, psychologists

have been discrepant in their finding of overall eligibility as well as the specific combination of the five criteria they found the student eligible under (Scardamalia, 2019).

Best practices in the assessment of an ED emphasizes the importance of a multimethod evaluation including input from parent, teachers, and direct observation (McConaughy & Ritter, 2014; Yell & Drasgow, 2000). An assessment for an ED should include behavior rating scales and interviews from the parent, teacher, and child when appropriate (Allen & Hanchon, 2013). The evaluation should include a developmental history, social skills assessment, and assessment of academic achievement/performance (Fisher et al., 2007; McConaughy & Ritter, 2014). The presence of an outside diagnosis has been found to inappropriately bias school psychologists towards finding a student eligible even if they do not meet IDEA eligibility criteria (Toffalo & Pedersen, 2005). School psychologists report using and relying on teacher behavior ratings scales most frequently during these evaluations with the Behavior Assessment System for Children-2nd Edition reported being used in almost all ED evaluations (Hanchon & Allen, 2013). Other commonly used measures include norm referenced academic achievement measures, developmental history, cognitive measures, observation of the student, interview with the teacher, and rating scales and interviews from the parent (Allen & Hanchon, 2013; Hanchon & Allen, 2013). Only about 28% of school psychologists report using parent, teacher, and student input as well as behavior ratings scales and observations in their initial ED eligibility evaluations (Allen & Hanchon, 2013). School psychologists have reported that when conducting ED evaluations, they consider not only the data available but their ethical duty to do what is in the best interest of the child (Barnett, 2012).

Behavior Observations

One of the most commonly used components of the assessment process across each eligibility category is the behavior observation (Benson et al., 2019). An observation can be conducted multiple times per evaluation, across multiple environments, and for a multitude of reasons (Whitcomb & Merrell, 2013). Behavior observations can be used to observe academic behaviors in a reading class in order to gain insight into what part of the reading assignment the student struggles. They can also be to understand social behaviors on the playground or on-task behavior across different teachers and subjects. Behavior observations allow the observer to gain objective data to understand the different environmental variables that influence a students' ability to be successful or the variables that will increase the likelihood they will struggle. A student may be successful in a classroom that relies mainly on small group work and individualized teacher attention but engage in frequent disruptive behavior during a class filled with independent seat work. Understanding how the environment affects a student's behavior allows the team to intervene more successfully for that student.

Behavior observations provide the evaluation team with an objective understanding of how a student interacts within and across dynamic environments with multiple influencing variables. The behavior observation can help evaluators understand the antecedents that lead up to a behavior of concern as well as the consequences that follow the behavior (Cooper et al., 2020). These two variables could be important pieces of information when determining how to help intervene with a concerning behavior. Observations are also useful for providing quantitative data associated with the observed classroom behaviors (Alberto & Troutman, 2012). A numerical depiction of a behavior

helps to quantify the severity of the behavior as well as serve as a baseline for future interventions.

The observation can take many forms including anecdotal observations, interval recording, duration/latency recording, and event recording (Cooper et al., 2020; Whitcomb & Merrell, 2013). The most commonly used method of behavior observation is interval recording (Benson et al., 2019). This form of observation requires the observer to divide the observational period into intervals based on time. For example, an observer could decide that for a 30-minute observation, they would measure behavior every 30 seconds. This would be a 30 second time interval. The observer then records if the target behavior occurred during that time interval. When using whole interval recording procedure, the behavior must occur for the entire duration of the time interval. Partial interval recording procedure requires the behavior to occur at least once during the interval. In a momentary time sampling (MTS) procedure, the behavior must occur at a specific moment during the interval (Cooper et al., 2020; Whitcomb & Merrell, 2013).

MTS is considered the best estimate of the true duration of time that a behavior occurs in the natural environment (Lane & Ledford, 2014; Whitcomb & Merrell, 2013). The accuracy of the MTS process can be influenced by the length of the interval, length of the observation period, and the topography of the behavior. The accuracy is not affected by the rate at which the behavior occurs. The optimal length of interval is between 2 and 29 seconds as accuracy at these intervals is almost always accurate (Lane & Ledford, 2014).

In order to protect against observer bias one important step an evaluator should take is to operationally define the behavior to be observed. A good operational definition

describes the topography of the behavior in objective, measurable, complete, and replicable terms (Cooper et al., 2020). An appropriately unambiguous definition increases the accuracy of data collection by accounting for all behaviors that should be included in the definition and excluding all behaviors that should not be included. If a behavior is well defined, there is a smaller likelihood that behaviors unrelated to the behavior of concern will inflate the end results. A good definition also allows for the entire response class or behavior chain to be appropriately measured during the data collection process. The definition should make it possible for multiple professionals to be able to observe the same student and come up with equally accurate observations of the behavior in question. If two observers watched the same class period, they should independently collect very similar data. This definition may also include examples and nonexamples of the behavior when appropriate (Cooper et al., 2020). In practice, a good definition should include what is most relevant to the individual purpose of the observation and/or future treatment planning (Whitcomb & Merrell, 2013).

Cognitive Biases and School-Based Evaluations

Dual Process Theory

The evaluation process requires a school psychologist to collect, interpret, and integrate a multitude of data and information from a variety of sources. This data is therefore interpreted through the pre-existing schema and heuristics present in the cognitive processes of the school psychologist (Schroeder & Wilcox, 2015). Schemas are mental structures that people develop and use to organize information and make decisions. Heuristics are cognitive shortcuts that people develop for decision making that decrease daily cognitive load (DeLamater et al., 2018; Yuen et al., 2018). Schema and

heuristics play an important and necessary role in daily decision making. Without these cognitive processes, the cognitive load a person would need to sustain in order to navigate everyday situations would make daily life impossible.

The dual process theory is a model of decision making that is frequently referenced in medical and mental health research regarding the diagnosis process (Bowes, 2020; Lucchiari et al., 2012; Saposnik et al., 2016). It is originally a psychological theory that posits that there are two systems in the mind that work to manage all an individual's decision making throughout a day. System 1 operates subconsciously or automatically through the uses of schema and heuristics. It is responsible for the constant unconscious decisions made throughout the day that are necessary for daily functioning but would overload cognitive functioning if conscious thought was ascribed to it. System 1 is constantly running in the background of an individual's mind. System 2 requires more conscious thought and deliberation in order to solve a problem. This system is responsible for the more complex and thought-provoking problems an individual faces throughout the day, including big decisions that a person is consciously aware they are making (Bordens & Horowitz, 2002; Evans 2008). The majority of decision making done throughout the day is made by System 1 (Bowes, 2020; Thirsk et al., 2022). However, System 1 is also more vulnerable to cognitive biases such as the anchoring effect and confirmation bias (Lucchiari et al., 2012).

Although there are many different kinds of cognitive biases, three frequently mentioned in diagnostic literature are anchoring effect, confirmation bias, and premature closure (Featherston et al., 2020; Saposnik et al., 2016; Thirsk et al., 2022). The anchoring effect occurs when a psychologist places too much importance on the first

piece of information they receive about a client. They allow this detail to bias how they interpret all remaining information (Woodward et al., 2009). Confirmation bias occurs when all new information is interpreted in a way that confirms a diagnostician's existing theory. Data are integrated in a way that supports the original hypothesized diagnosis, and not critically considered (Featherston et al., 2020). Premature closure occurs when a professional does not consider all possible differential diagnoses. They end the evaluation process when they find a possible appropriate diagnosis that may or may not fully explain the presenting symptoms (Warrick et al., 2014).

Diagnoses and Cognitive Biases

The role of cognitive biases in the diagnostic process have been documented in both the medical field (Croskerry, 2013; Saposnik et al., 2016; Thirsk et al., 2022) as well as the mental health field (Featherston et al., 2020). A systematic review of the mental health literature evaluating bias found that 77% of studies reported the presence of bias in the decision-making process (Featherston et al., 2020). According to this review, a large portion of bias was due to stereotyping. However, other biases identified were anchoring, confirmation bias, diagnostic overshadowing, and labeling bias. A separate review from the medical field had similar findings. Physicians and nurses were subject to anchoring, confirmation, and under/overconfidence in the decision-making processes (Saposnik et al., 2016; Thirsk et al., 2022).

Cognitive biases can result in preventable diagnostic error (Govindarajan, 2017). Clinicians who were presented with a vignette of symptoms were influenced by the anchoring effect, or the order in which symptoms were presented. Clinicians who were first presented with a client's history of sexual abuse were more likely to diagnosis a

client with Post Traumatic Stress Disorder than Borderline Personality Disorder.

Contrarily, clinicians presented with the remaining symptoms first and the sexual abuse last were more likely to diagnose the client with Borderline Personality Disorder.

Clinicians were most influenced by the first piece of information they received when making their diagnosis (Woodward et al., 2009). Another study found diagnostic errors in children with acute medical illnesses were primarily due to premature closure (Warrick et al., 2014). This study found that an evaluation of possible differential diagnosis was not conducted in a thorough or comprehensive manner resulting in misdiagnosis of the illness in the child. Additionally, no physicians identified premature closure as the cause of the error, often blaming external factors such as work conditions, poor teamwork, or uninterpretable test results.

Bias in Behavior Observations

The behavior observation should be an objective piece of information for the evaluation process. However, behavior observations are subject to bias if precautions are not taken. Teachers' perceptions of a student are affected by the presence of differing disability labels. Researchers have shown that teachers will rate a child as demonstrating fewer self-determination skills (Field, et al., 1992), engaging in more behavioral difficulties (Foster et al., 1976), and engaging in higher rates of off-task behavior (Allday et al., 2011) dependent on the presence and type of disability label applied to a student. In Allday et al. (2011), students with a label of Oppositional Defiant Disorder (ODD) were identified as more off task than any other label even when the observed behaviors remained the same across students.

