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SCHOOL PSYCHOLOGISTS' TRAINING, ENGAGEMENT, AND LEGISLATIVE INVOLVEMENT IN RETURN TO LEARN PROCEDURES FOR STUDENTS WITH A mTBI

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ABSTRACT

SCHOOL PSYCHOLOGISTS' TRAINING, ENGAGEMENT, AND LEGISLATIVE INVOLVEMENT IN RETURN TO LEARN PROCEDURES FOR STUDENTS WITH A mTBI

Jessie Marie Beshara

Concussions, or mild traumatic brain injuries (mTBIs), are increasingly affecting school-age children in the United States. Despite this rising incidence, comprehensive return-to-learn plans for affected students are often inadequate and not utilized to the degree needed. This deficiency may stem from school psychologists' insufficient training, knowledge, and awareness regarding how to support these students effectively. This is further impacted by school psychologists' exclusion in legislation or school district policies addressing concussion management, specifically in mandated professional development training. This is despite being recognized as essential members of the concussion management team (CMT). This study aimed to investigate school psychologists' familiarity and training regarding mTBIs and how they typically support students who have sustained such injuries. Eighty-nine school psychologists from various regions in the United States participated in the survey. Qualitative analyses revealed a lack of formal training and confidence among school psychologists in addressing mTBIs,

despite self-reports of feeling qualified to assist affected students. The findings also underscored limited exposure to students with mTBIs and a lack of awareness regarding resources or protocols for concussion management. Consequently, school psychologists expressed a heightened interest in and need for further training opportunities on this topic. These findings indicate a significant gap between the potential resourcefulness of school psychologists and the actual accommodations received by students returning to school after an mTBI. However, this gap can be addressed through graduate programs incorporating training in this area and through adjustments to legislation and district policies to ensure consistent inclusion of school psychologists in relevant training initiatives. In summary, the study highlights the urgent need for enhanced training and support for school psychologists in addressing mTBIs among students. By bridging this gap, schools can better meet the needs of students recovering from concussions and facilitate their successful return to learning environments.

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CHAPTER I: Introductory Statement of the Problem

Currently, in the United States, there are reported to be about 1.4 to 4 million traumatic brain injuries (TBIs) each year, with historical trends showing an increase over the past two decades (CDC, 2006; Solesbee & Davies, 2021). Currently, the highest incidence rates of TBI are seen in children under four years old and in adolescents, with males being two times more likely to experience a TBI than females (CDC, 2022 March; Schuchat et al., 2018). However, for school-aged children, 70-90% of all brain injuries were classified as mild Traumatic Brain Injuries (mTBI; Bradley-Klug et al., 2015; Faul et al., 2010). According to Lumba-Brown et al. (2018), between 2005 to 2009, children made over five million outpatient and hospital visits combined for suspected mTBIs. Since 2003, mild traumatic brain injuries (mTBI), often used interchangeably with the term "concussion," were deemed a public health crisis by the Centers for Disease Control (CDC, 2003). Despite increasing numbers of TBIs in children throughout the years, these statistics are still believed to be an under-representation as they only account for children and adolescents who received care in either an outpatient setting or through the local emergency department (Chesire et al., 2011).

Traumatic brain injuries are commonly described as leading to changes in brain function or other evidence of brain pathology caused by external forces (McCrea et al., 2014). TBIs exist on a continuum with varying degrees of severity, with the least severe form being considered a mild traumatic brain injury (mTBI; Davies & Bernstein, 2018; Lewandowski & Rieger, 2009). According to the American Congress of Rehabilitation Medicine (ACRM), mTBI is an induced physiological disruption of brain functioning. The physiological disruption can occur by either the head being struck, the head striking

an object, the brain undergoing an acceleration/deceleration movement without direct trauma to the head, or from forces generated from a blast or explosion (Lumba-Brown et al., 2018a; National Academies of Sciences, Engineering, and Medicine, 2019; Silverberg et al., 2023). These diagnostic criteria were further clarified by the ACRM in 2023 based on expert consensus, which determined that a diagnosis of mTBI should be given when there is a biomechanically plausible mechanism of injury in conjunction with at least one of the following criteria: (1) the patient is presenting with one or more clinical signs attributable to a brain injury (e.g., loss of consciousness, alteration in mental status, amnesia, other neurologic signs), (2) the patient is presenting with at least two acute symptoms (e.g., feeling dazed, difficulty thinking clearly, slowed thinking), and at least one clinical or laboratory finding attributable to brain injury (e.g., cognitive, balance, or vestibular-oculomotor impairments, elevated blood biomarkers), or (3) there is neuroimaging evidence of TBI on computed tomography (CT) or structural magnetic resonance imaging (MRI). Additionally, the "mild" qualifier would be provided if the following criteria are met: (1) loss of consciousness does not exceed 30 minutes, (2) loss of memories before or after the incident (posttraumatic amnesia) does not exceed 24 hours, (3) after 30 minutes post-injury the individual obtains a Glasgow Coma Scale (GCS) score of 13-15 (Silverberg et al., 2023).

