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LINKING DATA TO EVIDENCE-BASED PRACTICES

Assessing Teachers' Need for Classroom Management Training: Can Consultants Link
Data to Evidence-Based Practices?

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Abstract

The present study examined whether 53 observers could use the Five in 20 Observation Tool to accurately identify teachers needing additional classroom management training. The Five in 20 Classroom Observation Tool includes 21, evidence-based classroom management strategies, critical to effective classroom management. Fifty-three observers were recruited to complete 42 (42 primary observers and 11 reliability observers), 20-minute observations using the Five in 20 Tool. Due to the COVID-19 pandemic, 29 observers participated in the recalled format and 24 participated in the live version. There was a statistically significant difference between observers who indicated fewer, or lower quality evidence-based strategies were observed (i.e., Lower Quality Rating Score) and teachers needing additional training compared to observers who indicated more, or higher quality evidence-based strategies were observed (i.e., Higher Quality Rating Score) and teachers not needing additional training. Overall observer-recommendation alignment was low (68%) and school psychologists had a higher percentage of observer-recommendation alignment (80%) compared to non-school psychologists (44%). Finally, five of the 53 observers watched and coded a 20-minute video. Observers codes were compared to a key and Cohen's Kappa calculations reflected moderate to substantial agreement between the five observers and the key. Future research and implications of these findings are discussed.

Keywords: classroom management, direct-observation, evidence-based strategies, classroom consultation

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Assessing Teachers' Need for Classroom Management Training: Can Consultants Link Data to Evidence-Based Practices?

Although being a teacher can be an incredibly motivating and rewarding career path, it is also common for teachers to experience burnout and ultimately leave the field. One reason for this is student behavioral issues (Ingersoll, 2001; Reinke et al., 2013). Especially since the passage of No Child Left Behind (U.S. Department of Education, 2001), general education teachers are faced with educating students with a range of academic abilities while also managing student behavioral issues (Cheney & Barringer, 1995). Holding teachers to this standard without proper training and adequate resources is unfair and unreasonable. Unfortunately, many teachers receive little or no pre-service behavior management training (Baker, 2005; Reinke et al. 2011) and are therefore unprepared to address students' behavioral health needs (Nagro et al., 2019). Furthermore, many teachers report they would benefit from additional classroom management training (Kwok, 2017). Fortunately, the literature on evidence-based practices (EBPs) related to classroom management is extensive (Cooper et al., 2018; Epstein, 2008, et al; Nagro et al., 2020; Simonsen et al., 2008) and teachers can receive on the job training and support via consultation. For this reason, it is imperative for those providing consultation services to accurately and reliably link data to EBPs. The aim of this study is to determine whether consultants can collect observational data and use it to recommend appropriate evidence-based classroom management practices.

Effective Classroom Management: Critical Features

An EBP is an approach to service delivery in which the best empirical evidence is combined with clinical proficiency while also considering unique client characteristics, values, culture, and preferences (American Psychological Association Task Force on Evidence-Based

Practice for Children and Adolescents, 2008; Shernoff et al., 2017). Within the school setting, EBPs are defined as “effective educational strategies supported by evidence and research” (ESSA, 2002). Moreover, EBPs are a curriculum, behavioral intervention, systems change, or educational approach designed for use by families, educators, or students with the expectation that implementation will result in measurable educational, social, behavioral, or physical benefit based on data that supports its efficacy (Horner, et al. 2005). For example, teachers might use formative assessments to monitor students’ responses to their teaching strategies such as questioning the students throughout the lesson to gauge understanding and then make modifications to their lesson as necessary. In this example, formative assessments are considered an EBP because it provides teachers with the information about their student’s educational performance to inform whether teachers should continue to use their current strategies (such as questioning the class while teaching), and in turn, should inform next steps for teachers (i.e. whether to keep the current, effective strategy in place or alter the current plan; U.S. Department of Education, n.d.). Evidence based practices are critical to effective classroom management. In a 2017 study, conjoint behavioral consultation was used by school personnel to develop and support intervention plans that integrated mental health and EBPs. This study revealed that the intervention plans with EBPs led to interventions that were both effective and acceptable (Garbacz et al., 2017).

Sugai and Horner (2002) identified three central components to classroom management: a) maximized allocation of time for instruction, b) arrangement of instructional activities to maximize academic engagement and achievement, and c) proactive behavior management practices. These components are consistent with the five features critical to classroom management identified by Simonsen and colleagues (2008), which included: a) physical

arrangement of the classroom, b) structure of the classroom environment, c) instructional management, d) procedures to increase appropriate behavior, and e) procedures to decrease inappropriate behavior. Within the five features, Simonsen and colleagues identified 20 EBPs.

To determine which features were critical to classroom management, Simonsen and colleagues (2008) conducted an extensive and systematic literature review to identify evidence-based classroom management practices. The authors used the following criteria to broadly identify practices in the literature with the potential to be evidence-based. First, studies needed to have used sound experimental or evaluation design and appropriate analytical procedures. Studies also needed to demonstrate empirical validation of effects and have clear implementation procedures. There needed to be replication of outcomes across implementation sites, and finally there needed to be evidence of sustainability (Simonsen, et al. 2008). To ensure the broadly identified practices were evidence-based, Simonsen and colleagues applied additional criteria: a) evaluated using sound experimental design and methodology (group experimental, group quasi-experimental, experimental single subject, or casual comparative), b) demonstrated to be effective, and c) supported by at least 3 empirical studies published in peer-referenced journals. Results from the Simonsen et al. (2008) review concluded that when teachers used the five features (critical to classroom management) with fidelity, students were more likely to engage in prosocial behaviors and learning. Students were also less likely to engage in off task and disruptive behavior and reached higher academic outcomes.

Evidence-Based Practices

Based on the research conducted by both Sugai and Horner (2002) and Simonsen and colleagues (2008), the following appear particularly important for effective classroom management: a) maximize classroom structure, b) post, teach, review, monitor, and reinforce

expectations, c) actively engage students in observable ways, d) use a continuum of strategies for responding to appropriate behaviors, and e) use a continuum of strategies to respond to inappropriate behaviors. There are 20 strategies Simonsen et al. (2008) identified that fall within these areas. Two of the 20 strategies (i.e., high classroom structure and physical arrangement of the room minimizes distraction) fall within the first area, maximizing classroom structure. The strategies that fall within the second area (i.e., post, teacher, review, monitor, and reinforce expectations) include posting, teaching, reviewing, and providing feedback on expectations and engaging in active supervision. The third area (i.e., actively engaging students in observable ways) included six strategies: opportunities to respond, response cards, direct instruction, computer assisted instruction, class wide peer tutoring, and guided notes. The fourth area (i.e., use a continuum of strategies to acknowledge appropriate behavior) included four strategies: specific and/or contingent praise, class-wide group contingencies, behavioral contracting, and token economies. The fifth area (i.e., use a continuum of strategies to respond to inappropriate behavior) included six strategies: error corrections, performance feedback, differential reinforcement, planned ignoring plus contingent praise and/or instruction of classroom rules, response cost, and time out from reinforcement. These broad areas and 20 specific strategies should be considered when professionals are providing consultation related to effective classroom management. The next section will detail the role of consultation in the school setting, how the process works, and who is optimally trained to provide consultation.

Consultation and Classroom Management

Consultation is a service delivery model where a consultant and consultee collaborate to optimize the functioning of a student in the consultee's setting and to increase the consultee's capacity to deal with similar situations in the future (Erchul & Martens, 1997). School

psychologists are explicitly and extensively trained in consultation and therefore often consult with teachers and other school personnel in the school setting. Due to the national shortage of school psychologists (National Association of School Psychologists, 2020), other educational professionals may provide consultation within the school setting in addition to school psychologists. For example, special education teachers, instructional coaches (i.e., teachers), behavioral consultants, and/or administrators, may serve as consultants (Vanderbilt University, 2020).

Consultation Defined

Consultation is delivered either indirectly or directly (Sterling-Turner, et al., 2002). Indirect consultation consists of the consultant meeting with the consultee (e.g., teacher) in a setting outside the classroom and assessing the consultee's concerns via interview. Then, the consultant provides intervention recommendations based on the information gathered. Indirect consultation, in general, is less hands-on and recommendations may include didactic instruction or written materials describing how the teacher should implement the intervention recommendation (Sterling-Turner, et al., 2002). Direct consultation on the other hand, is where the consultant observes the consultee in the classroom setting or target student who the consultee has concerns for in the target setting to obtain assessment information directly. With direct consultation, the consultant is more likely to provide in-person supports that aid training and intervention (e.g., modeling, role playing, rehearsal, and feedback). Direct consultation affords greater opportunities for the consultee to practice skills in a way that will increase treatment fidelity and skill generalization. Therefore, direct consultation and training procedures are more likely to lead to effective outcomes for consultees and students (Sterling-Turner et al., 2002).

Training in Consultation

When comparing school psychologists' training in evidence-based classroom management practices versus teachers directly learning these practices through their coursework, the comparison is disheartening. The National Council on Teacher Quality found that just 14 percent of traditional teacher-preparation programs require their candidates to demonstrate their ability in five research-based classroom management strategies, while even more shockingly, 13 percent of programs require their candidates to model just one or none of the strategies (Will, 2020). While some may argue that teachers only really need one strategy in their arsenal, the truth is that all students and situations are unique and having the foundational knowledge to address various classroom management issues is vital for effective classroom management. If teachers do not have the knowledge to implement classroom management with strong empirical support, then they are likely to benefit from consultation with someone (e.g., a school psychologist) who does.

In a 2002 article, Rosenfield describes her experience teaching consultation to graduate students for three decades. She details the “essential elements of instructional consultation” and that this course is typically delivered to “graduate students in school psychology, school counseling, and special education” (Rosenfield, 2002, p. 98). Scholarly articles describing consultation training and best practice overwhelmingly reference school psychologists as conducting consultation services; however, other professionals occasionally provide consultation as well (McGary-Klose et al., 2012; Newman & Ingraham, 2020; Sander et al., 2016). The training and past coursework of other school professionals who conduct consultation services vary greatly. For example, a special education teacher who has a master's degree may have taken a consultation class as part of their required coursework, but often the description of the course

has more to do with learning objectives focused on teamwork among professionals such as the parents or other educational professionals or developing home-school partnerships (South Arkansas University, 2020). Assistant Principals commonly obtain a master's degree in educational leadership, where there is not an explicit course in consultation (although it could be embedded within other coursework; University of Texas Permian Basin, 2020).

In terms of school psychology-specific training, there is variance in the extent to which consultation is covered dependent upon the level of degree earned. At the Bachelor's degree level, an undergraduate psychology student will rarely, if ever, take a course in consultation due to its specificity in training dependent on the graduate degree and the program (American Psychological Association, 2008). The difference between a Master's degree and Specialist degree in school psychology is a 1,200 internship year, but the courses are typically the same. It is important to note that to be certified as a school psychologist, most states require a Specialist degree, which includes a minimum of 60 graduate credits in school psychology and a full-time internship in the school setting (National Association of School Psychologists, 2020). Therefore, although many Master's level school psychologists may have taken the same consultation coursework that Specialist level school psychologists have, Master's level school psychologists lack the internship experience and practical application. In a study that analyzed consultation syllabi from APA accredited doctoral school psychology programs, the syllabi suggested that most school psychology students were offered at least one full course in consultation that covered multiple consultation models (Hazel, et al., 2010). The study found that two thirds of the programs' syllabi included at least one consultation case with a teacher regarding a specific student, yet less than half mentioned supervision for the case. As one might anticipate, doctoral graduate students are likely to get the most consultation training and practical application.