Additional Biasing Variables in the Evaluation Process

School psychologists play a key role in special education decision making. They are responsible for collecting, integrating, and interpreting the evaluation data for each individual student. Unfortunately, there are variables that may play a role in biasing that process. One variable that may play a role in basing the evaluation process is the identified reason for referral. The reason for referral can bias a school psychologist's interpretation of the data they collect as well as affect the eligibility category they decide on. Historically, the reason for referral often results in the psychologist finding a child eligible under that category despite the actual data collected (O'Reilly et al., 1989; Tidwell, 1976; Ward et al., 1991). However, there is some contradictory research that has shown that a teacher's reported referral reason does not always result in biasing the evaluation findings (Huebner, 1987).

In addition to biasing the evaluation, disability labels result in lower overall expectations of the student. Huebner (1987) found that after a school psychologist identified a student with a learning disability, they had lower expectations for the student's overall academic performance and motivation to be successful in school. Additional research has shown that providing a child with a label of "seriously emotionally disturbed" resulted in lower ratings of success on interpersonal relations, behavioral difficulties, and overall adjustment (Fox & Stinnet, 1996). There have been no studies published in journals that the author could find within the last 22 years comparing the biasing effect of reason for referral on current practicing school psychologists' behavior observations or expectations for success.

Several other student variables have been examined to determine if they have a biasing effect on the school psychologist. One study found that school psychologists reported more positive behavioral ratings for children who were perceived to be White and of a high socioeconomic status compared to their peers of color and lower socioeconomic status (Stevens, 1980). Later studies found that a student's socioeconomic status, race, and school setting did not influence a school psychologist's recommendation for special education placement (Bernard & Clarizio, 1981) or referral for special education testing (Huebner, 1989). These factors also did not influence what category a psychologist would recommend for eligibility (Huebner, 1985).

In addition to student factors, some evaluator variables have been examined to determine how and if they bias the evaluation process. One recent study found that assessor bias accounts for significant differences in the measurement of Full Scale IQ and Verbal Comprehension Index scores (McDermott et al., 2014). However, the study was only able to identify that there was bias, but not what specific assessor variables accounted for this bias. A second study found that a student's race did not appear to influence special education eligibility decisions. However, in this study, participants made special education decisions that were not supported by the objective data provided. When data presented to school psychologists was ambiguous and did not clearly converge on an eligibility of ED, school psychologists were just as likely to find the student eligible as not eligible. It was determined that there was bias present in the decision-making process, but it was not identified what variables were responsible for this bias (Sullivan, et al., 2019).

There is very limited research evaluating potential variables, other than the objective data, that could influence the decision making process of school psychologists. The research that has been conducted demonstrates that there are variables influencing the evaluation and interpretation process. However, little research has been conducted to determine what and how different variables affect the process.

Theoretical Orientations

Psychology is the scientific study of the human mind and behavior. Psychologists have practiced and studied with the hope of understanding why humans behave the way that they do. Additionally, when a person begins to develop behaviors that are distressing to either themselves or their loved ones, psychologists have tried to develop interventions to support these people in moving towards a more fulfilling life (Farber, 2014).

In this journey to understand human behavior, different theoretical orientations have been created in order to explain why people act the way they do. These theoretical orientations are important because they provide practitioners with a framework from which to organize and integrate all the information they receive into a comprehensive view of the individual in need. Psychologists of different theoretical orientations have reported preferring different diagnostic methods when diagnosing personality disorders in clients (Paggeot et al., 2017). In fact, cognitive-behavioral psychologists are the only theoretical orientation who report having positive attitudes towards the DSM-5 (Raskin et al., 2022). Other theoretical orientations like humanistic, psychodynamic, and eclectic psychologists report that it often obscures individual differences in clients (Raskin et al., 2022). Theoretical orientation is also a significant predictor of both the likelihood (Pottick et al., 2007) and type (Woodward et al., 2009) of diagnosis ascribed to a client.

Psychodynamic psychologists are significantly more likely than behavioral, cognitive, humanistic, systems, or eclectic psychologists to determine a child in a vignette meets criterion for a mental disorder (Pottick et al., 2007). When guided by theory, the professional can then take this comprehensive understanding of the individual and link it to a set of interventions believed to relieve the problems (Farber, 2014; Whitcomb & Merrell, 2013). Theoretical orientations help practitioners to understand why a behavior is happening. They then help the practitioner to develop and analyze the type of intervention to help alleviate the distress causing this behavior (Dorahy et al., 2017; Goldfried et al., 1998; Worthington & Atkinson, 1993).

Biological

A biological explanation of behavior asserts that there are biophysical reasons for significant disturbances to what would be considered typical behavior (Alberto & Troutman, 2012). Frequently professionals using a biological theoretical orientation will explain behavior as a result of some abnormality in brain functioning. Damage or abnormalities in different areas of the brain have been associated with ASD, intellectual disabilities, children born addicted to drugs, Attention Deficit Hyperactivity Disorder, and other disorders with known behavioral challenges (Ahsan, 2016; Alberto & Troutman, 2012). Unfortunately, if there is a biological basis for the behavior, the only implied solution is medication or changes to the physiological body. This removes the responsibility from school professionals and parents from being able to change and help with the behavior challenges in the classroom (Johnson et al., 2000). Treatments could also include accommodations. Accommodations would decrease the need to rely on the specific affected area of the brain and could then increase performance (Ahsan, 2016).

Psychodynamic

A psychodynamic approach to understanding challenging behavior assumes that there are unconscious mental processes that are influencing our feelings and behavior. These unconscious motivations are often influenced by past experiences and are not normally accessible by the conscious mind (Farber, 2014). Due to the emphasis on the unconscious mind, psychodynamic psychologists often use these subconscious events, such as countertransference, in order to help differentially diagnose clients (Gordon et al., 2016). Behavioral challenges in clients would therefore be caused by an unconscious conflict that has formed due to past trauma. Psychodynamic psychologists often focus solely on the individual and their experiences during diagnosis and treatment compared to other orientations which often include a more systems level approach (McGuirk et al., 1987). In order to address behavioral difficulties, talk therapy is often the recommended solution. A person must explore their childhood experiences, traumas, and emotions in order to understand how that is affecting their feelings and behaviors (Corey, 2016; Farber, 2014; Goldfriend et al., 1998; Larsson et al., 2010). The psychologist could also try to minimize exposure to the unconscious triggers happening in the classroom.

Humanistic

A humanistic approach to understanding behavior emphasizes the importance of looking at the whole person and understanding their uniqueness. Each person is considered to be innately good and they are all motivated to self-actualize. Self-actualization occurs when a person reaches their full potential through internal motivation. People engage in behaviors that they perceive are necessary in order to get their needs met (Corey, 2016; Farber, 2014). An individual may therefore engage in

perceived challenging behaviors to get access to physiological, safety, love, or self-esteem needs (Farber, 2014; Johnson et al., 2000). The humanist approach to changing behavior involves using talk therapy to allow the client to explore their behavior and motivations. The therapy is client centered and client paced and not primarily focused on overcoming perceived challenging behaviors (Bohart et al., 1998). The client explores their needs and environment, and they choose how and when to change their behavior as they more fully understand the different variables present in their lives (Bohart et al., 1998; Farber 2014). Additional treatment for a student in school would depend on which need was not being met. If one of the lower needs of physiology or safety was not being met, those would be addressed. Contrarily, if one of the higher needs was not being met, the school psychologist would need to have talk therapy sessions with the student.

Cognitive

The cognitive approach theorizes that humans perceive stimuli, process information in their brain, and then respond to the stimuli. This information processing is affected by each individual's perception, attention, current schema, problem solving skills, and memories. Behavior is what follows after this processing of information has taken place (Alberto & Troutman, 2012; Corey, 2016). An individual may behave in a way considered challenging due to how they perceive a situation, and how they have come to understand their role in this situation. In order to help change challenging behavior using the cognitive approach, a psychologist would need to utilize talk therapy in order to help the individual change their perception and understanding of the environment. The individual's way of processing their environment and their relationship

to different environmental variables would need to change in order to have the resulting behavior change (Farber 2016; Johnson 2000; Larrison et al., 2010).

Behavioral

The behavioral approach posits that all human behavior is learned. Behavior that is followed by a positive consequence continues to be engaged in, and behavior that results in a negative consequence is avoided (Alberto & Troutman, 2012). In this theory, behavior can be altered by any person who can change the environment of the individual. An individual who is engaging in challenging behavior is engaging in this behavior in response to a specific stimuli and in order to gain access to a specific consequence. An outside person who interrupts this chain in some way can change the challenging behavior (Johnson, 2000). Treatment would then focus on altering the environment to restrict access to the reinforcer for the challenging behavior and increase access to the reinforcer for an alternative behavior (Alberto & Troutman, 2012).

Ecological

The ecological framework of understanding individuals emphasizes the importance of how environment impacts development and behavior. It states that an individual cannot be fully understood without taking into consideration the interconnected context within which they exist. The framework posits that there are five different systems that make up a person's environment: microsystem, mesosystem, exosystem, macrosystem, and chronosystem. The systems differ in the level of direct interaction they have on an individual (Bronfenbrenner, 1977). Therefore, if an individual student is engaging in challenging behavior, it is best understood by taking into consideration factors such as the child's home life, school environment, and community

influences. A student's behavior cannot be separated from the environment they are currently navigating. In order to help change an individual's behavior, a systemic approach would be utilized. The treatment would focus on the individual as well as the caregivers, teachers, and all other stakeholders to create change, generalization, and consistency across all environments (Burns et al., 2015).

Purpose of the Study

Recent and Relevant Literature

Two recent studies have examined the labeling bias of preservice educators (Allday et al., 2011; Fisher et al., 2022). In the original study by Allday et al., (2011), 122 undergraduate education majors who were enrolled in a general special education class were surveyed. After agreeing to participate, students received training on identifying behaviors, how to collect time sampling data, and how to complete data collection forms. Students were then presented with three practice videos where they collected on-task and off-task data. After the practice, students were assigned to one of four experimental conditions: control, ODD, ADHD, or gifted/talented. Students watched the same 3-min video. The only changing variable was the description of the exceptionality label. Results of the study found that exceptionality label did affect how raters observed on-task and off-task behavior. The gifted/talented raters found their student to be more on-task than the control group. The ODD raters found their student to be more off-task than the control group.