CHAPTER II: Literature Review

mTBI Symptomatology

Symptomatology while recovering from a concussion can vary widely between individuals. Symptoms most commonly associated with an mTBI can fall into four categories: physical, cognitive, social-emotional, or sleep-related disturbances (CDC, 2018). Physical symptoms are widely reported and may manifest as headaches, nausea/vomiting, fatigue, light/noise sensitivity, ringing in the ears, dizziness, or balance problems (CDC, 2018; Solesbee & Davies, 2021). Cognitive symptoms most often present as confusion, difficulty with memory, concentration or focusing, attention, slowed processing, word-finding challenges, brain fog, or feeling slowed down (Babcock et al., 2013; Barlow et al., 2015; Barlow et al., 2010; CDC, 2018; Lewandowski & Rieger, 2009; Solesbee & Davies, 2021; Yeates, 2010; Yeates et al., 2009). Individuals may also report increased emotionality, changes in mood, irritability, nervousness, social withdrawal, feelings of being overwhelmed, and may experience decreased motivation (CDC, 2018; Lewandowski & Rieger, 2009). Approximately 33% of children who experience a mTBI may develop behavioral or psychological symptoms. These symptoms can result in trouble with empathy, difficulty relating to peers, or increased involvement in conduct-related behavior (Barlow et al., 2010; Yeates, 2010). Regarding sleep, concussed individuals may experience increased fatigue and drowsiness, may sleep more or less than usual, and may have difficulty falling asleep (CDC, 2018; Lewandowski & Rieger, 2009; Solesbee & Davies, 2021). The most significant symptoms from a concussion will often resolve within 7-10 days. However, some can persist for months (Lewandowski & Rieger, 2009; Solesbee & Davies, 2021). It is

estimated that about 30-60% of students with a mTBI will have persistent symptoms at a one-month follow-up, 10-30% at a three-month follow-up, and less than 5% will still be experiencing symptoms after one year (Barlow et al., 2015; Barlow et al., 2010; CDC, 2018; Davies & Bernstein, 2018; Sroufe et al., 2010). The social-emotional symptoms may persist for longer than the physical or cognitive ones, especially if the concussion resulted from a traumatic event (Trenchard et al., 2013; Lewandowski & Rieger, 2009; Lumba-Brown et al., 2018a).

In addition to lingering symptoms, most students will have trouble in school following their injury. It has been established that high levels of symptoms reported, and symptom severity are linked to continued learning difficulties across elementary, middle, and high school-aged students (Ransom et al., 2013). Neuropsychological testing reveals that students may experience weaknesses in processing speed, set-shifting, and working memory compared to their premorbid functioning (Lewandowski & Rieger, 2009; Lumba-Brown et al., 2018a). The cognitive exertion needed to perform in school may exacerbate symptoms, which cyclically can continue to make succeeding academically challenging (Bradley-Klug et al., 2015; Lewandowski & Rieger, 2009).

mTBI and Return-to-School Supports

Given students' symptoms and academic challenges, services that can be provided to students upon their return to the classroom most commonly include informal supports or in unique scenarios, the implementation of early intervention (EI) services, the adaptation of a Section 504 plan, or enactment of special education services through Individualized Education Program (IEP) under the Individuals with Disabilities Education Act (IDEA) as a student with a TBI (CDC, 2018; Davies, 2013; Gioia, 2016;

Halstead et al., 2013; Sady et al., 2011). Notably, given the largely temporary nature of a concussion, many students who are recovering from an mTBI will not warrant the need for special education services or Section 504 plans (CDC, 2018; Halstead et al., 2013; Rehabilitation Act of 1973, 93d Cong., 1973).

Given the implementation of informal support, it is unclear how many students have received services upon re-entry (Halstead et al., 2013). According to parents of children who had experienced a mTBI, only 24% were aware of any enacted, written plan for concussion management in their schools, despite 70% reporting that they believed their children required additional support upon returning to school (Sady et al., 2011). Given the experiences reported by parents and the lack of a formalized system in place to track students' recovery from a concussion in the school system, it is believed that the population is still underserved and under-identified post-injury, placing them at a higher risk for undesirable educational outcomes (Dettmer et al., 2014; Gioia et al., 2016; Glang et al., 2008; McCrea et al., 2014). This discrepancy can be attributed, in part, to the limited knowledge of school psychologists (SP) and concussion management teams (CMT) regarding mTBI, inadequate understanding of appropriate accommodations, and inconsistent communication among team members, including medical professionals, school-based providers, and parents (Chesire et al., 2011; Davies, 2013; Halstead et al., 2013; Hooper, 2006; Walker et al., 1999). It was found that when school faculty were provided training and continued consultation from an SP knowledgeable on the topic of mTBIs, students were more likely to receive services and support. In one study, a school that had an SP on staff who provided training and consultation regarding mTBIs led to the provision of accommodations for 28 students who had sustained a concussion. A

comparative nearby school district, which did not have the same resources provided by the SP, was found to have no interactions with or reports of any students with a concussion throughout the year (Davies et al., 2016).