School Psychologists and Data-Based Decision Making

For school psychology programs to be nationally accredited by the National Association of School Psychology (NASP), the program coursework must adhere to strict guidelines and provide students with adequate training aligned to the 10 NASP training and professional development domains. One of the 10 Domains is ‘Consultation and Collaboration’ (Domain 2). According to NASP, all accredited school psychology programs have coursework in consultation and collaboration for school psychologists (National Association of School Psychologists, 2020). The NASP 2020 Practice Model recommends that school psychologists use a consultative problem-solving process model (e.g. behavioral and conjoint behavioral consultation (National Association of School Psychologists, 2020)).

Behavioral and Conjoint-Behavioral Consultation

Behavioral consultation is a consultation model with strong empirical evidence (Sheridan et al. 1992). The behavioral consultation process consists of four stages involving at least two individuals (the consultant and the consultee) to determine what the client’s needs are, and to develop an appropriate intervention plan to meet those needs. The four stages of consultation involve problem identification, problem analysis, treatment implementation, and treatment evaluation (Kratochwill & Bergan, 1990). During the problem identification stage, the objective is to define the problem in behavioral terms and decide how baseline data will be collected and recorded. The problem analysis stage includes evaluating baseline data, determining the goal for behavior change, and designing an intervention plan. During the treatment implementation stage the data are collected and analyzed to determine whether the intervention was effective, and to determine if revisions are needed. The last stage is treatment evaluation. During this stage it is determined whether the goals of consultation were met, whether the treatment plan was effective,

whether the treatment plan will continue, whether the treatment plan needs to be modified (or terminated), and whether any additional meetings are necessary (Sheridan & Elliott, 1991).

Conjoint behavioral consultation (CBC) is similar to behavioral consultation; however, there is an added emphasis on the family-school partnership. According to Garbacz and colleagues (2020), CBC is an indirect service delivery model developed to meet children's needs across both home and school environments, in addition to strengthening the relationships between parents and teachers (Garbacz et al., 2020). The same four stages used in behavioral consultation are used with CBC, but a collaborative relationship between home and school is emphasized by examining the needs for intervention and support across both settings (i.e., for both parents and teachers).

Systematic Behavioral Observation

Systematic behavioral observation is an important piece of the problem identification and problem analysis stages within the consultation model. For example, direct observation allows the consultant to obtain a measure of a child (or teachers') observable behaviors as they unfold in the naturalistic setting (Landau & Swerdlik, 2005). This is key to determining if there is a problem, measuring the problem (i.e., problem identification) and linking assessment data to intervention (i.e., problem analysis). Systematic direct observation plays an integral role in the assessment and implementation of EBPs in both general and special education classroom settings and for this reason is one of the most frequently used assessment procedures used by school psychologists (Hintze, 2005).

With systematic behavioral observation an undeniable essential pillar of school psychology practice (Wilson & Reschly, 1996), school psychologists are trained to operationally define target behaviors a priori. Observations are carried out using unbiased standardized

procedures, as are scoring and summarizing of data (Hintze & Matthews, 2004). Training in systematic direct observation is essential to practicing school psychology because school psychologists often need a “tool” in the moment that best suits the specific problem (i.e., target behavior). Creating an operational definition that is used to measure the problem behavior also allows the school psychologist to assess whether the problem behavior improves after intervention is implemented.

Linking Assessment Data to Intervention

School psychologists are extensively trained on the importance of linking data to intervention, and the importance of data-based decision making. Data-based decision making, more specifically, is defined as the “systematic collection, analysis, examination, and interpretation of data to inform practice and policy in educational settings” (Espin et al., 2017). Within this same article advocating for the importance and use of data-based decision making, the authors argue it is “no longer acceptable to simply use anecdotes, gut feelings, or opinions as the basis for decisions.” (Espin et al., 2017, p. 8). This “gut feeling” or “opinion-based” decision making is innately the opposite of data-based decision making, in which a decision is made through a rigorous process and standard for educational decision-making. In turn, ensuring there is data to support a recommended intervention that reflects its efficacy plays a significant role in data-based decision-making and reflects the importance of linking data to intervention. For example, when consulting with a teacher struggling with classroom management, it is important for consultants to assess whether the teacher uses evidence-based strategies. Then based on this assessment, it is important for the consultant to recommend/train the teacher to use evidence-based strategies the teacher is lacking (i.e., not observed to use). A consultant’s ability to make

data-based decisions is influenced by the data available to them (or in this case, the data they collect from a direct observation).

In a study examining school psychologists' ability to identify learning disabilities in children, 376 school psychologists reported lower levels of confidence when data were inconclusive or insufficient (compared to when they had conclusive or sufficient data; Maki et al. 2018). These findings suggest that school psychologists' confidence in their recommendations are influenced by the quality and quantity of data available to them. The school psychologists in this sample were more wary about their decisions when there was not sufficient data to draw clear conclusions. The notion that a school psychologist's level of confidence in their recommendation closely correlates with the strength of data they have, can be generalized to other recommendations within the school system they might make, such as the selection of a social-emotional learning curriculum.

In another study examining the factors that impact school psychologists' decision making, 331 school psychologists were asked to select a particular social-emotional learning intervention program for their school. Results indicated that 79.8% of school psychologists ranked a program's effectiveness as "very important" (a 3 on a Likert-scale ranging from 1 to 3 for importance; McKevitt, 2012). Additionally, when asked to rank five factors to consider when selecting an intervention program for their school, school psychologists reported that "effectiveness research" is the most important factor when selecting a particular program. This study reflects the emphasis and value school psychologists place on using data and evidence to drive their decision making. The problem analysis stage in the consultation process is particularly important to making evidence-based decisions.

Arguably, the most important stage of the consultation process is problem analysis. This is because finding an appropriate intervention is dependent on whether the problem was analyzed thoroughly and correctly. This is what is meant by “linking assessment data to intervention.” If the assessment of the problem is insufficient, one is less likely to select an appropriate intervention. This creates two fundamental problems in service delivery. First, the intervention is less likely to be effective and when this occurs it takes additional time and resources to “start again,” i.e., re-analyze the problem correctly. Second, there is an increased likelihood that the problem will not be reassessed, and the problem behavior will be erroneously deemed “too severe or challenging” to effectively intervene.

For example, when conducting a functional behavior assessment (FBA), indirect and direct data are collected to develop a hypothesis as to what is maintaining the target behavior (e.g., disruptive behavior). If the data are collected and analyzed incorrectly the hypothesized function might be teacher attention when the behavior is maintained by escaping a task. Implementing an intervention that provides teacher attention for appropriate behavior may not improve the student’s behavior as effectively as allowing the student to escape after appropriate behavior (i.e., complete a portion of the task). An erroneous conclusion might be made that the student’s behavior is too severe to address/improve, when in actuality an incorrect hypothesis led to an ineffective intervention. Therefore, treatment utility of assessment or correctly linking assessment data to intervention is critical to effective treatment outcomes (Newell & Newell, 2011).

Treatment utility of assessment is related to the last stage of consultation, treatment evaluation. During treatment evaluation, the consultant determines with a high degree of certainty whether the problem analysis stage was completed correctly. If the problem analysis

stage was completed correctly, there should be a positive behavioral change, which is observed objectively via data collection (i.e., systematic behavioral observation). If the desired change is not observed, the consultation process leads the consultant back to the problem analysis stage to determine what went wrong, and how to adjust and move forward. Unfortunately, this stage appears to be the most convoluted in terms of the consultant's understanding and ability to effectively evaluate the results of treatment. For example, school psychologists reported lower levels of confidence when using the response to Intervention (RtI) model compared to using the ability-achievement discrepancy model when identifying learning disabilities in students (Maki et al., 2018). The lack of confidence in using the RtI model (or more specifically, the behavioral consultation model), possibly reflects the school psychologists' ability to understand and effectively evaluate treatment results. Considering this, one might argue that a consultant would benefit from an objective, "fool-proof" observation tool that directs the consultant to assess the five areas of effective classroom management and guides them in making classroom management recommendations based on which of the five areas were not observed.

Observation Tools used to Guide Consultation

Few tools exist in the literature that are designed to assess teachers' evidence-based classroom management practices. One reason for this may be that consultants commonly develop their own direct observation measure based on the current concern. For example, Nock and Kurtz (2005) argued that although there are various coding systems for direct observation that have been developed and evaluated, the existing systems do not allow for the flexibility that is often needed, dependent on the individual student and situation. Nonetheless, having a tool that assesses the critical features of effective classroom management may be helpful for consultants when the reason for referral is directly related to classroom management. Further, an observation

that assesses the critical features of effective classroom management could also be used to universally check teachers EBPs as a preventative step in a schools' School-Wide Positive Behavior Intervention Supports (SWPBIS) framework (Kim, et al, 2018). In both examples, a consultant would be able to compare what they observed in the classroom to the critical features of classroom management and give training recommendations and support in areas not observed. This type of tool may be especially helpful for consultants who are not trained in behavioral consultation. The following section will review existing observation tools.

The Brief Classroom Interaction Observation-Revised

The Brief Classroom Interaction Observation-Revised (BCIO-R), is a direct observation measure for classroom Tier 1 instructional and classroom management practices for use by practitioners and researchers alike (Reinke, et al., 2015). The BCIOR-R was developed for practitioners to gather information and support teachers' use of effective classroom management practices, monitor these practices, and evaluate the effects of these practices on student outcomes. Further, the BCIO-R purports to measure teacher practices in three areas of classroom management: 1) instructional management, 2) promoting and responding to appropriate behavior, and 3) discouraging and responding to inappropriate behavior. The authors detail that the BCIO-R measures instructional management through measuring teacher use of time spent on instruction and opportunities to respond. The BCIO-R measures promoting and responding to appropriate behavior through looking at precorrective statements and praise. Lastly, the BCIO-R measures discouraging and responding to inappropriate behavior through teacher use of explicit and harsh reprimands. This observation tool is intended to be used in the elementary classroom setting and has been reliably implemented within that context. It is reported that the measure is associated with teacher-reported constructs such as efficacy in classroom management and

teacher burnout. Although there is evidence that this tool is reliable and that it does capture some of the EBPs (i.e., opportunities to respond, praise to reprimand ratio) identified within the five critical features, this is only a small fraction of the 21 EBPs assessed with the observation tool used in the current study.