The Fisher et al. (2022) study measured ratings of student behavior following a vignette. This study asked all preservice education participants to read a short vignette that contained a description of a student engaging in noncompliant behavior and one of

four labels: emotional/behavior disorder (EBD), ASD, gifted/talented, or no label.

Following the vignette, participants rated the likelihood that the behavior was indicative of a pattern. Results found that participants assigned to the ASD or EBD group rated their student as more likely to repeat the behavior in the future than the gifted/talented or no label group. This study had an additional variable of a short video which included education on the cognitive process of bias, explicit description of labeling bias, and the impact of labeling bias on perceptions of behavior. Each experimental condition was additionally assigned to either the video or no video condition. Results from this component of the study found that the presence of the video actually lowered the gifted/talented and no label ratings of the behavior repeating itself in the future and increased the EBD and ASD ratings of future repetition.

Proposed Current Study

School psychologists often lead the evaluation process that is responsible for identifying students with an education-based disability. They are also responsible for providing recommendations for the student following the evaluation. These evaluations are intended to be conducted with an objective view considering only relevant data. The recommendations that follow the evaluation are individualized based on results of the evaluation. However, few if any studies have been conducted with the goal of evaluating whether there are potential variables that may bias the school psychologist in their data collection. This is an important phenomenon to analyze as it may impact the lens through which a school psychologist interprets their assessments. This can affect if a student is found eligible for services, what area they are found eligible in, and the potential outlook for their future.

The current study focuses on the variable of exceptionality label as it is a universally present variable that has the potential to affect all evaluations. Most evaluations identify a potential exceptionality label or at least areas of concern prior to beginning the evaluation. It is important to determine if this variable is acting to bias the school psychologist in their collection and interpretation of assessment results. The outcome variables this study is focusing on are the direct behavior observation, predictions of future success, and perceived cause of behavior. The research questions for this study are as follows:

1) Are school psychologists accurate in their collection of MTS data of task engagement using a video-based observation?

2) Does exceptionality label affect school psychologists' video-based data collection of task engagement?

3) Does exceptionality label affect what school psychologists endorse as the cause for challenging behaviors described and observed in a hypothetical vignette and video?

4) Do school psychologists' self-endorsed theoretical frameworks align with their identified cause of behavior?

5) Does exceptionality label affect school psychologist predictions of hypothetical student academic success?

6) Does exceptionality label affect school psychologist predictions of hypothetical student social/behavioral success?

Table 1 Comparisons of IDEA and DSM-5 Disability Criteria

	<i>IDEA 2004 Criteria</i>	<i>Possible DSM-5 Diagnoses or Specific Criteria</i>
<i>Autism Spectrum Disorder</i>	<p>A. The student has a developmental disability, generally evident before age 3, significantly affecting verbal and nonverbal communication</p> <p>B. The student has a developmental disability affecting social interaction</p> <p>C. The student engages in behaviors such as repetitive activities and stereotyped movement, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences.</p> <p>Not primarily the result of a emotional behavioral disability</p>	<p>A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following</p> <ol style="list-style-type: none"> 1. Social-emotional reciprocity 2. Nonverbal communicative behaviors 3. Developing, maintaining, and understanding relationships <p>B. Restricted, repetitive patterns of behavior, interests, or activities as manifested by at least two of the following</p> <ol style="list-style-type: none"> 1. Stereotyped or repetitive motor movements, use of objects or speech 2. Insistence on sameness, inflexible adherence to routine, or ritualized patterns of verbal or nonverbal behavior 3. Highly restricted, fixated interests that are abnormal in intensity or focus 4. Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment
<i>Specific Learning Disability</i>	<p>The student does not achieve adequately, as indicated on multiple data sources, for the student’s age or grade level standards in one or more of the following areas:</p> <ol style="list-style-type: none"> 1. Oral Expression 2. Listening Comprehension 3. Written Expression 4. Basic Reading Skills 	<p>A. Ongoing difficulties in the school-age years learning and using at least one academic skill. These difficulties have persisted and failed to improve as expected despite the provision of targeted intervention for at least six months</p> <p>B. Standardized achievement tests are found to be at a level significantly lower than most individuals at the same age.</p>

Table 1 (continued)

<i>Specific Learning Disability</i>	5. Reading Fluency Skills 6. Reading Comprehension 7. Mathematics Computation 8. Mathematics Reasoning	C. Difficulties are usually apparent in the early years of schooling D. Will not be diagnosed if there is a more plausible explanation for the difficulties being experienced by the individual
Emotional Disturbance	<p>Not the primary result of visual, hearing, or motor disabilities, intellectual disability, emotional disturbance, or environmental, cultural, or economic disadvantage</p> <p>A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child’s educational performance</p> <ul style="list-style-type: none"> a. An inability to learn that cannot be explained by intellectual, sensory, or other health factors b. An inability to build or maintain satisfactory interpersonal relationships with peers and teachers c. Inappropriate types of behavior or feelings under normal circumstances d. A general pervasive mood of unhappiness or depression e. A tendency to develop physical symptoms or fears associated with personal or school problems <p>Not primarily the result of social maladjustment</p>	<p>Possible DSM-5 Diagnoses</p> <ol style="list-style-type: none"> 1. Anxiety Disorders 2. Depressive Disorders 3. Intermittent Explosive Disorder 4. Oppositional Defiance Disorder 5. Bipolar Disorder 6. Disruptive Mood 7. Dysregulation Disorder 8. Reactive Attachment Disorder 9. Schizophrenia 10. Post-Traumatic Stress Disorder

Note. Adapted from Individuals with Disabilities Education Act Sec. 300.8 and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).

CHAPTER 2: METHOD

Participants

The participants for this study were practicing school psychologists in the state of Kentucky. Emails were sent to Directors of Special Education and/or district lead school psychologists in the state of Kentucky. Emails were obtained from the Kentucky Department of Education. Emails to directors and lead school psychologists asked for permission to disseminate the survey to all psychologists in their districts. If permission was obtained, the survey was disseminated to the psychologists either directly or forwarded from their director depending on individual district preference.

All members who had a degree in school psychology or who had a state license as a school psychologist were invited to participate in the survey. If individuals were considered diagnosticians but did not have a state license in school psychology, they were excluded from this study.

Instrumentation

Qualtrics, an internet survey software (Qualtrics, Provo, UT), was used to create an online survey. Qualtrics was selected due to the ease of use and wide variety of options when creating a survey. The software allowed for the studies required elements of creating a novel survey, the ability to embed video, and the ability to randomly route participants to different versions of the survey. The platform was secure in its collection and retention of the data.

Survey Block One

The survey began with a cover letter that acted to waive written informed consent. Following the cover letter, the first block of questions was presented (see Appendix A).

The first block of questions contained basic demographic questions, questions about the participants' employment conditions, and a question about their theoretical orientation.

The demographic section consisted of three questions: age, gender, ethnicity. Demographic questions served to provide a basic description of the sample that responded to this survey. The limited number of questions provided a brief description of the sample without overloading participants with questions that do not directly factor into the research questions.

Demographic items were followed by nine questions focused on the participants experience and typical daily responsibilities. These questions were included in order to better understand the participants experiences and daily responsibilities. The first six questions were adapted from the NASP's Survey of Demographic Characteristics, Employment Conditions, and Professional Practices (NASP, 2015). Data received from these questions included: highest degree earned, years in the field, primary employment position, additional credentials held, primary age group served, average number of evaluations conducted, and average number of students with ED, SLD, and ASD on caseload.

The final question prior to being rerouted to one of the experimental conditions asked the participant to identify their primary theoretical framework. Theoretical frameworks included were Psychodynamic, Cognitive, Behavioral, Humanistic, Biological, and Ecological. Theoretical frameworks can be utilized to explain the cause of aberrant behavior to new psychologists entering the field (Alberto & Troutman, 2012; Corey, 2016; Farber, 2014). The theoretical frameworks outline different sets of beliefs regarding why people engage in different types of behaviors. This question was included

in order to determine if there is consistency in an individual's theoretical orientation and what they endorsed as the cause of behavior.

Survey Block Two

The second block of the survey consisted of one of the three experimental conditions. Each condition contained a short vignette introducing the participant to the student who is being referred for an evaluation. The three vignettes identified the reason for referral as either suspected of an SLD, ED, or ASD. All wording in the vignette remained consistent except the exceptionality label. This section also contained the operational definition for task engagement behavior as well as the instructions for the experimental data collection.

In this block, the participants watched a video and collected momentary time-sampling data (MTS) on a ten second fixed interval schedule. The operational definition was displayed on this page. Participants collected the data using a grid embedded in the survey (see Appendix B). The grid allowed participants to click a box to indicate that the student was "on-task." The use of videos instead of live observations could be considered a limitation as it is contrived and not occurring in the natural environment, but this method has been used in previous studies to address similar questions (Allday et al., 2011; Foster & Salvia, 1977; Foster et al., 1976).

The entire video included in this block was approximately 5 min, 30 sec long. The video began with a voiceover identifying the student of interest and where she was located within the video. It then provided an example of what the embedded beep would sound like in order to inform the participant what they should be listening for. The classroom observation followed this introduction. The observation focused on four

students working as a small group to complete a geography worksheet. The video contained student actors and not a real classroom environment. The students in the video were arranged around a table with two sitting across from the camera and one student at each end of the table. The video began with one student stating the purpose of the assignment: filling the states in a map of the United States. The video camera remained in one location for the entirety of the video. The students spent the duration of the video working together to complete the assignment. The beeping sound, indicating ten seconds had passed, activated 30 times during the video.