The Classroom Assessment Scoring System

The Classroom Assessment Scoring System (CLASS) is another observational tool that is developed to assess classroom quality. In order for an observer to be a CLASS-trained observer, an observer needs to attend a two-day rigorous training where the framework is taught and coding is practiced via videotaped observations. It is based on teacher-student interactions and takes 30 minutes for observation and scoring. The CLASS looks at measuring high quality practices in classroom settings through three primary domains which include: 1) Emotional Support, 2) Classroom Organization, and 3) Instructional Support (Sandilos, et al. 2017). Emotional Support looks at the teacher's ability to foster a warm classroom climate and the teacher demonstrates sensitivity to students' needs. Classroom Organization looks at the teacher's skills in managing behaviors (i.e., creating routines, and varying modalities of learning). Instructional Support looks at the teacher's ability to provide students with constructive feedback, extend student responses, scaffold student learning, and model new vocabulary. The CLASS measures global constructs and is repeated up to six times over 3 hours to establish a complete picture of the classroom. Although this tool may be an appropriate fit in some settings, it did not fit well for the current study due to the somewhat tedious observer training process, which would presumably be an issue for many schools as well.

Classroom Management Observation Tool

The Classroom Management Observation Tool (CMOT) is a classroom observation tool that looks at four items to rate teachers' classroom management, which include 1) Active Supervision, 2) Opportunities to Respond, 3) Specific Praise, and 4) Positive to Corrective Ratio (Simonsen, et al. 2020). The CMOT parallels many of the important aspects of classroom management cited within the research, but again leaves out key components that are pertinent to student success such as expectations, classroom layout, etc. It is also important to note that this tool seems to be primarily targeted toward researchers over practitioners, in addition to only looking at the four listed items to rate an individual teacher's classroom management, leaving out some important aspects within effective classroom management literature. It should also be noted that the development of this tool was occurring parallel with the development of the tool within this study. With that, the tool within this study does take into account social validity, whereas the CMOT does not. The objectives of the CMOT and the tool within this study are similar in their inclusion of EBPs, but the CMOT still does not align perfectly with the goals accomplished by the Five in 20 observation tool. The CMOT study looked broadly at the validity of the tool itself in assessing teacher classroom management skills. In the CMOT-study, two to six trained graduate students coded video using a database to analyze the five components of the tool.

The Five in 20 Classroom Observation

The Five in 20 observation was developed by the PI, her thesis chair, and multiple school psychology graduate students. The aim was to create an observation that could be used to determine to what extent teachers used the following five critical features of effective classroom management reported in the literature: a) maximize classroom structure; b) post, teach, review, monitor, and reinforce expectations; c) actively engage students in observable ways; d) use a

continuum of strategies for responding to appropriate behaviors; and e) use a continuum, of strategies to respond to inappropriate behaviors (Simonsen et al., 2008; Sugai & Horner, 2002). The form includes each of the five features (listed above) and 20 corresponding EBPs outlined by Simonsen et al., (2008). Each EBP is operationally defined, and the observer is instructed to indicate if the strategy was observed (yes or no). If the EBP is observed, the observer rates the quality of the strategy from 1 (inconsistent with description) to 5 (consistent with description). The instructions also tell the observer to observe during teacher-led instruction for a minimum of 20 minutes. The form also includes a section where the observer is instructed to collect the frequency of teacher praise (behavior-specific and general) and teacher reprimand (mild, medium, harsh, and gestural) based on operational definitions provided. This tool was intended to align with findings from the systematic review conducted by Simonsen and colleagues (2008). Therefore, the observation tool was sent to Dr. Simonsen for her review and edits were made based on her feedback.

The Five in 20 observation was used in the current study to determine whether consultants could use the assessment data they collected using the form to a) determine whether teachers need additional classroom management training and b) if they decided that further training is appropriate, whether they could use data collected with the form to inform appropriate intervention recommendations. It was expected that school psychologists *could* link assessment data to intervention recommendations because they are trained to do so. Furthermore, linking assessment data to appropriate intervention is vital to student success, which is a cornerstone to the practice of school psychology. Even though linking assessment to intervention is vital to consultation, few studies have examined whether school psychologists (or other educators who provide consultation) *can* link assessment data to appropriate intervention. Even fewer studies

have examined whether differences exist between school psychology trained consultants and non-school psychology trained consultants in their ability to link assessment data to intervention.

A 2017 article discusses a practice-based assessment model called, “Assessment for Intervention (AFI)” that aims to “bridge the gap between assessment and intervention” (Pameijer, 2017). Within this article, the author cites that there is often a gap between the diagnostic information and recommendations, and that the AFI model aims to close that gap. The article emphasizes the importance of this link in assessment to intervention and the importance of school psychologists within this role, but does not give mention to any previous studies that support the gap between assessment and intervention or a school psychologists’ ability (or lack of) to make this connection.

A 2004 study looked at the difference in assessment practices used at the time to evaluate a student who was referred for social, behavioral or emotional problems compared to those in a 1981 study. Findings from this study concluded that the “face of assessment for referred students appears to have changed” in that the individual measures that were used by school psychologists years ago are used in conjunction with interviews, rating scales, observations, and other broader methods to obtain a more complete picture of the student (Shapiro & Heick, 2004, p. 558). This article emphasizes how the field of school psychology continues to adapt and change; however, it also does not give insight into school psychologists’ ability to link assessment to intervention.

Summary

Many teachers struggle with managing student classroom behavior, which is likely related to inadequate pre-service training (Simonsen, et al., 2014) and an increasing number of students with disabilities receiving instruction in the general education setting (Riser-Kositsky, 2019). There are five areas of evidence-based classroom management that are associated with

positive student outcomes (e.g., a) maximize classroom structure, b) post, teach, review, monitor, and reinforce expectations, c) actively engage students in observable ways, d) use a continuum of strategies for responding to appropriate behaviors, and e) use a continuum, of strategies to respond to inappropriate behaviors). Consultants can assist teachers in implementing these strategies to improve their classroom management practices. School psychologists are uniquely trained to provide this type of training through consultation; however, due to shortages in the field of school psychology, other school personnel (e.g. Instructional Coaches, Social Workers, Evaluation Services Specialist, Assistant Principal, etc.) also may provide these consultation services to teachers. It is imperative for consultants to accurately identify, measure, and analyze a problem so that appropriate intervention can be implemented. Therefore, it is important to know whether consultants (school psychologists and non-school psychologists) can adequately link classroom management assessment data to evidence-based intervention. Furthermore, considering the likely differences in training, it is important to know whether there is a difference between school psychology consultants and non-school psychology consultants' abilities to link assessment data to intervention.

Therefore, the overarching purpose of this study was to determine whether observers could use the Five in 20 observation to collect data on whether teachers used evidence-based classroom management practices identified in the literature and based on that information decide a) whether the teacher would benefit from classroom management training and b) whether the recommendations made sense given the data collected using the Five in 20 observation form. In other words, were observers using data in a way that was guiding their practice and critically examining the data they have available to guide their decision making. The following research questions were posed:

1. Based on data collected using the Five in 20 observation, can consultants accurately identify teachers needing additional training? No hypothesis was made due to lack of existing research.
2. Based on data collected using the Five in 20 observation, is there a difference between school psychology consultants (specialist level or higher training) and non-school psychology consultants' ability to accurately identify teachers needing additional training? It was hypothesized that there would be a significant difference due to school psychologists having explicit training in this area.
3. When observers indicate further training is needed, do they recommend EBPs based on data collected using the Five in 20 observation? That is, do they recommend EBPs they did *not* observe or an EBP they observed with poor quality (ranked 3 or less)? No hypothesis was made due to lack of existing research.
4. When observers indicate further training is needed, is there a difference between school psychology consultants (specialist level or higher training) and non-school psychology consultants' ability to recommend EBPs based on data collected using the Five in 20 observation? It was hypothesized that there would be a significant difference due to school psychologists having emphasis in their training on data-based decision making, and linking data to intervention.

Method

Participants and Setting

This study on consultants' ability to link assessment data to intervention was part of a larger, externally funded grant project, that examined several aspects of the Five in 20 tool. The PI was directly involved in this grant project, along with Dr. Floress, three other graduate

students, and one undergraduate student. The PI joined the research project shortly after it began as a first-year graduate assistant, and in her role contributed to collaborative brainstorming meetings, participant recruitment, and data collection.

Observers who worked within a kindergarten through twelfth grade school setting and consulted with teachers or conducted student observations as part of their job description were invited to participate. Further, recruitment efforts targeted both school psychologists and non-school psychologists so potential differences could be examined. Forty-two observations were conducted across 53 observers (42 primary observers and 11 reliability observers). Of the 42 observations, 16 were completed live (directly within the classroom), and 26 were recalled based on a previously conducted observation that individual had done. A recalled option was provided due to the COVID-19 pandemic; additional details are provided in the procedures section. Of the 42 observations, 39 (93%) were conducted in the general education setting (classroom), and three (7%) were conducted in special education classrooms. Most observations took place in an elementary setting ($n=36$, 86%), 10% took place in a middle or high school ($n=4$), and two observers did not specify a setting. About a quarter ($n=11$, 26%) of the observations were completed with two observer participants, so inter-observer agreement (IOA) could be calculated.

Most primary observer participants were female (83%), White (100%), and school psychologists (93%). There were 11 reliability participants who were recruited by the primary observer. Of the 11 reliability observers, three completed a recalled observation, and eight completed a live observation. To further elaborate, participants could only complete a recalled reliability observation if there were two adults who conduct classroom observations within the room in addition to the teacher who was actively teaching the class. One of the recalled

reliability observations was with a school psychologist and a social worker (who was servicing functional push-in minutes for a student). The second reliability observation was a school psychologist and a special education teacher (who also provided push-in minutes within the general education classroom). The third recalled reliability observation was conducted by a school psychologist and an assistant principal (who were also in the classroom to observe a student for a reevaluation for special education). Most reliability observers were female (55%) and White (100%). The reliability observers varied in job title (i.e., one teaching assistant, three social workers, one evaluation services specialist, four school psychologists, one assistant principal, and one special education teacher). See Table 1 for additional observer demographic details. Teachers and observers (primary and reliability) received a \$15 gift card for their participation.

Table 1

Observer Participant Demographic Characteristics

Characteristics	<i>n</i> =42		<i>n</i> =11		N = 53		
	Primary		Reliability		Total Observers		
	N	%	N	%	N	%	
<i>Sex</i>							
	Female	35	83	8	73	43	81
	Male	7	17	3	27	10	19
<i>Race</i>							
	White	42	100	11	100	53	100
<i>Community</i>							
	Urban	11	26	2	18	13	25
	Rural	16	38	5	46	21	40
	Suburban	15	36	4	36	19	35
<i>State</i>							
	Illinois	35	83	10	91	45	85
	Out of State	7	17	1	9	8	15
<i>Type of Observer</i>							
	School Psychologist	38	90	4	36	42	79
	Social Worker	2	5	3	28	5	9
	Other	2	5	4	36	6	11
<i>Experience</i>							
	0-5 years	20	48	4	36	24	45
	6-10 years	9	21	1	9	10	19
	11-15 years	7	17	3	27	10	19
	16-20+ years	6	14	3	27	9	17
<i>Graduate Course</i>							
	Direct Observation						
	Yes	36	86	6	55	42	79
	No	4	10	2	17	6	11
	No Response	2	4	3	28	5	10
	Consultation						
	Yes	36	86	4	36	40	75
	No	4	10	4	36	8	15
	No Response	2	4	3	28	5	10
	Behavior Management						
	Yes	36	86	8	73	44	83
	No	5	12	3	27	8	15
	No Response	1	2	0	0	1	2

To further assess participants' ability to accurately collect data using the observation tool, five (three primary and two reliability) of the 53 observers were asked to watch and code a 20-minute video, of whole class instruction, using the observation tool. The five participants were female (100%) and White (100%). All five participants were school psychologists who had used the tool (as part of the sample described above) during a live observation. All five participants indicated they had graduate training in consultation, direct observation, and behavior management training.

Measures

Demographics Questionnaire

The demographics questionnaire (see Appendix A) was completed by all participants. Participants indicated their sex, race, age, job title, state of employment, description of the community they work (i.e., rural, urban, suburban), years of experience, and courses taken on managing student behavior. Additionally, observers were asked if they had taken a graduate course in consultation, had graduate training in direct observation, and asked how many direct observations they conduct within a given month.

Five in 20 Observation Tool

The Five in 20 Observation Tool (Appendix B) was completed by observers. The observers indicated the reason for the observation, date, observation length, what type of classroom they observed (i.e., 5th grade general education), and how many students were present in the classroom. There were step by step directions at the top of the form that told the observer how to use the form. For example, Step 1: the observer was directed to indicate whether each strategy was observed during the 20-minute observation. Step 2: if the strategy was observed, the observer indicated the quality of the observed strategy ranging from 1 (inconsistent with

operational definition) to 5 (consistent with operational definition). Step 3: the observer calculated the Total Effective Strategy Quality Score on a scale ranging from 0-21. This Total Effective Strategy Quality Score was obtained by going through the Five in 20 observation tool, and looking at the quality ranking for each strategy. If the strategy was used with a quality ranking of a 4 or 5, one point was earned toward the Total Effective Strategy Quality Score. If the strategy was not observed, or observed with a quality ranking of 3 or less, no points were received for the strategy. This was repeated for each of the 21 strategies listed on the tool, which was then summed to obtain a Total Effective Strategy Quality Score of 0-21. The observer was also directed to tally the frequency of teacher praise and reprimand during the 20-minute observation. The observation form also contained operational definitions and examples for praise and reprimand to facilitate this tally. This praise and reprimand frequency data was not analyzed within this study.

Additional Questions

In addition to the Five in 20 tool, observers were asked to answer an additional question after they used the tool (i.e., “Based on the data you collected using the observation tool, do you think the teacher would benefit from classroom management training?”). To answer the question, the observer circled either ‘yes’ or ‘no.’ If the observer answered, ‘yes’ the observer answered the following question, “Based on the data you collected using the observation tool, what specific critical features/strategies would you recommend be targeted for training?” This was presented as an open-ended question with a blank space below the question that stated, “Enter response here:”

Procedures

Institutional Review Board (IRB) approval was secured and recruitment for this study occurred in the following ways: a) advertised on the Illinois School Psychology Association listserv, b) advertised on the EIU School Psychology Facebook page, c) advertised to EIU School Psychology alumni via email, and d) by encouraging EIU School Psychology alumni to advertise to other school psychologists or non-school psychologists who may have been interested in participating.

Observers that expressed interest in participating followed-up with the PI (and other graduate and undergraduate students on the research team) via email. The PI provided the interested observer detailed information regarding the study, study materials, and followed-up with a phone call to answer questions. The observer approached a teacher in the school they worked at and asked if they would like to participate in the study with them. The observer then scheduled a time to observe when the teacher lead whole-class instruction. Following the observation, the observer collected study materials for themselves (i.e., informed consent [Appendix C], demographics, Five in 20 observation form, additional questions) and the teacher (i.e., informed consent [Appendix D], and demographics). If a reliability observer also participated, the primary observer and the reliability observer conducted the observation at the same time in the same classroom. After the observation, the primary observer collected materials for the reliability observer (i.e., informed consent [Appendix E], demographics, Five in 20 observation form, additional questions). Observer and teacher forms were de-identified with a pre-labeled code so no identifying information was collected. Once the primary observer sent back the completed forms, the materials were reviewed for completeness and a \$15 gift card was mailed to each participant.

COVID-19 Adaptation

Adjustments were made to the original in-person study as developments with the COVID-19 pandemic became more prevalent and severely affected the day-to-day functioning of public schools. During the 2020-2021 school year, school instruction ranged in delivery from in-person, hybrid, to on-line. To accommodate these differences, participants were given the option to either observe live (in-person) or recall a past observation (i.e., completed spring 2020). The same materials were used to collect live and recalled observations.

Second Study: Accurate use of the Five in 20 Tool

Approval for a second study was secured through EIU's Institutional Review Board to determine whether a sample of participants ($n = 5$) from the current study accurately completed the tool. Five participants from the current study were asked if they would like to participate in a second study assessing the accurate use of the tool. These five participants were asked to watch and code a 20-minute classroom observation using the tool. The PI, her thesis chair, and one other graduate student collaborated to create an answer key for the 20-minute classroom observation video using the tool. The key was compared to the five participant's observation data using Cohen's Kappa.

Analytic Plan

Research Question 1

To answer the first research question (Based on data collected using the Five in 20 observation tool, can consultants accurately identify teachers needing additional training) the Total Effective Strategy Quality score was calculated for each observation. The observations were broken into two separate groups, those teachers who were reported to have no additional training needed, and those teachers who had reported that additional training was needed. Next, a

t-test was conducted to determine whether there was a significant difference between the reported Total Effective Quality Score (0-21) between the two groups (those who reported additional training was needed and those who reported no additional training was needed).

Research Question 2

To answer the second research question (Based on data collected using the Five in 20 observation tool, is there a difference between school psychology consultants' and non-school psychology consultants' ability to accurately identify teachers needing additional training), a two-way ANOVA was conducted. A two-way ANOVA is used when there are two categorical independent variables (school psychologist or non-school psychologist) and (training recommended or no training recommended) to analyze the effect of the independent variables on a dependent variable (Total Effective Strategy Quality score).

Research Question 3

To answer the third research question (When observers indicate further training is needed, do they recommend EBPs based on data collected using the Five in 20 observation? That is, do they recommend EBPs they did *not* observe or an EBP they observed with poor quality - ranked 3 or less) the observer's responses (yes or no) for additional training were examined first. Next, each recommendation from the observers who indicated "yes" additional training was needed were compared to data collected from the observation. For example, the observer recommended the teacher increase their use of behavior-specific praise. If the observer indicated that behavior-specific praise was a) either not observed or b) observed with poor quality (a quality rating of 1, 2, or 3) the recommendation would be scored 100% aligned with observation data. If the observer recommended the teacher increase their use of behavior-specific praise and implement relaxation training (an item not listed on the observation because it is not one of the

five critical features of classroom management) the recommendations would be scored 50% aligned with observation data). The PI and her thesis chair compared recommendations and observation data so that interrater agreement (IRA) could be calculated using Cohen's Kappa. In a preliminary review, four observations were rated for observation-recommendation alignment with an average of 79% (range 50%-100%). Agreement between raters was 100% using percent agreement.

Research Question 4

To answer the fourth research question (When observers indicate further training is needed, is there a difference between school psychology consultants and non-school psychology consultants' ability to recommend EBPs based on data collected using the Five in 20 observation, a t-test was performed between the observation-recommendation alignment percentage of school psychology consultants compared to the observation-recommendation alignment percentage of non-school psychology consultants (see research question three for calculation of observation-recommendation alignment percentage).

Results

This PI and her thesis chair, along with three other graduate research assistants and one undergraduate research assistant recruited 53 total observers, who conducted a total of forty-two, 20-min observations. Of the 42 observations, 26 were recalled observations, which included three reliability observers for a total of 29 total observers. Sixteen of the 42 observations were live observations which included eight reliability observers for a total of 24 live observers. Therefore, data from 29 recalled observations and 24 live observations were analyzed in the sample of 53 total observers.

Identifying the Need for Additional Training

To answer the first research question (Based on data collected using the Five in 20 observation tool, can consultants accurately identify teachers needing additional training) the Total Effective Strategy Quality score was calculated for each observation. The observations were broken into two groups based on observers selecting, “no” additional training is not needed ($n=29$) and “yes” additional training is needed ($n=24$). Next, a t-test for independent means was conducted to determine if there was a difference between the Total Effective Quality Score (possible range, 0-21) between the two groups. At an alpha level of .05, there was a statistically significant difference in Total Effective Quality Scores for teachers who did and did not need additional training. Teachers who needed training had significantly lower Total Quality Scores ($M = 9.42$, $SD = 4.55$) than teachers who did not need training ($M = 11.31$, $SD = 3.79$), $t(51) = 1.65$, $p = .05$ (one-tailed), $d = 4.15$, which is a very large effect size. Effect size signifies how strong the relationship is between the two variables (McLeod, 2019), meaning there was a very strong relationship between the Total Effective Quality Score and whether or not a teacher was identified for needing training.

School Psychologists vs. Non-School Psychologists.

To answer the second research question (Based on data collected using the Five in 20 observation tool, is there a difference between school psychology consultants' and non-school psychology consultants' ability to accurately identify teachers needing additional training), a two-way ANOVA was conducted. A two-way ANOVA is used when there are two categorical independent variables, school psychologist ($n=42$) or non-school psychologist ($n=11$), and training recommended ($n=24$) or no training recommended ($n=29$), to analyze the effect of the independent variables on a dependent variable (Total Effective Strategy Quality score). At an

alpha level of .05, results show that there was not a significant interaction between role (school psychologist vs. non-school psychologist) and need for training (whether training was recommended or not recommended), $F(1, 49) = 2.67, p = .11, \eta^2_p = .05$, which was a very small effect size. A commonly used interpretation for effect sizes is reporting small (0.2), medium or moderate (0.5), or large (0.8; Lakens, 2013).

Linking Observation Data to Evidence-based Practices

To answer the third research question (When observers indicate further training is needed, do they recommend EBPs based on data collected using the Five in 20 observation tool? The PI and her thesis chair compared recommendations and observation data (see analytic plan for additional detail) to calculate an observation-recommendation alignment percentage (i.e., what percentage of recommendations were aligned with observation data). See analytic plan for additional detail on how the alignment percentage was calculated. In addition, IRA between coders was calculated using Cohen's Kappa. Twenty-four observers indicated further training was needed. Data from those observations were evaluated for observation-recommendation alignment. On average, across the 24 observations, the observation-recommendation alignment was 68% (range 0%-100%). When further analyzing the differences between the live and recalled observations, the live observations ($n=6$) had an observation-recommendation alignment of 50% (range 0%-100%) and the recalled observations ($n=18$) had an observation-recommendation alignment of 74% (range 0%-100%).

Inter-rater Agreement. Across the 24 observations, IRA of observer-recommendation alignment was assessed at the individual strategy level. Interrater agreement was 98% between raters using percent agreement and Cohen's Kappa, $k = 0.95$, indicating very good agreement. When calculating Cohen's Kappa, 0.81-1.00 is considered almost perfect agreement (McHugh,

2012). Agreement between coders was similar for recalled ($k = 0.92$) and live observations ($k = 1.00$), indicating almost perfect and perfect agreement between raters.