Survey Block Three

Following completion of the video, block three of the survey contained eight additional questions (see Appendix A). The first question asked the participant what they believe was the cause of the student's behavior challenges. The responses to this question were developed based on the descriptions of the previously identified theoretical orientations (Corey, 2016; Farber, 2014; Troutman & Alberto, 2012). The theoretical orientations were been paired with their associated cause of behavior response as follows; 1) Cognitive: Ellie's behavior is the result of her individual perception and understanding of a situation, 2) Behavioral: Ellie's behavior has previously resulted in positive consequences, 3) Humanistic: Ellie's physiological, safety, belongingness/love, or esteem needs are not being met, 4) Psychodynamic: Ellie has unconscious conflicts that are affecting her behavior, 5) Biological: Ellie has atypical brain functioning that is resulting in her behavior, and 6) Ecological: Ellie's behavior is the result of all the different environmental and cultural systems she lives in. This item contains six responses.

The remaining seven questions were adapted from the Predictions of Student Success survey (Tournaki, 2003). The survey is made up of two distinct factors that are not significantly correlated. The two distinct factors account for all items included in the scale. Additionally, each item is distinct from all other items. The factors are academic success and social success. Internal reliability using split-half reliability coefficients were .88 for the academic factor and .92 for the social factor (Tournaki, 2003). External reliability using test-retest reliability coefficients were found to be .82 for the academic scale and .83 for the social scale (Tournaki, 2003). The items are designed as 4-point Likert scale style questions indicating level of endorsement from “Strongly Disagree” to “Strongly Agree.” Two questions were omitted from the original survey due to their lack of relevance to this study. The questions selected and adapted from the original survey include (a) the best placement for Ellie will be a self-contained special education class; (b) Ellie’s teacher will have a difficult time dealing with her behavior; (c) Ellie will perform poorly on standardized tests; (d) The teacher who works with Ellie will need specialized training; (e) Ellie will complete her current grade successfully; (f) Ellie will be socially accepted by her peers; (g) Ellie’s laziness will prevent him from achieving. The final component of the survey is a screen that thanks the participants for their participation in the study.

Measures

Dependent Variables

This study required participants to measure task engagement, collected from a behavior observation. The primary dependent variable was the accuracy of this data collection for research questions one and two. This primary dependent variable was

chosen because using systematic behavioral observation is considered best practice when conducting comprehensive evaluations for students with disabilities, including those with SLD (Lichtenstein, 2014), ED (McConaughy & Ritter, 2014), and ASD (Clark et al., 2014). A behavior observation is noted to be particularly important when a concern regarding social emotional challenges or challenging behaviors are discussed during a referral meeting (Whitcomb & Merrell, 2013). Therefore, it is important that school psychologists are able to collect data accurately in an unbiased way to integrate observed behaviors into their assessments.

An operational definition of the topography of on-task and off-task behavior was provided to participants during the second block of the survey and continually on the screen. Creating an objective definition of a behavior prior to an observation is the recommended practice for practitioners (Whitcomb & Merrell, 2013). A good operational definition can be observed and recorded reliably, can easily be replicated and used by multiple observers, and includes examples of inclusionary and exclusionary behaviors (Cooper et al., 2020).

The definition of on-task and off-behavior was created using previous research as well as the recommended practical standards (Allday et al., 2011; Cooper et al., 2020) (see Appendix C). On-task behavior was defined as physically working on the group assignment, making eye contact with the task or peers discussing the assignment, engaging in conversation about the class assignment, being in the proper geographical location (e.g., being in seat when seat work is required). Off-task behavior was defined as working on classwork not currently assigned, talking about topics that are not the class assignment (e.g., weekend, food), engaging in behaviors or tasks that are incompatible

with the assignment (e.g., fidgeting with pen, looking around the room), and not in proper geographical location. This definition meets the standards of a good operational definition identified by Cooper et al., (2020), and it is relevant to the video being used in this study. This variable was obtained using MTS on a ten second fixed interval. An interval recording method was selected as the form of data collection for this study because interval recording behavior observations were the most widely used form of direct observation by school psychologists (Benson et al., 2019). Specifically, MTS was selected as it is considered the best estimate of the true duration of time that a behavior occurs in the natural environment (Lane & Ledford, 2014; Whitcomb & Merrell, 2013). School psychologists should be, and report to be using direct behavior observations frequently and often, making the applicability of this study more salient to everyday practice (Benson et al., 2019). Using MTS, participants completed thirty intervals across 5 min while watching the video.

The dependent variable for questions three and four focused on what school psychologists endorse as the cause of the behavior in the video. This item is presented after participants have viewed the video. The item has six choices and participants are allowed to select only one response. A forced choice is being used for this item in order force participants to identify only one main cause for behavior, and to allow for statistical analyses to answer the research questions.

The dependent variable for question five was the prediction of student academic success. The variable is made up of four items from the PSS: special education placement, performance on standardized tests, completion of current grade, and teacher

specialized training. Each individual item is a four-point Likert-type response: strongly disagree, disagree, agree, and strongly agree.

The dependent variable for question six was the prediction of student social success. This variable is made up of three questions from the PSS: teacher's dealing with behavior, accepted by peers, and laziness. Each individual item is a four-point Likert-type response: strongly disagree, disagree, agree, and strongly agree.

Independent Variables

The primary independent variable of this study was the exceptionality label in which the participant was assigned. Prior to watching the 5 min video of the hypothetical student, participants read a vignette that identified a specific exceptionality label of concern for that hypothetical student. The vignettes differed only by the specific exceptionality label given, which is SLD, ED, or ASD.

Providing a short vignette of the student describing variables such as teacher concerns, home factors, and test scores is common in research studies (Fisher et al., 2022; Gillung & Rucker, 1977; Huebner, 1990; Thelen et al., 2003). In practice, a school psychologist would attend a multidisciplinary team meeting in which teacher concerns, parent concerns, and other relative factors would be discussed and used to help plan the evaluation. Therefore, the vignette was created to provide all of the typical information that would be presented in a real-world multidisciplinary team meeting. The vignette read as follows:

Ellie is a 10-year-old 5th grade student with a suspected [exceptionality label]. She was referred for observation due to multiple teacher concerns. There are no cognitive concerns for Ellie at this time, but Ellie's teacher reported that she has

difficulty in all academic areas. She also described Ellie as constantly off-task, often disrespectful, and rarely completing assignments. Ellie is reported to have had multiple behavioral incidents involving peers this school year. Ellie has never been retained and has no history of truancy. Her family has a significant history of academic and behavioral difficulties in the school setting. Ellie's mother reports that they have difficulty completing homework most nights. She also noted that Ellie rarely follows directions in the home and community setting.

These three disability labels were chosen due to the categorical differences in behavior (American Psychiatric Association, 2013; Individuals with Disabilities Education Act, 2004) as well as precedent from similar previous studies frequently including one or a mixture of these categories (Bianco, 2005; Field, et al., 1992; Thelen et al., 2003). In practice, SLD has no specific behavioral component included in eligibility. ED eligibility includes behavior descriptions that focus on interpersonal relationships, pervasive mood of unhappiness, unreasonable fears, or inappropriate behavior or feelings under normal circumstances. ASD eligibility often includes engaging in behaviors such as repetitive activities and stereotyped movement, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences.

Research questions two, three, five, and six all rely on the manipulation of this experimental variable. The independent variable for these questions is the different exceptionality labels their hypothetical student is assigned to. Research question four is correlating other data collected in the survey. This question does not have a direct independent variable being manipulated.

Procedures

This study was submitted and approved by the University of Kentucky Institutional Review Board (IRB). Following approval from the IRB, the survey was sent to and reviewed by four independent evaluators that are familiar with MTS data collection procedures to ensure that the survey was functional. Following this round of review, the survey was sent to and reviewed by one graduate educator and three advanced graduate students familiar with MTS data collection procedures to collect on-task data from the video. Individual ratings were compared interval by interval. The primary investigator also independently watched the video and collected MTS data. On intervals containing disagreements, a consensus was reached by using the majorities finding of on-task or off-task. This final consensus served as the correct scoring that participants were compared to for research question one.

To recruit participants, emails were sent to Directors of Special Education and/or district lead school psychologists in the state of Kentucky. Emails were obtained from the Kentucky Department of Education. Emails to directors and district lead school psychologists asked for permission to disseminate the survey to all psychologists in their districts. If permission was obtained, the survey was disseminated to the psychologists either directly or forwarded from their director depending on individual district preference. Emails were sent to directors and district lead psychologists twice with two weeks in between emails. A third and targeted email was sent to the five largest districts in Kentucky two weeks after the second email in an attempt to increase participants.

A link to the survey was included in the emails to the psychologists. When participants click the link to the survey, they were forwarded to a waiver of consent page.

After reviewing this page, participants will be able to click a “next” button in order to indicate that they understand and agree to participate in the study. Participants were then taken to the first block of questions (see Appendix A). All participants were asked to complete the first thirteen questions. Upon completion of this first block, participants submitted their answers and were taken to one of three experimental conditions.

Each experimental condition represented one of the three exceptionality labels: SLD, ED, ASD. This section began by setting up the hypothetical scenario. Participants were given the following directions:

Next you will be asked to watch a 5 minute video of a small group classroom activity. You will be introduced to a young girl named Ellie and asked to collect momentary time sampling data on a 10 second interval. The behavior of concern is task engagement. At the end of each 10 second interval, a soft beep will emit from the video and you will check the box to indicate the presence of the behavior specifically for Ellie at the moment of the beep. You will leave the box blank if the behavior did not occur at the moment of the beep.

Participants were then provided with a table that operationally defined on-task behavior and what is not on-task behavior (See Appendix C). After reviewing the table, the participants could continue to scroll down the page to view the hypothetical vignette provided. No training or accuracy cut off was required of participants prior to beginning the study. According to NASP standards, under Domain 1: Data Based Decision Making (NASP, 2020) school psychologists use and are expected to understand how to collect and interpret direct observation data. By not training to a specific accuracy cut off, the authenticity and validity of the study is increased. Additionally, the variable of accuracy

can be examined to determine how it affects outcome data as well as participant interpretations of the data.

The hypothetical student vignette, provided above, identified the specific exceptionality label for that participant. Following the vignette, the participant saw the video as well as the data collection table (see Appendix B) and operational definitions (see Appendix C) on their screen. The participants could start the video at their leisure. As the video played, a soft beep would emit every ten seconds in order to aid in the collection of the on-task/off-task data. Participants had the ability to check the corresponding box in the table when they perceived the student to be on-task, or leave the corresponding box unchecked if they believe the child was off-task. After the video finished and participants filled out their data collection table, they submit this set of responses and were routed to the final section of the survey.