School Psychologists vs. Non-School Psychologists. To answer the fourth research question (When observers indicate further training is needed, is there a difference between school psychology consultants and non-school psychology consultants' ability to recommend EBPs based on data collected using the Five in 20 observation, a t-test was used to determine if there was a difference in the observer-recommendation alignment percentage between school psychologists and non-school psychologists (see analytic plan for additional detail on how the alignment percentage was calculated). At an alpha level of .05, school psychologists had significantly higher observer-recommendation alignment ($M = 80.19$, $SD = 23.76$) compared to non-school psychologists ($M = 43.75$, $SD = 49.55$), $t(22) = 2.46$, $p = .01$ (one tailed), $d = 34.15$, which is a very large effect size.

Participants' Accuracy Using the Tool

To determine participants' accuracy in using the tool, five of the 53 total observers from this study's sample (3 of which were primary observers, and two of which were reliability observers) watched and coded a 20-minute classroom observation. Cohen's Kappa was used to compare the observers' coding with a key created by the PI, her thesis chair, and one other graduate student.

Strategy Observed: Yes or No. First, agreement between each observer's code ('yes' or 'no') for whether each evidence-based strategy was observed was compared with the key. Kappa indicated substantial agreement ($k = 0.71$; range 0.49-0.81) between the five and the key (0.61-0.80 is considered substantial agreement; McHugh, 2012). In other words, the five observers

were substantially similar in their endorsement (or non-endorsement) of strategies observed compared to the key.

Quality Ratings. Next, agreement between each observer's quality rating code (i.e., 1-5) for each evidence-based strategy was compared with the key. In the analyses, EBPs that were either not observed or rated with poor quality (ranked 3 or less), were viewed similarly. In other words, if an EBP was not observed or observed with poor quality, training was appropriate to recommend. Furthermore, if a strategy was not observed, it was assigned a quality rating of 0. Therefore, when comparing quality ratings, a 0, 1, 2, or 3 quality rating (between an observer and the key) was considered an agreement and a 4 or 5 quality rating (between an observer and the key) was considered an agreement. For example, if an observer ranked the use of a strategy a 4 in quality, and the key rated it a 5, this was counted as an agreement, since both quality ratings suggested training for this strategy was not necessary. Conversely, if an observer rated a strategy a 2 in quality, and the key rated the strategy a 4, this would be marked a disagreement. Kappa indicated moderate agreement ($k = 0.53$; range 0.3-0.72) between the five observers, and the key (0.41-.60 is considered moderate agreement; McHugh, 2012). In other words, the five observers were moderately similar in their quality ratings compared to the key.

Discussion

The Five in 20 observation tool, is an observation tool intended to measure 21 evidence-based classroom management strategies identified by Simonsen et al. (2008). This study analyzed 53 total observers and their ability to make data-based recommendations, based on data they collected using the Five in 20 observation tool. This study also examined if there were differences between school psychologists and non-school psychologists, who conduct classroom observations, in making accurate, data-based recommendations. A total of 42 classroom

observations were conducted across 53 observers (42 primary and 11 reliability) who worked in four different states (Illinois, Wisconsin, Nevada, and Indiana). Observations were conducted in elementary or secondary classrooms and most observers were school psychologists.

Accuracy in Additional Training Identification (Q1)

Based on the results of this study, there was a statistically significant difference in Total Effective Quality Scores for teachers who did and did not need additional training. In other words, teachers who were identified as needing additional training had significantly lower Total Quality Scores than teachers who did not need training. This is a promising finding for the use of the Five in 20 observation tool, because it suggests that participants in this sample who observed fewer strategies (or lower quality strategies) also rated the teacher as needing additional training. The ability to identify and differentiate between teachers who would benefit from additional training and those who would not is valuable in terms of time and resources. For example, accurate identification allows school districts to more efficiently allocate resources and training to those who would benefit most. In addition, it frees up school psychologists to participate in various roles. School psychologists are trained to evaluate students for special education, provide consultation to teachers and staff, and directly provide mental health services to students (National Association of School Psychologists, n.d.). When consultation tools help accurately and efficiently identify who may benefit from additional training, school psychologists are more likely to participate in a variety of roles, like consultation, because the process is time-efficient and does not take away from other responsibilities, like evaluating students for special education.

School Psychologists vs Other School Staff Accuracy in Training Identification (Q2)

There was no statistically significant interaction between job title (i.e., school psychologist or non-school psychologist) and the Total Effective Quality scores for teachers who

did and did not need additional training. In other words, there was no difference between school psychologists and non-school psychologists' ability to identify teachers who would benefit from additional training. This is a positive finding because it suggests that differentiating between teachers who do and who do not need additional training was not a skill unique only to observers who were school psychologists. Rather both school psychologists and non-school psychologists were able to identify teachers who did and who did not need additional training. Based on the sample used in this study, regardless of job title, observers were able to use the Five in 20 observation tool, identify strategies used (or not used) in the classroom and indicate whether a teacher would benefit from additional training. It is possible this finding may be a testament to the utility of the Five in 20 observation tool, rather than individual observer differences. However, differences between groups were unequal (11 non school psychologists and 42 school psychologists) and future research should be conducted with a larger sample to determine whether similar results are replicated.

The Five in 20 tool was created with the goal of developing a simple and easy to use observation tool to aid in the consultation process. In other words, it was not developed specifically for school psychologists, but any school staff member involved in the consultation process. To do this, it is first important that the strategies endorsed are aligned with whether training/support are needed. Overall, observers in this sample were quite successful in doing this. When consultants have the ability to quickly and efficiently identify teachers who would benefit from additional training, they can arguably direct more of their attention and allocate resources more appropriately to providing training and professional development to the teachers who would truly benefit from that support (National Association of School Psychologists, n.d.).

Recommending Evidence-based Practices Based on Observational Data (Q3)

When examining the data from observers who indicated additional training was needed ($n = 24$), the overall observation-recommendation alignment percentage appeared low (68%). Furthermore, live observations had a lower observation-recommendation alignment percentage ($n = 6$; 50%) compared to recalled observations ($n = 18$; 74%). It is possible the live observation-recommendation alignment percentage was influenced by a smaller sample size. Both the live and recalled samples' observation-recommendation alignment percentages ranged from 0% - 100%. Indicating that in both samples, some observers had no alignment between observation data and recommended training, and some observers had perfect alignment.

Researchers suggest one reason schools have poor intervention outcomes is because of how interventions are selected and applied in schools (Fuchs & Fuchs, 2006; Sanetti & Simonsen, 2011). In other words, instead of educators using data to drive intervention recommendations, a standard intervention is selected regardless of the data or situation. The low percentage of observation-recommendation alignment could be explained by this practice in schools where rather than using observation data to select EBPs, observers arbitrarily select interventions (DuPaul & Weyandt, 2006; Hafford et al., 2013).

Of the twenty-four observers, there were four observers who had 0% observation-recommendation alignment. Three of these observers conducted their observations live, or in person, and one conducted their observation via the recalled/virtual format. None of the four observers were school psychologists. Of the twenty-four observers, there were twelve observers (50%) who had 100% observation-recommendation alignment. Three of these observations were live, while nine were virtual. Of the twelve observers who had perfect alignment, nine (75%) were school psychologists. Of the 24 observers, 16 were school psychologists and their average observation-recommendation alignment was 80%. Of the 24 observers, eight were non-school

psychologists and their average observation-recommendation alignment was 44%. These findings suggest that school psychologists and non-school psychologists may be fairly accurate in identifying whether a teacher would benefit from additional training; however, school psychologists may be more accurate at linking observation data to evidence-based recommendations.

The fact that school psychologists (in the current sample) were better at aligning data with EBP recommendations than non-school psychologists supports the notion that school psychologists (a) are trained in data-based decision making and (b) are able to apply this training within their practice (McKevitt, 2012). This finding underscores the value of school psychology training; but also the misguided, indirect services students receive when consultants are working with teachers to improve classroom management practices and are unable to use data to make EBP recommendations (i.e., link assessment data to intervention). There is a national shortage of school psychologists (National Association of School Psychologists, n.d.) and one way school districts compensate for the services otherwise provided by school psychologists (like consultation) is to hire teachers (e.g., instructional coaches) or social workers to provide consultative support to teachers. However, if consultants are only recommending 44% of EBPs that are actually aligned with what will improve a teacher's ability to manage student behavior (which will benefit student learning), it would be more efficient to forgo the observation and flip a coin (i.e. 50% vs 44%). Future studies may consider looking at the effects of incorporating a training prerequisite to the observation on how to allocate the quality rankings appropriately, and see if this additional stipulation has an impact.

School Psychologists vs Other Staff in Evidence-based Practice Recommendations (Q4)

Results show that school psychologist observers had significantly higher observer-recommendation alignment (80%) than non-school psychologist observers (44%), reflecting that when observers indicate further training is needed, there is a difference between school psychology consultants and non-school psychology consultants' ability to recommend EBPs based on data collected using the Five in 20 observation tool. This supports what we know about school psychology training. School psychologists are trained thoroughly in making empirically informed and supported decisions. This is a cornerstone for school psychologist training and practice (Domain 1: Data-Based Decision Making) according to the National Association of School Psychologists' Professional Practice Standards (Maki, et al. 2018; NASP).

School psychologists were substantially (i.e., 80%) more likely (than non-school psychologists; 44%) to recommend an EBP practice that was not observed during the observation or that was observed with poor quality (rating 0-3). This is what it means to link data to intervention recommendations (Batsche, et al. 2008). To make a positive impact on teachers and students it is imperative that observers accurately (a) collect data, (b) analyze that data, and (c) use that data to make educated decisions and recommendations on how to improve the current situation. When teachers are given recommendations that are unrelated to the current situation (i.e., are not aligned with observation data), it is unlikely that the recommendation will prove effective or helpful (Newell & Newell, 2011). Therefore, this may lead to unnecessary expenditure of resources, or frustration, hopelessness, or pessimism among educators, parents, and students (Cheney & Barringer, 1995).

Based on these results, one implication may be recognizing the value of school psychologists. Unfortunately, when the student to school psychologist ratio is too high, school psychologists are more likely to take on a traditional role consisting primarily of student

evaluations and eligibility for special education (NASP, 2020). When this occurs, schools look to other school employees to provide consultation and support to teachers struggling with behavior management or other student issues (Vanderbilt University, 2020). At a minimum, school psychologists receive three years of graduate training. In comparison, special education teachers, social workers, teaching assistants, assistant principals, or evaluation service specialists receive 1-2 years of graduate training. It is nearly impossible to provide the depth of training required to adequately understand research and evidence-based practice in less than three years (National Association of School Psychologists, 2017). Therefore, having school psychologists lead a professional development training covering the 21 evidence based classroom management strategies used in the tool is one example of how educators could be supported in a proactive/preventative manner.

Participants' Reliability and Accuracy in Using the Tool

Reliability. In the current sample, 42 observations were conducted and 26% of those observations included a reliability observer ($n=11$), so IOA could be calculated. Using Cohen's Kappa, IOA for observing (or not observing) each of the 21 strategies, across the 11 primary and reliability observers, was substantial ($k = 0.68$; range 0.33-1.0). Agreement across the primary and reliability observers quality ratings (i.e., 1-5) for each evidence-based strategy was moderate ($k = 0.52$; range 0.27-0.83). Similarly to how IRA was compared to the key, when comparing quality ratings a 0, 1, 2, or 3 quality rating (between a primary observer and reliability observer) was considered an agreement and a 4 or 5 quality rating (between a primary observer and a reliability observer) was considered an agreement.

Of the 11 reliability observations, eight were live and three were recalled. Inter-observer agreement for live observations was substantial ($k = 0.73$; range 0.33-1.00) for observing (or not

observing) each of the 21 strategies and moderate ($k = 0.58$; range 0.27-0.83) for quality ratings. For the three recalled observations, IOA was moderate ($k = 0.52$; range 0.40-0.62) for observing (or not observing) each of the 21 strategies and fair ($k = 0.33$; range 0.27-0.34) for quality ratings. Across all reliability observations, IOA for observing (or not observing) each of the 21 strategies was stronger than IOA for quality ratings, which was expected. It is more likely that primary and reliability observers' will have stronger agreement for observing each of the 21 strategies as there is less variance (i.e., 0-1 rating) compared to quality ratings. Additionally, IOA was stronger for primary and reliability observers who completed live observations, compared to primary and reliability observers who completed recalled observations; however, it should be noted that these groups were uneven. It is also reasonable to assume that IOA between observers would be stronger for live (in person) observations as there is an increased likelihood for errors in recalling an observation resulting in disagreements between observers.

Accuracy. To further explore whether participants in the sample were accurate in their use of the Five in 20 observation tool, five participants from the participant sample ($n = 53$) were recruited for a second smaller study. This study aimed to examine whether these five participants could watch and code a 20-minute video using the Five in 20 tool similarly to a key developed by the PI, her thesis chair, and an additional graduate student. Using Cohen's Kappa, agreement between observers and the key was substantial for whether the 21 evidence-based practices were observed in the video, and agreement between observers and the key was moderate for quality ratings observed in the video. Kappa is considered a superior measure of agreement compared to percent agreement because it accounts for chance. In other words, Kappa accounts for the possibility that raters actually guess on some variables due to uncertainty (McHugh, 2012). Considering this, the moderate agreement (for quality ratings) and substantial agreement (for

whether strategies were observed) reported in this study is promising. These results suggest, that with minimal training, observers were able to use the Five in 20 tool accurately. Future research might replicate these findings with a larger sample to determine whether similar results can be replicated.

Limitations and Future Research

Within this study, there are important limitations to note. First, the sample used in this study was relatively small and included both live and recalled observations. The recalled observations were a necessary adaptation considering the COVID-19 pandemic, but there are obvious issues with relying on individual observers' memory of past observations. It is likely data collected via a recalled observation are not as precise and accurate as data collected via a live observation. Fortunately, the actual data collected was not the focus of the present study. Rather, this study aimed to determine whether observers who observed few EBPs recommended additional training and whether recommended strategies were either not observed or observed with low quality. Future research might attempt to recruit additional in person or live participants so that comparisons can be made between the reported and live observations with a more equally distributed sample size.

Second, the overall sample in this study was homogeneous in terms of race and gender. Most observers were White (100%) and female (77%). The sample was geographically diverse in terms of whether observers worked (i.e., rural, suburban, and urban settings were equally represented). Although the race and gender diversity in the current sample were less than ideal, this sample was unfortunately consistent with the lack of diversity among school psychologists (and educators) in the US. The National Association of School Psychologists published a sample of NASP members' ($n = 1,308$) race and gender data from a 2020 survey and reported most

identified as White (85.9%) and female (87.3%; Goforth et al., 2021). Future research should attempt to further diversify the sample so that non-White and male school psychologists are represented.

Lastly, this study aimed to compare school psychologists to non-school psychologists; however, recruiting non-school psychologists was a challenge. To increase the sample of non-school psychologists, reliability observers were used in the analyses for questions two and four. Only three primary observers were non-school psychologists. Future research efforts focused on non-school psychologist recruitment could strive to collaborate with other local graduate programs in related fields (ie. Social Work programs, Speech Language Pathologist Programs) or other local schools to incentivize teachers or other school staff to participate.

Indisputably, the results that school psychologist observers had significantly higher observer-recommendation alignment than non-school psychologist observers paints a flattering view of the training and expertise of school psychologists. However, it is possible verbiage within the tool may not be as user friendly to non-school psychologists. It is possible that with less “school psychology related verbiage,” non-school psychologists’ observer-recommendation alignment might improve. The directions also did not explicitly tell observers to cite specific strategies that were *not* presently utilized, based on the data they collected to make their training recommendations, rather observers were told, “Based on the data you collected using the observation tool, what specific critical features/strategies would you recommend be targeted for training?” It is possible that with explicit directions to cite the EBP *not* present in their observation data using the Five in 20 Observation tool, non-school psycholgoists’ observer-recommendation alignment might improve. The intention of the tool is to have an objective way to capture classroom management data that easily allows observers to make empirically

supported recommendations. Future researchers might explore whether more explicit directions and universal language improves alignment for school psychologists and non-school psychologists. Another related research idea may include a simulation classroom management observation similar to the video coding study, that compares school psychologists' and non-school psychologists' ability to accurately code the video in relation to a master key.

Additionally, looking closer at comparing differences between live and recalled observations may be another area of future research. Comparing simulated live and recalled observations may help determine whether valid observation data can be obtained from either a live or recalled observation, or whether a live observation is superior. Lastly, a study that analyzes the strategies taught in teacher education programs and the evidence-based strategies teachers are using in the classroom would also help guide teacher training and best practice.

Conclusion

In conclusion, this study examined classroom observers' ability to make evidence-based recommendations based on teachers' use of 21, empirically supported classroom management strategies identified by Simonsen et al. (2008). Results of this study suggest that although school psychologists and non-school psychologists are both able to accurately identify whether or not a teacher may benefit from additional classroom management training, school psychologists had a statistically significantly higher observer-recommendation alignment compared to non school psychologists for their accuracy in making data-based recommendations. These results emphasize the efficacy of school psychologists' explicit training in data-based decision making, and should continue to further the dialogue about solutions to the national school psychologist shortage.

References

- American Psychological Association Task Force on Evidence-Based Practice for Children and Adolescents. (2008). *Disseminating evidence-based practice for children and adolescents: A systems approach to enhancing care*, Washington, DC.
- American Psychological Association (2008). *How can I find the “best” graduate psychology program?*
https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/reference_list_electronic_sources.html
- Baker, P.H. (2005). Managing student behavior: How ready are teachers to meet the challenge? *American Secondary Education*, 33, 51-64.
- Batsche, G. M., Castillo, J. M., Dixon, D. N., & Forde, S. (2008) Best practices in linking assessment to intervention. *Best Practices in School Psychology*, 10(2), 177-194.
- Cheney, D., & Barringer, C. (1995). Teacher competence, student diversity, and staff training for the inclusion of middle school students with emotional and behavioral disorders. *Journal of Emotional & Behavioral Disorders*, 3, 174-183.
- Cooper, J. T., Gage, N. A., Alter, P. J., LaPolla, S., MacSuga-Gage, A.S., & Scott, T. M. (2018). Educators’ self-reported training, use, and perceived effectiveness of evidence-based classroom management practices. *Preventing School Failure*, 62(1), 13-24.
- Cumming, T. M. & O’Neill, S. C. (2019). Using data-based individualization to intensify behavioral interventions. *Intervention in School and Clinic*, 54(5), 280-285.
- Epstein, M., Atkins, M., Cullinan, D., Kutash, K. & Weaver, R. (2008). Reducing behavior problems in the elementary school classroom. *IES Practice Guide*, 1-81.

- Espin, C. A., Wayman, M. M., Deno, S. L., & McMaster, K. L. (2017). Data-based decision-making: Developing a method for capturing teachers' understanding of CBM graphs. *Learning Disabilities Research & Practice, 32*(1), 8-21.
- Erchul, W. P. & Martens, B. K. (1997). *School consultation conceptual and empirical bases of practice*. Springer Science and Business Media, LLC.
- Every Student Succeeds Act of 2002, 114 U.S.C. §§ 1802-2192.
- Garbacz, A. S., Beattie, T., Novotnak, T., Kurtz-Nelson, E., Zahn M., Yim-Dockery, H., Cohenour, J., & Jordan, P. (2020). Examining the efficacy of conjoint behavioral consultation for middle school students with externalizing behavior problems. *Behavioral Disorders, 46*(1), 3-17.
- Garbacz, A. S., Watkins, N. D., Diaz, Y., Barnabas, E. R., Schwartz, B. & Eiraldi, R. (2017). Using conjoint behavioral consultation to implement evidence-based practices for students in low-income urban schools. *Preventing School Failure, 61*(3), 198-210.
- Goforth, A. N., Farmer, R. L., Kim, S. Y., Naser, S. C., Lockwood, A. B., Affrunti, N. W. (2021). Status of school psychology in 2020: Part 1, demographics of the NASP membership survey. *NASP Research Reports, 5*(2), 1-17.
- Hazel, C. E., Laviolette, G. T., & Lineman, J. M. (2010). Training professional psychologists in school-based consultation: What the syllabi suggest. *Training and Education in Professional Psychology, 4*(4), 235-243.
- Hintze, J. M. (2005). Psychometrics of direct observation. *School Psychology Review, 34*(4), 507-519.

- Hintze, J. M., & Matthews, W. J. (2004). The generalizability of systematic direct observations across time and setting: A preliminary investigation of the psychometrics of behavioral observation. *School Psychology Review, 33*, 258-270
- Horner, R. H., Carr, E. G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children, 71*(2), 165-179.
- Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal, 28*, 499–534. doi:10.3102/00028312038003499
- Kim, J., McIntosh, K., Mercer, S. H., Nese, R. N. (2018). Longitudinal associations between SWPBIS fidelity of implementation and behavior and academic outcomes. *Behavioral Disorders, 43*(3), 357-369.
- Kratochwill, T. R. & Bergan, J. R. (1990). *Behavioral consultation in applied settings: An individual guide*. New York: Plenum.
- Kwok, A. (2019). Classroom management actions of beginning urban teachers. *Urban Education, 54*(3), 339-367.
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology, 26*, 1-12.
- Landau, S. & Swerdlik, M. E. (2005). Commentary: What you see is what you get: A commentary on school-based direct observation systems. *School Psychology Review, 34*(4), 529-536.
- Maki, K. E., Burns, M. K., & Sullivan, A. L. (2018). School psychologists' confidence in learning disability identification decisions. *Learning Disability Quarterly, 41*(4), 243-256.

McGary-Klose, L., Plotts, C. & Lasser, J. (2012). Participants' evaluation of consultation:

Implications for training in school psychology. *Assessments & Evaluation in Higher Education*, 37(7), 817-828.

McHugh M. L. (2012). Interrater reliability: the kappa statistic. *Biochemia Medica*, 22(3), 276–282.