The final section of the survey contained eight questions. After completing these eight questions, participants submit the final block of questions. Participants were then thanked for their participation and the survey ended.

Analysis

After surveys were returned, data were entered into a Statistical Package for the Social Sciences (SPSS) file. The data were checked for outliers, missing data, or any other abnormalities. Outliers and missing data were removed prior to running any analyses. All analyses were run at a statistical significance level of $p \leq .05$.

To answer the first research question, the participant's data was compared to the agreed upon on-task data collected by the graduate students and educators. Each interval was compared and identified as matching or not matching. This comparison yielded a

total number of intervals in which the participant and independent evaluators agreed. Accuracy data was then calculated by dividing the number of intervals in which the participant and independent evaluators agreed by the number of intervals and then multiplied by 100. The accuracy data was examined as a total of the whole sample as well as compared across exceptionality label and intervals.

To answer the second research question, a one-way analysis of variance (ANOVA) was conducted to determine if exceptionality label has a significant effect on school psychologist rating of on-task behavior ($p \leq .05$). Data was checked for outliers, normal distribution of data using the Shapiro Wilk test of normality, and homogeneity of variances using the Levene's test for homogeneity. The ANOVA was then conducted to compare the MTS data collected in each of the exceptionality label conditions to see if there are significant differences between categories on the continuous variable of task engagement.

To answer the third and fourth research questions, a chi square test of independence was used. For question three this test helped to determine if there was a significant ($p \leq .05$) relationship between exceptionality label participants were assigned to and the response they endorse on the cause of behavior question. For question four, the test helped to determine if there was a significant ($p \leq .05$) relationship between the self-endorsed theoretical orientation item and their response to the cause of behavior item. A chi square test of independence was selected for these two questions as they are all categorical variables. The questions are hoping to identify any significant relationships between variables.

To answer the fifth and sixth research questions, an ANOVA was used. The four items that load onto the academic success scale were combined into the dependent variable. The fourth item stating that the student would successfully complete her grade had to be reverse coded before it was combined into the dependent variable. The four items contributing to the academic success scale, were transformed on SPSS into the new predictions of academic success (PAS) variable. The items had to be combined in order to evaluate how school psychologists predict this hypothetical student will perform academically in the future. This variable was used in the ANOVA to determine if there are significant differences in this data across exceptionality label conditions. To answer question six, the three items that load on to the social success scale were combined into the dependent variable. The second item on this scale that stated the student would be socially accepted by her peers had to be reverse coded before it was combined into the new variable. The three items were again entered to be transformed into a new variable on SPSS that represents the predictions of social success (PSS). This variable was then used in the ANOVA to determine if there was a difference in prediction of social success across the different exceptionality labels. The new variable was needed in order to evaluate the school psychologists' predictions of the hypothetical student's overall social success. An ANOVA was selected for these final questions as it is seeking to evaluate whether there is a significant difference between the three categorical exceptionality labels on the continuous variables of academic success and social success.

CHAPTER 3: RESULTS

Participant Demographics

Descriptive statistics for all participant data can be found in Table 2. The survey was opened and started by 190 individuals and submitted by 84 individuals. Of the 84 participants who submitted their survey, 69 of those participants were determined to have usable data. Useable data was defined as any participant who had completed the collection of the on-task data section of the survey. The final sample consisted of 89.9% female and 95.7% Caucasian participants. The average age of participants was 41.6 years old ($SD = 9.4$), and the average years of experience was 13.5 years ($SD = 8.1$). All participants held a least a master's degree with 17.4% holding either a PhD or PsyD degree. Within the sample, 40.6% of participants held the Nationally Certified School Psychologist (NCSP) certification. Participants served all age groups from preschool through high school including alternative schools. Within the sample, 26.1% of participant reported serving exclusively in kindergarten and elementary school, 7.0% served exclusively in middle school, and 6.1% served exclusively in high school. However, participants often split their time between age groups. Several participants spent at least part of their time working in preschool (8.7%), kindergarten through elementary school (53.0%), middle school (18.3%), high school (15.7%), and alternative placements (4.4%).

The average number of annual evaluations completed by this sample of school psychologists was 79.0 ($SD = 22.6$). This number ranged from 20 evaluations completed a year to 150 evaluations. Participants completed an average of 18.7 ASD evaluations ($SD = 18.5$), 9.3 ED evaluations ($SD = 10.2$), and 30.3 SLD evaluations ($SD = 26.7$).

The theoretical orientations endorsed by participants were primarily Cognitive (37.7%) and Ecological (33.3%). Behavioral (15.9%), Humanistic (10.1%), and Biological (2.9%) represented the remaining theoretical orientations of participants. No participants endorsed a Psychodynamic orientation.

School Psychologist Data Collection Accuracy

The first research question sought to determine the accuracy of school psychologists' measurement of on-task data. Based on the agreed upon percent of on-task behavior calculated by the independent evaluators, the target student was determined to be on task 36.7% of the video. Accuracy data was then calculated for every participant. The average calculated accuracy from this sample was 74.9% ($SD = 14.3$). Participants who were given the ASD condition had the highest rate of accuracy at 76.9% ($SD = 13.9$), followed by ED at 76.7.1% ($SD = 9.0$), and finally SLD at 70.0% ($SD = 19.6$). There was no statistically significant difference between accuracy data collected within disability labels ($\chi^2(2) = 1.81, p = .406$). Table 3 provides the means and standard deviations of MTS accuracy across exceptionality label. Accuracy by interval was also examined and was variable across time intervals (Table 4). The lowest accuracy for an interval was 44.9% during interval 25. During this interval, the student was transitioning from being off-task to on-task. The highest accuracy for an interval was 94.2% during interval 10. During this interval the student was objectively oriented towards her paper and writing. No intervals had 100% accuracy. Minute one (68.8%) had the lowest average accuracy. Minute three had the highest average accuracy (83.1%).

Exceptionality Label and Data Collection

The goal of the second research question was to determine if exceptionality label affects the rate at which a school psychologist determines if a student is on-task. Overall, school psychologists rated the student to be on-task about 40.8% of the video. The group means were as follows: ASD condition ($M = 43.6\%$), ED condition ($M = 39.5\%$), and SLD condition ($M = 39.1\%$). The proposed statistical test for this question was an ANOVA. Prior to running this test, data were checked for outliers. All scores were converted into z-scores. Scores that had an absolute value of 3.29 were excluded from the data (Tabachnick & Fidell, 2013). One data point was removed. The data were then checked for normality of distribution. To determine if the data set was normally distributed the Shapiro Wilk test of normality was used. The test was statistically significant indicating that the data were not normally distributed and this assumption was violated, $W(68) = 0.96, p = .030$. Based on this finding, a non-parametric test was conducted.

The Kruskal-Wallis H test was run due to the violation of normality of data. Results show that there was not a statistically significant difference in on-task data collected by school psychologists between the exceptionality labels ($\chi^2(2) = 4.33, p = .115$). The exceptionality label that a student held did not create a significant difference in the rating of on-task data collected by school psychologists. No further analysis or posthoc tests were run due to the non-significant results.

Exceptionality Label and Cause of Behavior

The third research question asked if there is a relationship between the exceptionality label that a participant was assigned to and the cause of behavior statement

that a school psychologist endorsed. A chi-square test of independence was conducted. An assumption of the chi-square test was violated during data collection, most likely due to the small sample size. This sample contained 85.7% of expected count cells that had a frequency of less than five. This percentage should not exceed 20%. Due to this violation, maximum likelihood ratio was utilized. The most frequently endorsed cause of behavior was Biological ($n = 40$), followed by Ecological ($n = 9$), Behavioral ($n = 8$), Cognitive ($n = 4$) and Psychodynamic ($n = 4$), and finally Humanistic ($n = 2$). Table 5 includes the specific frequencies for each category by exceptionality label. A significant result was not found between exceptionality label and endorsed cause of behavior, $X^2(12) = 12.41, p = .413$. Based on this sample, there is likely no association between what exceptionality label (ASD, ED, SLD) a school psychologist is told a student has and what they believe is the cause of their challenging behavior.

Theoretical Orientation and Cause of Behavior

The fourth research question examined the relationship between the theoretical orientation that a participant endorsed and the cause of behavior statement they endorsed. A chi-square test of independence was conducted. Again, an assumption of the chi-square test was violated during data collection. On this question, 91.4% of expected count cells had a frequency of less than five. This percentage should not exceed 20%. Table 6 includes the specific frequencies found for each category. Due to this violation, maximum likelihood ratio was utilized. Each of the variables included in this analysis contained more than two possible responses. Therefore, Cramer's V was used to determine effect size. A significant result was found between what school psychologists endorsed as their theoretical orientation and what they endorsed as the cause of behavior,

$X^2(24) = 38.15, p = .033, V = 0.37$. There is an association between what school psychologists report is their theoretical orientation and what they believe is the cause of a challenging behavior. A moderate effect size between theoretical orientation and what school psychologists endorsed as the cause of behavior was found.

Exceptionality Label and Prediction of Student Academic Success

The fifth research question tested if exceptionality label affects how school psychologists predict the academic success of students. The variable of academic success was created using the mean score on four items, each of which used a 4-point Likert-type scale. The first item stated that the best placement for Ellie would be a self-contained special education class ($M = 1.2$). This item's rating fell closest to Strongly Disagree. Participants strongly disagreed that the student required a self-contained special education classroom. The next item stated that Ellie would perform poorly on standardized tests ($M = 2.5$). Participants endorsed scores that averaged right between the Disagree and Agree ratings. This sample appeared to feel neutral or have mixed beliefs on this item. The third item stated that the teacher who worked with Ellie would need specialized training ($M = 2.7$). This item again fell between Agree and Disagree, but it fell a little closer to the Agree rating. School psychologists in this sample may agree that the teacher will require specialized training in order to help Ellie learn. The final item stated that Ellie would complete her current grade successfully. This item had to be reverse coded for statistical purposes ($M = 2.2$). Participants therefore agreed that the student would successfully complete her grade. The mean of the overall academic success variable was 2.1. This fell closest to a Disagree rating. Overall, participants disagreed with the statements meaning they believed that the student would be

academically successful in her future. Table 7 includes the mean score and standard deviation of each individual item on a four-point Likert scale. Table 8 displays the means and standard deviations of the Academic Success variable by exceptionality label.