McKevitt, B. C. (2012). School psychologist's knowledge and use of evidence-based, social-emotional learning interventions. *Contemporary School Psychology*, 16, 33-45.

McLeod, S. (2019). *What does effect size tell you?* <https://www.simplypsychology.org/effect-size.html>

Nagro, S. A., Fraser, D. W., & Hooks, S. D. (2019). Lesson planning with engagement in mind: *Proactive classroom management strategies for curriculum instruction*, 54(3), 131-140.

Nagro, S. A., Hirsch, S. R., & Kennedy, M. J. (2020). A self-led approach to improving classroom management practices using video analysis. *Teaching Exceptional Children*, 53(1), 24-32.

National Association of School Psychologists. *A career in school psychology: Frequently asked questions*. <https://www.nasponline.org/about-school-psychology/selecting-a-graduate-program/a-career-in-school-psychology-frequently-asked-questions>

National Association of School Psychologists. (2017). *Overview in differences among degrees in school psychology*.

<https://www.nasponline.org/Documents/About%20School%20Psychology/Overview%20of%20Differences%20Among%20Degrees%20in%20School%20Psychology.pdf>

National Association of School Psychologists. *Policies Addressing the Shortage of School Psychologists*.

<https://www.nasponline.org/research-and-policy/policy-priorities/critical-policy-issues/shortage-of-school-psychologists>

National Association of School Psychologists. *NASP Practice model; Improving outcomes for students and schools*. <https://www.nasponline.org/standards-and-certification/nasp-practice-model>

National Association of School Psychologists, (2020). *Model for comprehensive and integrated school psychological services*. Baltimore, MD. Retrieved from:
<https://www.nasponline.org/x40589.xml>

National Association of School Psychologists. *Program Approval and Accreditation*.
<https://www.nasponline.org/standards-and-certification/graduate-program-approval-and-accreditation>.

National Association of School Psychologists. *Shortage of school psychologists*.
<https://www.nasponline.org/research-and-policy/policy-priorities/critical-policy-issues/shortage-of-school-psychologists>

National Association of School Psychologists. *Who are school psychologists?*
https://www.nasponline.org/assets/Documents/About%20School%20Psychology/Brochures/who_are_school_psychologists_flyer.pdf

Newell, M. L. & Newell, T. S. (2011). Problem analysis: Examining the selection and evaluation of data during problem-solving consultation. *Psychology in the Schools*, 48(10), 943-957.

Newman, D. S. & Ingraham, C. L. (2020). Cross-university dialogues to support multicultural school consultation training. *Journal of School Psychology*, 81, 11-27.

Nock, M. K. & Kurtz, S. M. S. (2005). Direct behavioral observation in school settings: Bringing science to practice. *Cognitive and Behavioral Practice*, 12, 359-370.

- Pameijer, N. (2017). Assessment and intervention: Bridging the gap with a practice-based model. *Educational & Child Psychology, 34*(1), 66-82.
- Reinke, W., Herman, C., & Stormont, M. (2013). Classroom-level positive behavior supports in the schools implementing SW-PBIS: Identifying areas for enhancement. *Journal of Positive Behavior Interventions, 5*, 39–50.
- Reinke, W. M., Lewis-Palmer, T., & Merrell, K. (2008). The classroom check-up: A class wide teacher consultation model for increasing praise and decreasing disruptive behavior. *School Psychology Review, 37*, 315–332.
- Reinke, W. M., Stormont, M., Herman, K. C., Puri, R. & Goel, N. (2011). Supporting children’s mental health in schools: Teacher perceptions of needs, roles, and barriers. *School Psychology Quarterly, 26*, 1-13.
- Reinke, W. M., Stormont, M., Herman, K. C., Wachsmuth, S., & Newcomer, L. (2015). The brief classroom interaction observation-revised: An observation system to inform and increase teacher use of universal classroom management practices. *Journal of Positive Behavior Intervention, 17*(3), 159-169.
- Riser-Kositsky, M. (2019, December 17). *Special education: Definition, statistics, and trends*. Education Week. <https://www.edweek.org/teaching-learning/special-education-definition-statistics-and-trends/2019/12>
- Rosenfield, S. (2002). Developing instructional consultants: From novice to competent to expert. *Journal of Educational and Psychological Consultation, 13*(1&2), 97-111.
- Sandilos, L. E., Shervey, S. W., DiPerna, J. C., Lei, P., & Cheng, W. (2017). Structural validity of CLASS K-3 in primary grades: Testing alternative models. *School Psychology Quarterly, 32*(2), 226-239.

- Shapiro, E. S. & Heick, P. F. (2004). School psychologist assessment practices in the evaluation of students referred for social/behavioral/emotional problems. *Psychology in the Schools, 41*(5), 551-561.
- Shernoff, E. S., Bearman, S. K., & Kratochwill, T. R. (2017). Training the next generation of school psychologists to deliver evidence-based mental health practices: Current challenges and future directions. *School Psychology Review, 46*(2), 219-232.
- Sheridan, S. M., Salmon, D., Kratochwill, T. R., & Carrington-Rotto, P.M. (1992). A conceptual model for the expansion of behavioral consultation training. *Journal of Educational and Psychological Consultation, 3*(3), 193-218.
- Sheridan, S. M. & Elliott, S. N. (1991). Behavioral consultation as a process for linking the assessment and treatment of social skills. *Journal of Educational and Psychological Consultation, 2*(2), 151-173.
- Simonsen, B., Fairbanks, S., Briesch, A., Myers, D. & Sugai, G. (2008). Evidence-based practices in classroom management: Considerations for research to practice. *Education and Treatment of Children, 31*(3), 351-380.
- Simonsen, B., Freeman, J., Kooken, J., Dooley, K., Gambino, A. J., Wilkinson, S., VanLone, J., Walters, S., Byun, S. G., Lupo, K., & Kern, L. (2020). Initial validation of the classroom management observation tool (CMOT). *American Psychological Association, 25*(3), 179-192.
- Simonsen, B., MacSuga-Gage, A. S., Briere, D. E., Freeman, J., Myers, D., Scott, T. M., & Sugai, G. (2014). Multitiered support framework for teachers' classroom-management practices: Overview and case study of building the triangle for teachers. *Journal of Positive Behavior Interventions, 16*(3), 179-190.

South Arkansas University. (n.d.) *Special Education (SPED)*. Graduate Studies.

<https://web.saumag.edu/graduate/course-descriptions/special-education-sped/>

Sterling-Turner, H. E., Watson, T. S., & Moore, J.W. (2002). The effects of direct training and treatment integrity on treatment outcomes in school consultation. *School Psychology Quarterly, 17*(1), 47-77.

Sugai, G., & Homer, R. H. (2002). The evolution of discipline practices:

School-wide positive behavior supports. *Child and Family Behavior Therapy, 24*, 23-50.

University of Texas Permian Basin. (2020). *Master of arts in educational leadership online*.

<https://degree.utpb.edu/programs/online-degree-master-arts-educational-leadership.aspx#courses>

U.S. Department of Education. (n.d.) *Assessments*. IDEAs that work.

<https://ccrs.osepideasthatwork.org/teachers-academic/assessments>

U. S. Department of Education. (2001, January 8). *No child left behind act of 2001*.

<https://www2.ed.gov/policy/elsec/leg/esea02/107-110.pdf>.

Vanderbilt University. (2020). *Consultation and collaboration*. IRIS Center.

<https://iris.peabody.vanderbilt.edu/module/v03-focusplay/cresource/q1/p03/>

Will, M. (2020, October 20). *Are aspiring teachers learning classroom management? It varies*.

Education Week. <https://www.edweek.org/teaching-learning/are-aspiring-teachers-learning-classroom-management-it-varies/2020/10>

Wilson, M.S., & Reschly, D. J. (1996). Assessment in school psychology training and practice.

School Psychology Review, 25, 9-23.

Appendix A: Demographics Form

1. Please indicate your sex (circle): Male Female Non-binary Prefer
not to answer

2. Please indicate your race/ethnicity

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- Hispanic/Latinx
- White
- Two or more races (please specify)

I prefer not to answer

3. Please indicate your age. _____

4. Please list your job title? _____

5. In what state do you work? _____

6. How would you describe the community in which you work? (circle):

Rural Urban Suburban

7. How many years of experience do you have _____ years.

8. Have you taken an undergraduate or graduate course that focuses on managing student behavior?

- Yes, please provide the name of the course (if possible)

- No

- Other _____

9. Have you taken a graduate Consultation course?

10. Have you taken a graduate course where you were trained in direct observation

11. How many direct observations do you do in a month?

Appendix B: Five in 20 Observation Tool

Observer Code: _____ Job Title: _____ Reason for the Observation: _____ (e.g., re-eval, consultation).

Reliability Observer Code: _____ Job Title: _____ Date: _____ School Code: _____ Observation Length: _____

Teacher Code: _____ Class Description: _____ (e.g., 5th grade general ed). How many students in the classroom _____ ?

Directions 1) **STRATEGY:** Indicate if the classroom strategy was observed during the 20-min observation.

2) **QUALITY:** If a strategy was observed, indicate the quality of the observed strategy (1 = poor, 5 = great).

3) **FREQUENCY:** Using the operational definitions, tally the frequency of Praise and Reprimands observed during the 20-min observation.

	Critical Feature	Classroom Strategy & Description	Observed Yes or No	Quality					Comments/Notes
				Inconsistent with Description				Consistent with Description	
1	Maximizing Structure & Predictability	<ul style="list-style-type: none"> • Easy Traffic Flow (physical arrangement of the room (e.g., adult can easily move in the aisle & btw furniture, can access all of room, no roadblocks, no visual obstructions). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
		<ul style="list-style-type: none"> • Structured (teacher-imposed organization, lesson plan is clear, students are aware of current classroom objectives; visual aids are informative and not distracting) 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
		<ul style="list-style-type: none"> • Rules Posted (classroom rules are visible, positively stated, large enough to read, succinct, linked to SW expectations). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
		<ul style="list-style-type: none"> • Schedule Posted (e.g., picture schedule or written schedule. Visible, devl. appropriate for grade). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
2	Establishing and Teaching Expectations	<ul style="list-style-type: none"> • Rules: Taught & Reviewed (expectations are taught & reminders are provided frequently...used to prevent misbehavior AND after misbehavior occurs). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
		<ul style="list-style-type: none"> • Active Supervision (e.g., close proximity to students, moving frequently, not stagnant in one location). Actively attending to student behavior, little socializing). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
3	Engaging Students in Observable Ways	<ul style="list-style-type: none"> • Opportunities to Respond (OTR) (e.g., uses response cards, white boards, electronic responding with a focus on choral responding). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
		<ul style="list-style-type: none"> • Direct Instruction (modeling the skill, leading students through content with examples and making connections. Assessing student knowledge to guide continued instruction, not relying on worksheets, e.g., "I do, we do, you do"). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
		<ul style="list-style-type: none"> • Class-Wide Tutoring (students are paired strategically to enhance learning, use of response trials, immediate error correction/feedback, teacher actively supervises tutoring). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
		<ul style="list-style-type: none"> • Computer Assisted Instruction (use of technology that allows each student one-on-one <u>instruction</u> without leaving the classroom) 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	
		<ul style="list-style-type: none"> • Guided Notes (lecture or chapter outlines providing main ideas where students can follow along filling in additional ideas, devl appropriate for grade). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5	