An ANOVA was proposed to examine this question. Prior to running this test, the data set was checked for normality of distribution. To determine if the data set was normally distributed the Shapiro Wilk test of normality was used. The test was statistically significantly indicating that the data was not normally distributed and this assumption had been violated, $W(69) = 0.94, p = .002$. Based on this finding, a non-parametric test was conducted.

The Kruskal-Wallis H test was run due to the violation of normality of data. Results show that there was not a statistically significant difference in predictions of academic success based on the exceptionality label assigned to a school psychologist, $\chi^2(2) = 0.01, p = .996$. The exceptionality label that a student held did not create a significant difference in the predictions of academic success by school psychologists. No further analysis or posthoc tests were run due to the non-significant results.

Exceptionality Label and Predictions of Student Social Success

The sixth and final research question evaluated how exceptionality label affects school psychologists' prediction of the social success of students. The variable of social success was created using the mean score on three items. Table 7 contains the means and standard deviations of the three individual items. The first item stated that Ellie's teacher would have a difficult time dealing with her behavior ($M = 2.2$). This item fell closest to the Disagree rating. Participants did not believe that the student's teacher would find it challenging to handle her behavior. The second item stated that Ellie would be socially

accepted by her peers. This item had to be reverse coded for statistical purposes ($M = 2.1$). Therefore, this sample agreed that Ellie would be socially accepted by her peers. The final item stated that Ellie's laziness would prevent her from achieving ($M = 1.6$). Participant ratings fell between Strongly Disagree and Disagree. School psychologists in this sample did not believe that the student's laziness would keep her from doing well in school. The overall social success variable had a mean score of 1.9. This fell between Strongly Disagree and Disagree. Overall, participants in this sample believed that the student will be socially successful in the future.

Table 8 displays the means and standard deviations of the Social Success variable by exceptionality label. An ANOVA was proposed to examine if scores of Social Success varied due to exceptionality label. Prior to running this test, the data set was again checked for normality of distribution. To determine if the data set was normally distributed the Shapiro Wilk test of normality was used. Again, the test was statistically significantly indicating that the data was not normally distributed and this assumption had been violated, $W(69) = 0.93, p < 0.001$. Based on this finding, a non-parametric test was conducted.

The Kruskal-Wallis H test was run due to the violation of normality of data. Results show that there was not a statistically significant difference between the predictions of social success based on the exceptionality label assigned to a school psychologist, $\chi^2(2) = 0.71, p = .702$. The exceptionality label that a student held did not create a significant difference in the predictions of social success by school psychologists. No further analysis or posthoc tests were run due to the non-significant results.

Table 2 Participant Demographic Characteristics

Characteristics	n	Percent
Age ($M = 41.6, SD = 9.4$)		
24-29	8	11.60
30-39	23	33.33
40-49	20	28.99
50-59	16	23.19
>60	2	2.90
Gender		
Female	62	89.99
Male	7	10.14
Ethnicity		
Caucasian/White	66	95.65
Black/African American	1	1.45
Hispanic/Latino	0	0
Asian/Pacific Islander	2	2.90
Native American	0	0
Other	0	0
Highest Degree Earned		
PhD/PsyD	12	17.39
EdS	53	76.81
M.S./M.A	4	5.80
Years of Experience ($M = 13.5, SD = 8.1$)		
0-5	15	21.74
6-10	14	20.29
11-15	12	17.39
16-20	11	15.94
21-30	17	24.64
Primary Position		
School Psychologist	68	98.55
University Faculty	0	0
Administrator	1	1.45
Private Practitioner	0	0
Other	0	0
Primary Age Group		
Preschool	10	8.70
Kindergarten	14	12.17
Elementary School	47	40.87
Middle School	21	18.26
High School	18	15.65
Alternative Placement	5	4.35
No Direct Contact	0	0

Table 2 (continued)

Number of Evaluations ($M = 79.04, SD=22.6$)		
20-50	6	8.82
51-75	27	39.71
76-100	29	42.65
101-125	4	5.88
>126	2	2.94
Autism ($M = 18.7, SD=18.5$)		
No Response	11	15.94
≥10	20	28.99
11-20	22	31.88
≥21	16	23.19
Emotional Disturbance ($M = 9.3, SD = 10.2$)		
No Response	10	14.49
>10	44	63.77
11-20	7	10.14
>21	8	11.59
Specific Learning Disability ($M = 30.3, SD = 26.7$)		
No Response	12	17.39
>10	11	15.94
11-20	16	23.19
>21	30	43.48
Additional Degrees		
BCBA	0	
Social Work	0	
NCSP	28	40.58
Licensed Psychologist	7	10.14
Additional Counseling	1	1.44
Administration	5	7.25
Other	4	5.80
Theoretical Orientation		
Cognitive	26	37.68
Behavioral	11	15.94
Humanistic	7	10.14
Psychodynamic	0	0
Biological	2	2.90
Ecological	23	33.33

Table 3 Participant MTS Accuracy

Accuracy	n	M	SD	Min	Max
Overall	69	.749	.143	.333	.933
SLD	19	.700	.196	.267	.900
ASD	24	.769	.139	.400	.933
ED	26	.767	.090	.533	.867

Table 4 MTS Accuracy by Interval

Overall Accuracy	10s	20s	30s	40s	50s	60s	Average
Minute 1	.594	.565	.898	.710	.739	.623	.688
Minute 2	.797	.826	.521	.942	.928	.739	.792
Minute 3	.841	.855	.899	.913	.667	.812	.831
Minute 4	.884	.899	.609	.594	.754	.536	.713
Minute 5	.449	.812	.623	.725	.797	.928	.722

Table 5 Exceptionality Label and Cause of Behavior

	Cognitive Cause	Behavioral Cause	Humanistic Cause	Psychodynamic Cause	Biological Cause	Ecological Cause
SLD	0	3	1	2	10	2
ASD	1	2	1	2	13	4
ED	3	3	0	0	17	3
Total	4	8	2	4	40	9

Table 6 Theoretical Orientation and Cause of Behavior

	Cognitive Cause	Behavioral Cause	Humanistic Cause	Psychodynamic Cause	Biological Cause	Ecological Cause
Cognitive	2	1	0	0	21	2
Behavioral	0	4	1	2	3	1
Humanistic	0	0	1	0	5	0
Psychodynamic	0	0	0	0	0	0
Biological	0	0	0	0	2	0
Ecological	2	3	0	2	9	6
Total	4	8	2	4	40	9

Table 7 Predictions of Academic and Social Success

Success Item	M	SD
Academic Success Variable	2.13	.355
The best placement will be a self-contained special education classroom	1.19	.522
Ellie will perform poorly on standardized tests	2.48	.655
The teacher who works with Ellie will need specialized training	2.67	.634
Ellie will complete her current grade successfully*	2.20	.502
Social/Behavioral Success Variable	1.94	.375
Ellie's teacher will have a difficult time dealing with her behavior	2.15	.678
Ellie will be socially accepted by her peers*	2.07	.431
Ellie's laziness will prevent her from achieving	1.59	.602

Note. *Indicates that the item was reverse coded.

Table 8 Means and Standard Deviations of Exceptionality Label by Academic and Social Success Predictions

	ASD (n=24)		ED (n=26)		SLD (n=19)		Total (n=69)	
	M	SD	M	SD	M	SD	M	SD
Academic Success	2.15	.368	2.14	.382	2.11	.315	2.13	.355
Social Success	1.96	.409	1.96	.358	1.89	.369	1.94	.375

CHAPTER 4: DISCUSSION

The purpose of this study was to determine how school psychologists may be biased by exceptionality label during the evaluation process. According to the dual process theory, System 1 is the automatic decision-making process that humans rely on to make fast everyday choices. If school psychologists are relying on System 1 during the evaluation process, they are more vulnerable to cognitive biases. This automatic process may result in biases that may impact how they collect, interpret, and use data to evaluate students (Bowes, 2020; Thirsk et al., 2022). Previous research has found that exceptionality label can lead to a bias in how preservice teachers collect MTS data (Allday et al., 2011) and how they predict the likelihood of the behavior repeating in the future (Fisher et al., 2022; Huebner 1987). Therefore, the current study examined if the same biases exist in how school psychologists collect MTS data and how they predict behavior.

The current study set out to determine the following six questions: a) are school psychologists accurate in their collection of momentary time sampling data of task engagement using a video-based observation, b) does exceptionality label affect school psychologists' video-based data collection of task engagement, c) does exceptionality label affect what school psychologists endorse as the cause for challenging behaviors described and observed in a hypothetical vignette and video, d) do school psychologists' self-endorsed theoretical frameworks align with their identified cause of behavior, e) does exceptionality label affect school psychologist predictions of hypothetical student

academic success, f) does exceptionality label affect school psychologist predictions of hypothetical student social/behavioral success?

Results revealed that this sample of school psychologists was not impacted by the presence of exceptionality label when collecting MTS data, when reporting what they believe caused the challenging behavior, or when predicting future academic and social success of a student. However, school psychologists were not always accurate in their MTS data collection. Additionally, what school psychologists report as their theoretical orientation was related to what they report is the cause of challenging student behavior.

Demographics and Sampling

School psychologists across the state of Kentucky were recruited for this study. According to the U.S. Bureau of Labor Statistics (2021, May), Kentucky employs 480 school psychologists. Although the survey had been started 190 times, only 84 participants submitted their answers. The analysis of the MTS data collection was necessary for the majority of research questions in this study, so only participants who had supplied responses in this section of the survey were considered to have usable data ($n = 69$). This resulted in having approximately a 14.4% response rate. This response rate is lower than the recommended 20% - 25% for email disseminated surveys (Fosnacht et al., 2017). A lower response rate may result in data that are not representative of the targeted population. Low response rates may have been due to lack of an extrinsic motivator for participating, the required viewing of the video with sound, or the perceived length of the survey. Additional recruitment tactics were used through targeted recruitment in the five largest districts in the state, but this strategy was unable to elicit a large number of new participants.

Despite the low response rate, the demographic makeup of this sample was similar to the demographics of the field as a whole. According to the most recent NASP membership survey (Goforth et al., 2021), the school psychology field is made up of 87% female and 86% White/Caucasian practitioners. This sample consisted of 90% female and 96% White/Caucasian participants. The current sample had slightly more White/Caucasian participants than is indicative of the school psychologist populations as a whole. The national average number of years of experience ($M = 13$ years) as well as the breakdown of degree held (master's [9%], specialist [67%], doctoral [22%]) is similar to the sample as well. Those in the current sample reported a higher average number of evaluations completed annually ($M = 79$) compared to the national average ($M = 55$) (Farmer et al., 2021). The similar demographic data suggests that although response rate was low, the sample may still be representative of the desired population. The demographic characteristics of this sample was similar to those who are practicing in the field nationally. However, there was a lower level of racial/ethnic diversity with only 4% of the participants not identifying as White/Caucasian whereas 14% of all school psychologists identify as not White/Caucasian.

School Psychologists Accuracy of Data Collection

The student in the video was determined to be on task for about 37% of the 5 min. The school psychologists in this sample measured her to be on-task about 41% of the video. However, across the 30 possible intervals, school psychologists in this sample averaged about 75% accuracy in their measurement of on-task behavior. Participants in the ED and ASD groups both had around 77% accuracy across intervals. Participants in the SLD group had lower accuracy at around 70% accuracy. There was no significant

difference in the rate of accuracy across different exceptionality labels. These results suggest that school psychologists are showing similar levels of accuracy in their MTS data collection. They are not being biased by exceptionality label. These findings support the objective and unbiased interpretations of school psychologist evaluations. However, the mean accuracy data overall was 75%. This raises concerns about the overall accuracy of MTS data collection by school psychologists. According to the NASP standards (NASP, 2020), school psychologists are expected to understand how to collect and interpret direct observation data. Although there is no recommended accuracy threshold, school psychologist training programs and professional developments may need to spend more time on how to accurately collect MTS data. If data collection is not accurate, this data point may bias the overall findings when integrated with the other evaluation data.

No interval in the data had 100% accuracy and only four intervals had over 90% accuracy. All four intervals that had over 90% accuracy were intervals when the student was clearly off-task. During the first two intervals with over 90% accuracy, the student had left the table to go get a drink of water and was not in the frame at the time. In the other two intervals with high accuracy, the student was not physically oriented towards her worksheet and was continuously clicking her pen which was a behavior explicitly defined in the operational definition as an off-task behavior. Intervals with the highest accuracy appear to be occurrences of unambiguous and clear representations of operationally defined behaviors. However, because no interval had 100% accuracy it does raise concerns regarding participant participation and their motivation to complete the survey with the same vigor they would a real observation. Participants may have been distracted from the video, lost their place on the data sheet, or were coding incorrectly.

These confounding variables could call into question the reliability of the MTS data collected and the findings connected to this data.

There were six intervals that had accuracy lower than 60%. This implies that participants were almost evenly split on if they felt the student was on-task or off-task. These intervals were made up of both on-task and off-task intervals. The first two intervals of the video had lower than 60% accuracy. In both of these intervals it could be argued that the student had rapidly changed her behavior as the beep was sounding. In the first interval she went from being on-task and listening to directions to off-task and fidgeting with her pen. In the second interval, she was off-task fidgeting with her pen and rapidly switching to the on-task behavior of completing her worksheet. The next interval with low accuracy the student was listening appropriately to a redirection. The final three intervals with low accuracy the students were oscillating between on-topic and off-topic conversations. The rapid switch between being on-task and off-task could be a valid explanation for the low agreement on the first two intervals. Additionally, if school psychologists could not clearly remember the purpose of the activity, knowing if a conversation included on-task topics could have been more difficult and resulted in mixed accuracy. Overall, intervals with lower accuracy appear to lack clarity and be more ambiguous in their presentation of the behaviors.

Although school psychologists did not measure the behavior with the expected level of accuracy at the individual interval level, their overall measurement of on-task behavior ($M = 41\%$) was similar to the overall measure of on-task behavior agreed upon by independent evaluators ($M = 37\%$). There was not a statistical difference between the on-task data collected for each of the different exceptionality labels. Only a 5%

difference was found between the lowest mean (ED) and the highest mean (ASD). These are promising findings as previous research has found that even after being trained for accuracy, preservice teachers are biased by the presence of exceptionality label (Allday et al., 2011). Students that are perceived to have more behavioral challenges, like ODD or ED, were rated as more off-task by pre-service teachers. This difference between pre-services teachers and school psychologists may be explained by graduated training, professional developments, or increased experience with the populations in question. School psychologists appear to be able to objectively measure observational data where other educational professionals could not. This is important as observations are a large part of the evaluation process and often relied upon during decision making (Benson et al., 2019). If school psychologists were shown to be impacted by the presence of an exceptionality label, this could call into question the validity of their evaluation practices. These results suggest that data collected during observations is a reliable piece of information to integrate into the final eligibility decision.

Cause of Challenging Behavior

There can be many variables that school psychologists hold accountable for a student's challenging behavior. Different theoretical orientations often have theories for why individuals engage in challenging behaviors (Alberto & Troutman, 2012; Farber 2016; Pottick et al., 2007). The causes for challenging behavior included as options in this study were: a) behavior is the result of individual perception and understanding of a situation, b) behavior has previously resulted in positive consequences, c) physiological, safety, belongingness/love, or esteem needs are not being met, d) unconscious conflicts are affecting behavior, e) atypical brain functioning that is resulting in behavior, f)

behavior is the result of all the different environmental and cultural systems she lives in. The most commonly endorsed cause of challenging behavior was the biological cause (atypical brain functioning that is resulting in behavior). The overwhelming majority of school psychologists believed that challenging behavior is primarily due to atypical neurodevelopment. This finding was not impacted by the exceptionality label that a participant was assigned to. This finding is interesting because it means that school psychologists have come to internalize that neuroatypicality causes challenging behavior despite training programs not explicitly teaching this during their explanations of theoretical orientation (Farber 2016). This may be a result of the professions' focus on evaluating children for disabilities. Disabilities are often described to be a result of neuroatypicality (Ahsan, 2016; Alberto & Troutman, 2012). Conceptualizing challenging behavior as a result of neuroatypicality may be a product of assuming all challenging behavior is due to a disability.

The theoretical orientation that a school psychologist endorsed was statistically associated with what they endorsed for the cause of the challenging behavior. A visual examination of the data showed that all theoretical orientations, except for behavioral, endorsed a biological cause of challenging behavior with the highest frequency. However, the next most frequently endorsed cause of behavior was the corresponding theoretical orientation. What school psychologists believe causes challenging behavior is related to the theoretical orientation that they believe in. School psychologists appear to be rooted in their theoretical beliefs and are not influenced by biasing factors such as exceptionality label. This is again a promising finding in that school psychologists are

able to objectively apply their belief system to an individual without being biased by factors such as exceptionality label.

School Psychologist Predictions of Academic and Social Success

The Predictions of Student Success survey (Tournaki, 2003) was used in this study to measure school psychologists' predictions of future student success. The scale is made up of two factors on a four-point Likert scale from Strongly Disagree to Strongly Agree. The first factor was prediction of academic success. The overall academic success variable had a mean score of 2.1. Overall, participants disagreed with the statements and therefore believed that the student would be academically successful in her future. The second factor of this scale was prediction of social success. The overall social success variable had a mean score of 1.9. Again, the sample disagreed with the statements and therefore they believed that the student would be socially successful in the future. The sample had slightly lower ratings on the social success variable than the academic success variable. Participants may have believed more strongly in the social success of the student than the academic success. Overall, the school psychologists in this sample believed that the student would be both socially and academically successful in the future. School psychologists did not label the student in this video as incapable of success solely due to a label or challenging behavior. This provides an optimistic view of the profession. As advocates and consultants in the educational planning of students, school psychologists were shown to be believers in the students' ability to attain success.

There was not a statistically significant difference between the group predictions of either academic or social success by exceptionality label. This disagrees with previous research on the topic. In previous research, preservice teachers and school psychologists

were biased by the provided exceptionality label when predicting future student behavior (Fisher et al., 2022; Huebner, 1987). Pre-service teachers predicted students with ED and ASD were more likely to repeat challenging behaviors in the future than gifted/talented children (Fisher et al., 2022). School psychologists endorsed lower expectations for the student's overall academic performance and motivation to be successful in school after they diagnosed them with a learning disability (Huebner 1987). Overall, the presence of an exceptionality label previously biased educators' predictions of student future success. This suggests that school psychologists in this study have shown growth from those in the field in 1987. They no longer appear to be influenced by an exceptionality label when predicting what a student is capable of in the future. Additionally, they separate themselves from others in education who still hold some of these biases. This places school psychologists in a unique position to continue to advocate for high expectations and future goals for students despite exceptionality label.

Implications

Results of this study found that school psychologists were not impacted by the presence of exceptionality label when collecting MTS data, when reporting what they believed causes challenging behavior, and when predicting future academic and social success of a student. These findings are important because they suggest that school psychologists are objective during the evaluation process and not subject to labeling bias like other education professionals may be (Allday et al., 2011; Fisher et al., 2022; Heubner, 1987). If school psychologists were influenced by the presence of exceptionality label this would bring about concerns regarding the accuracy of data collection, diagnostic decision making, and intervention recommendations they make.