4	Recognizing Appropriate Behavior using Various Strategies	<ul style="list-style-type: none"> Using Behavior-Specific Praise (verbal praise clearly identifying student behaviors that earn teacher approval, e.g., "Great job lining up quickly and quietly!") 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
		<ul style="list-style-type: none"> Token Economies (students earn points or coupons for appropriate/expected behavior that can later be exchanged for prizes or activities). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
		<ul style="list-style-type: none"> Class-Wide Group Contingencies (a common expectation is set for entire class and all students earn positive outcome if expectation is met, e.g., if everyone works quietly during small groups the class receives extra recess). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
		<ul style="list-style-type: none"> Behavior Contracts (document written by teacher and student that outlines expected behavior and outcomes when those expectations are or are not met, is devil appropriate for grade, e.g., home-school note, CICO). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
5	Responding to Inappropriate Behavior using Various Strategies	<ul style="list-style-type: none"> Brief Instructional Corrections for Inappropriate Behavior (undesired behavior is clearly and immediately identified & an alternative/appropriate behavior is concisely identified, e.g., you pushed Sam, you need to say "excuse me" when you want to pass by). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
		<ul style="list-style-type: none"> Performance Feedback (students view their performance – compared to a set criterion - visually, e.g., charts, graphs, behavior card, Academic (ORF) or behavioral (e.g., transitions under 2 min, homework turned in). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
		<ul style="list-style-type: none"> Planned ignoring (identify minor misbehavior to ignore and withhold attention, corrective comment, or redirection when students engage in those minor misbehaviors). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
		<ul style="list-style-type: none"> Differential Reinforcement (Responding to i.e., commenting, describing, praising appropriate behavior, while ignoring minor misbehavior. Responding to any behavior OTHER than the identified misbehavior). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
		<ul style="list-style-type: none"> Response Cost (stimulus, e.g., token or coin, is removed due to engagement in undesired behavior) 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
		<ul style="list-style-type: none"> Time Out from Reinforcement (removal from reinforcement, e.g., playing with peers, peer or teacher attention, activity, for a BRIEF time i.e., 10 min or less). 	<input type="checkbox"/> <input type="checkbox"/>	1	2	3	4	5
Praise Frequency Behavior Specific		General	Reprimand Frequency					
			Mild	Medium	Harsh	Gesture		

PRAISE DEFINITIONS:	
Behavior Specific	Any specific verbalization or gesture that expresses a favorable judgment on an activity, product, or attribute of the student (examples below). *Thank you for sitting criss cross *Good job cleaning up *Nice work helping *That is a pretty picture! *I like how you raised your hand
General	Any nonspecific verbalization or gesture that expresses a favorable judgment on an activity, product, or attribute of the student (examples below). *Great! *Nice Work *Hi-five or Thumbs up (gesture w/ no verbalization) *Gives token (no verbalization) *Thank you *Perfect

REPRIMAND DEFINITIONS:	
Mild Reprimand:	Any verbal comment (using a normal speaking tone) that indicates disapproval of a student(s) behavior. The verbal comment can be an instruction following student misbehavior. The reprimand is concise (brief). Also referred to as a "redirection" of student behavior. Disagreeing with a student with the absence of sarcasm or a critical tone would be identified as mild. *No thank you *Not now *No, come sit down (child at desk, while other children are on carpet) *That is not how we treat our friends
Medium (Sarcastic) Reprimand:	Any verbal comment (using a sarcastic or critical tone) that indicates disapproval of a student(s) behavior. The verbal comment can be in the form of a question that is disapproving and has a mocking, rude, or critical tone. A sarcastic reprimand is marked if the teacher disagrees with the child using a critical tone. *I don't remember telling you to write about mummies! *No, it's not cold in here (critical disagreement) *Is that your best work? (critical) (child misspelled word, sarcasm)
Harsh Reprimand:	Any verbal comment (using a louder than typical tone for the setting) that indicates disapproval of a student(s) behavior. Harsh reprimand is also marked if the reprimand implies negative consequences (e.g., a threat). *One more outburst and no recess (threat) *I won't tell you again *Excuse me! (loud) *How many times do I need to say _____
Gesture Reprimand:	Any gesture (without speaking) that indicates disapproval of a student behavior (e.g., hands on hips). Teacher may also gesture by physically guiding the child's body to a preferred area or activity *Hands on hips (disapproving look) *Teacher physically guides child to correct location *Shakes head when student interrupts

Appendix C: Primary Observer Informed Consent

CONSENT TO PARTICIPATE IN RESEARCH – Primary Observer Form*Assessing Teachers' Classroom Management Practices*

You are invited to participate in a research study conducted by Kari Meyer, SSP and Margaret Floress, PhD. Your participation in the study is entirely voluntary. Please ask questions about anything you do not understand.

Purpose of the Study

We are interested in piloting an observation tool which may prove useful to school psychologists who consult with teachers regarding effective classroom management practices.

Procedures

Observer participants will approach a teacher and ask if they would like to participate in the study with you. If they agree, you will observe the teacher for a single 20-min observation, while they provide a whole-class lesson, using the pilot tool intended to measure classroom management practices. After the observation, you will complete a demographics and observation acceptability survey (approx. 8 min). ***You may also recruit a second observer to collect observation data with the same observation tool simultaneously (so that reliability can be assessed). You will receive a \$15 gift card for your participation.

Potential Risks and Discomforts

This study has been approved by the Eastern Illinois University Institutional Review Board. There are no foreseeable risks associated with participating in this study.

Confidentiality

All participant forms will be coded (e.g., A-1) to keep participant data confidential. Your name (or other personal information) will not be paired with your demographic, observation, or acceptability data. Collected data will be emailed to Dr. Floress' and downloaded onto a password protected computer in her locked office. All participant data will be stored for at least 3-years. Dr. Floress, Ms. Meyer, Ms. Allie Cardot, Kaylee Hampton, Jessica White, and Danielle Buechlein (four school graduate psychology, research assistants) will be the only persons with access to data.

Anticipated results are expected to provide insight into teachers' classroom management practices and the acceptability of the observation tool. We hope that the results from this study will help develop an efficient observation tool that school psychologists can use to guide meaningful consultation recommendations.

If you have questions or concerns about this research, please contact: Margaret Floress, Ph.D., at 217.581.2127 or mfloress@eiu.edu. If you have any questions or concerns about the treatment of human participants in this study, you may call or write:

Institutional Review Board
Eastern Illinois University
600 Lincoln Ave.
Charleston, IL 61920
Telephone: (217) 581-8576
E-mail: eiuirb@www.eiu.edu

I voluntarily agree to participate in this study. I understand that I am free to withdraw my consent and discontinue my participation at any time without consequences of any kind or loss of benefits or services. I have been given a copy of this form.

 Participant's Signature

Date

 Investigator's Signature

Date

Appendix D: Teacher Informed Consent

CONSENT TO PARTICIPATE IN RESEARCH – Teacher Form*Assessing Teachers' Classroom Management Practices*

You are invited to participate in a research study conducted by Kari Meyer, SSP and Margaret Floress, PhD. Your participation in the study is entirely voluntary. Please ask questions about anything you do not understand.

Purpose of the Study

We are interested in piloting an observation tool which may prove useful to school psychologists who consult with teachers regarding effective classroom management practices.

Procedures

Teacher participants will be observed for a single 20-min observation while providing a whole-class lesson. A school psychologist (or other consultant) in your district will conduct the observation using the pilot tool intended to measure classroom management practices. Teacher participants will also complete a brief demographic survey and a 10-question, multiple choice measure related to praise. You will receive a \$15 gift card for your participation.

Potential Risks and Discomforts

This study has been approved by the Eastern Illinois University Institutional Review Board. (# 19-102). There are no foreseeable risks associated with participating in this study.

Confidentiality

All participant forms will be coded (e.g., A-1) to keep participant data confidential. Your name (or other personal information) will not be paired with your demographic or observation data. Collected data will be emailed to Dr. Floress' and downloaded onto a password protected computer in her locked office. All participant data will be stored for at least 3-years. Dr. Floress, Ms. Meyer, Allie Cardot, Jessica White, Kaylee Hampton, and Danielle Buechlein (four school graduate psychology, research assistants) will be the only persons with access to data.

Anticipated results are expected to provide insight into teachers' classroom management practices and the acceptability of the observation tool. We hope that the results from this study will help develop an efficient observation tool that school psychologists can use to guide meaningful consultation recommendations.

If you have questions or concerns about this research, please contact: Margaret Floress, Ph.D., at 217.581.2127 or mfloress@eiu.edu. If you have any questions or concerns about the treatment of human participants in this study, you may call or write:

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I voluntarily agree to participate in this study. I understand that I am free to withdraw my consent and discontinue my participation at any time without consequences of any kind or loss of benefits or services. I have been given a copy of this form.

 Participant's Signature

Date

 Investigator's Signature

Date

Appendix E: Reliability Observer Informed Consent

CONSENT TO PARTICIPATE IN RESEARCH – Reliability Observer Form*Assessing Teachers' Classroom Management Practices*

You are invited to participate in a research study conducted by Kari Meyer, SSP and Margaret Floress, PhD. Your participation in the study is entirely voluntary. Please ask questions about anything you do not understand.

Purpose of the Study

We are interested in piloting an observation tool which may prove useful to school psychologists who consult with teachers regarding effective classroom management practices.

Procedures

Reliability observer participants will observe a teacher for a single 20-min observation, while they provide a whole-class lesson, using the pilot tool intended to measure classroom management practices. This observation will take place simultaneously with the observation conducted by the primary observer. After the observation, you will complete a demographics and observation acceptability survey (approx. 8 min). You will receive a \$15 gift card for your participation.

Potential Risks and Discomforts

This study has been approved by the Eastern Illinois University Institutional Review Board. (#). There are no foreseeable risks associated with participating in this study.

Confidentiality

All participant forms will be coded (e.g., A-1) to keep participant data confidential. Your name (or other personal information) will not be paired with your demographic, observation, or acceptability data. Collected data will be emailed to Dr. Floress' and downloaded onto a password protected computer in her locked office. All participant data will be stored for at least 3-years. Dr. Floress, Ms. Meyer, Allie Cardot, Jessica White, Kaylee Hampton, and Danielle Buechlein (four school graduate psychology, research assistants) will be the only persons with access to data.

Anticipated results are expected to provide insight into teachers' classroom management practices and the acceptability of the observation tool. We hope that the results from this study will help develop an efficient observation tool that school psychologists can use to guide meaningful consultation recommendations.

If you have questions or concerns about this research, please contact: Margaret Floress, Ph.D., at 217.581.2127 or mfloress@eiu.edu. If you have any questions or concerns about the treatment of human participants in this study, you may call or write:

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I voluntarily agree to participate in this study. I understand that I am free to withdraw my consent and discontinue my participation at any time without consequences of any kind or loss of benefits or services. I have been given a copy of this form.

 Participant's Signature

Date

 Investigator's Signature

Date