The dual process theory posits that there are two systems responsible for decision making (Bordens & Horowitz, 2002; Bowes, 2020; Evans 2008; Thirsk et al., 2022). System 1 is the subconscious process that is running constantly in a person's mind that utilizes schema and heuristics to quickly make decisions. It is most vulnerable to cognitive biases such as the one studied in the study above. System 2 requires conscious thought and deliberation to solve problems. School psychologists appear to not be succumbing to the cognitive biases previously observed in other medical (Croskerry, 2013; Saposnik et al., 2016; Thirsk et al., 2022) and mental health professionals (Featherston et al., 2020). School psychologists should continue to consciously focus on the evaluation process in order to avoid these cognitive biases impacting their data collection and their interpretation of this data. Additionally, training programs and professional developments should emphasize the potential for these cognitive biases and how they could impact the validity and reliability of school psychologists' professional findings.

In addition to training programs and professional developments focusing on cognitive biases, there could be a need for additional training in MTS data collection. Results showed that school psychologists were not only having difficulty with data collection during more subjective intervals, but during objective intervals as well. No interval had 100% accuracy during MTS data collection. If participants are unable to identify when a student is on-task and off-task with fidelity, this calls into question the validity of this data point in the overall evaluation process. It is plausible to understand that there could be disagreement during real time data collection of ambiguous behaviors. However, it is concerning that during intervals where the student was meeting the

operational definition of off-task, there was still disagreement. Behavior observations are frequently used in the evaluation process (Benson et al., 2019). It is imperative that this continued to be a reliable data point collected by school psychologists.

Limitations

The biggest limitation of this study was the sample size and demographics of the sample. The sample in this study was 69 participants. This is only about 14% of the population of school psychologists in Kentucky. The small sample size could have resulted in type II error in which the null hypothesis is incorrectly accepted. Type II error would result in no difference being reported when in the larger population there would be a real difference present (Browner et al., 1988). Additionally, the demographics of this sample were a limitation. Demographics of the sample were similar to that of the population, but due to the sample size this resulted in limited diversity. Only seven participants did not identify as female and three did not identify as White/Caucasian. This is less than those school psychologists within the national population who identify as not White/Caucasian. With this limited representation of diverse voices, the results are not inclusive of all viewpoints which could have resulted in skewed findings. Finally, self-selection bias may have resulted in a sample that is fundamentally less biased than the overall population. If the school psychologists who self-selected to complete the study were categorically different from those who did not, then it may have resulted in nonsignificant results when they really should have been significant. The true population may have more bias than those who participated in the study displayed.

Another area to consider for study limitations was the video. When measuring accuracy of the data collection, no time interval had 100% accuracy despite there being

two intervals during which the student left the video to engage in an explicitly defined off-task behavior. This may be indicative of a flawed system. One possible reason for this could be the format of the markers to indicate when an interval had passed. By including a visual marker, in addition to the auditory one, to indicate what interval the participants were marking may have reduced some of the disagreements in the accuracy data. The quality of the survey was also lower when attempted on a phone than on a laptop or computer. Although it was possible to complete on a smartphone, it was much easier to navigate the video page with a larger screen. This may have resulted in some unanticipated mistakes. Another limitation is that the video was filmed in an artificial setting and not a true classroom. This could have resulted in a less authentic experience and skewed results. The last consideration regarding the video would be in poorly defining the activity that the students were engaged in. Although off-topic conversations are operationally defined as off-task behaviors, these intervals were among those with the lowest level of accuracy. Participants may have had difficulty differentiating between conversations that were on-task and those that were off-task due lack of understanding of the activity.

A final consideration for study limitations would be type of data collection. The directions told participants to indicate when the student was on task using an MTS method. If this is different to how school psychologists would normally collect their data, it may have led to some unnecessary mistakes. For instance, participants may be used to collecting partial interval data or marking when a student is off-task not on-task. Including a practice round to get participants used to this method of data collection may have increased accuracy and reduced mistakes among participants.

Future Research

Future research should focus on repeating this study with a bigger sample size in order to replicate the study with a more representative and powerful sample. Additionally, the study should be replicated across geographical locations as well as nationally. This will help to determine if there is a difference in findings across geographical locations. Other replications can be conducted with different types of educational professionals such as general education teachers, special education teachers, paraprofessionals, and administration. These findings would help to expand and generalize the understanding of how exceptionality label biases professionals in the education profession.

In addition to replications to generalize the findings, manipulation of new variables would be an important direction for future research. Repeating this study using a general education student as a group could act as a control for the category of exceptionality label as a whole. This would help to determine if there is a difference in students labeled with a disability and students not labeled at all. Including other types of exceptionality labels such as giftedness, Other Health Impairment, and Intellectual Disabilities would also be an additional line of research. There are 13 disability categories under IDEA that could be compared for differences. Finally, manipulating variables such as gender and race could provide interesting data. A study of this nature could examine if differences are observed when exceptionality label are measured with the addition of differing genders or races of the student. This could provide a more comprehensive approach of measuring exactly how variables interact to impact school psychologists.

Conclusion

The purpose of this study was to determine if school psychologists are biased by exceptionality label when collecting MTS data, when determining the cause of challenging behavior, and when predicting future student academic and social success. In order to do this, data were collected via survey with an embedded video and vignette about a student. All participants received the same information with the exception of the exceptionality label they believed was assigned to their student. No significant results were found related to the presence of exceptionality label. School psychologists did not collect MTS data differently or predict student success differently based on exceptionality label. They also did not change what they believed caused challenging behavior based on exceptionality label. The only variable that resulted in significant findings was the theoretical orientations of the participants. These findings imply that school psychologists are objective during the evaluation process and do not depart from this objectivity when presented with differing exceptionality labels. Despite limitations from sample size and survey presentation, these findings are important because they support the unbiased nature school psychologists are able to maintain when evaluating students for special education eligibility and services.

APPENDICES

APPENDIX 1. Survey Questions

1. What is your age?
2. What is your gender
 1. Male
 2. Female
3. What is your ethnicity?
 1. Caucasian
 2. Black/African American
 3. Hispanic/Latino
 4. Asian/Pacific Islander
 5. Native American
 6. Other
4. What is your highest degree earned?
 1. PhD/PsyD
 2. EdS
 3. M.S./M.A.
5. How many years of experience do you have in school psychology, not including internship?
6. What is your primary position
 1. School Psychologist
 2. University Faculty
 3. Administrator
 4. Private Practitioner
 5. Other
7. With what age group do you spend most of your time? (Multiple answers possible)
 1. Preschool
 2. Kindergarten
 3. Elementary School
 4. Middle School
 5. Alternative Placement
 6. I do not work directly with students
8. Average number of evaluations (including functional behavior assessments) complete per year

9. Number of students with Autism Spectrum Disorder on caseload
10. Number of students with Emotional Behavior Disorder on caseload
11. Number of students with Specific Learning Disability on caseload
12. Do you hold or are you working toward additional certifications
 1. BCBA
 2. Social Work
 3. Nationally Certified School Psychologist
 4. Licensed Psychologist
 5. Additional Counseling Degrees
 6. Administration Degree
 7. Other
13. What is your theoretical framework/orientation when conceptualizing the problems of children?
 1. Cognitive: Humans perceive stimuli, process information in their brain, and then respond to the stimuli. This information processing is affected by each individual's perception, attention, current schema, problem solving skills, and memories
 2. Behavioral: All human behavior is learned. Behavior that is followed by a positive consequence continues, and behavior that results in a negative consequence is avoided
 3. Humanistic: Each person is considered to be innately good and are motivated to self-actualize. People engage in behaviors that they perceive are necessary in order to get their needs met
 4. Psychodynamic: There are unconscious mental processes that influence our feelings and behavior
 5. Biological: There are biophysical reasons for significant disturbances to what would be considered typical behavior
 6. Ecological: There are multiple environmental, social, and cultural systems that influence how an individual behaves in a situation
14. What is the primary cause of Ellie's challenging behavior in this video?
 1. Ellie's behavior is the result of her individual perception and understanding of a situation
 2. Ellie's behavior has previously resulted in positive consequences
 3. Ellie's physiological, safety, belongingness/love, or esteem needs are not being met
 4. Ellie has unconscious conflicts that are affecting her behavior
 5. Ellie has atypical brain functioning that is resulting in her behavior
 6. Ellie's behavior is the result of all the different environmental and cultural systems she lives in

15. The best placement for Ellie will be a self-contained special education classroom
 1. Strongly Disagree
 2. Disagree
 3. Agree
 4. Strongly Agree

16. Ellie's teacher will have a difficult time dealing with her behavior
 1. Strongly Disagree
 2. Disagree
 3. Agree
 4. Strongly Agree

17. Ellie will perform poorly on standardized tests
 1. Strongly Disagree
 2. Disagree
 3. Agree
 4. Strongly Agree

18. The teacher who works with Ellie will need specialized training
 1. Strongly Disagree
 2. Disagree
 3. Agree
 4. Strongly Agree

19. Ellie will complete her current grade successfully
 1. Strongly Disagree
 2. Disagree
 3. Agree
 4. Strongly Agree

20. Ellie will be socially accepted by her peers
 1. Strongly Disagree
 2. Disagree
 3. Agree
 4. Strongly Agree

21. Ellie's laziness will prevent her from achieving
 1. Strongly Disagree
 2. Disagree
 3. Agree
 4. Strongly Agree

APPENDIX 3. Operational Definition of On-Task and Off-Task

On Task	Off Task
Physically working on the group assignment	Working on classwork not currently assigned
Making eye contact with the task or peers discussing the assignment	Talking about topics that are not the class assignment (e.g., weekend plans, favorite food)
Engaging in conversation about the class assignment	Engaging in behaviors or tasks that are incompatible with the assigned task (e.g., fidgeting with pen, looking around room)
Being in the proper geographical location (e.g., being in seat when seat work is required)	Not in the proper geographical location

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Publications

Fisher, A. E., Fisher, S., Arsenault, C., Jacob, R., & Barnes-Najor, J. (2020). The moderating role of ethnic identity on the relationship between school climate and self-esteem for African American adolescents. *School Psychology Review*, 49(3), 291–305.

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