School Psychologists' Role in TBI Management

While it is assumed that most school personnel have awareness and training in the identification and management of students with a mTBI, SPs are often seen as the ideal candidate to guide a CMT, as they have acute insight into modifying and accommodating children's specific needs throughout their academic career and are trained in data-based decision making (Eftaxas & Canto, 2020; Hooper, 2006). As the SP may have opportunities to monitor students more frequently than a medical provider, they can play a vital role in the continued care of the children (Lewandowski & Rieger, 2009). This would include having the SP assess, monitor, and act as a problem-solving consultant to all other school personnel, given the unpredictable nature of recovery and symptoms that may not be easily observed during recovery (Davies & Bernstein, 2018; Lewandowski & Rieger, 2009). Specifically, given the training SPs receive in administering and interpreting cognitively based measures, they have the ability to administer brief periodic measures to monitor students' temporary neurocognitive side effects, such as deficits in processing speed, memory, executive functioning, and attention. SPs can also track students' symptoms and adjust and implement necessary recommendations and accommodations (Eftaxas & Canto, 2020; Lewandowski & Rieger, 2009; McCrea et al., 2014). Additionally, SPs would benefit from an assessment and progress monitoring of social-emotional concerns (Davies & Bernstein, 2018).

Most importantly, the formulation of and constant coordination and communication with the entire CMT is imperative to implement a successful return-to-school (return-to-learn) plan. Parents, teachers, school administrators, school nurses, athletic coaches/directors, and health care providers should all be able to receive and distribute health information to track recovery. Communication between these providers should also include periodic updates on the students' condition, rationale for recommendations, and to make sure all accommodations and modifications are being implemented as needed to ensure a safe return to school (Hooper, 2006; Lewandowski & Rieger, 2009). This may manifest as weekly progress check-ins with the students and team members and being an advocate for the students as they re-enter school (Davies & Bernstein, 2018; Lewandowski & Rieger, 2009). However, the success of a CMT and, therefore, a return-to-learn plan often relies on a parent's decision to inform the school of their child's current condition and allow the team to communicate with one another (Bradley-Klug et al., 2015).

School Re-Entry: Informal Accommodations and Modifications

Through consultation with the CMT, SPs can implement a return-to-learn plan, which consists of informal support to address the temporary change in cognition, behavior, emotionality, and effect on academics. These supports can include a health plan with the school nurse, specialized instruction, or the implementation of various accommodations or modifications in the classroom (CDC, 2018; Davies & Ray, 2014; Deidrick & Farmer, 2005).

Students may benefit from temporary, minor changes to their routine, such as having a few days off to refrain from engaging in a cognitively demanding environment,

changing their class schedule, shortening their school day, providing rest breaks, test accommodations, modifying assignments, or reducing course work. Students with a mTBI may also benefit from having copies of their class notes or audio recording class, having support with organizing their assignments, preferential seating, shortened tasks that do not require significant mental effort, or wearing sunglasses or a hat in class to combat light sensitivity (Eftaxas & Canto, 2020; Lewandowski & Rieger, 2009). Counseling can also be provided for those who may be experiencing a traumatic response or social-emotional changes since the injury (Lewandowski & Rieger, 2009). Safety concerns can additionally be addressed by the SP, such as allowing the student to leave their classroom five minutes early to ambulate to their next class while avoiding crowded hallways or stairways (Lewandowski & Rieger, 2009). The plan should continue to be monitored throughout the recovery period (CDC, 2018).

Current Practice in Return-to-Learn Plans and mTBI Management

At this time, there is no universal return-to-learn plan that guides re-entry to schools in the United States (CDC, 2018). Additionally, most research is dedicated to "return-to-play" protocols, which focus on students' return to physical activity (Eftaxas & Canto, 2020; Lewandowski & Rieger, 2009). Due to the variability among return-to-learn plans and the lack of clearly defined supports in place for this population, there can remain challenges or barriers that students will face upon their re-entry to school. Largely trying to keep up with academic or social demands can exacerbate social-emotional symptoms and continue to prolong their recovery (Davies & Bernstein, 2018; Halstead et al., 2013). Challenges such as these are not uncommon, and therefore, various return-to-learn plans have been proposed on how to best support children with an mTBI (see

Arbogast et al., 2013; Baker et al., 2014; McAvoy, 2012; Sady et al., 2011; Solesbee & Davies, 2021). Common themes found throughout these variable plans are the inclusion of assessment, intervention, progress monitoring, consultation, communication, and tracking for adjustments throughout recovery (Bradley-Klug et al., 2015).

An important facet to include when addressing concussion recovery programs is the developments made by the CDC, specifically looking at their HEADS UP program for the consistent care of children with a mTBI and the development of the *pediatric mild traumatic brain injury (mTBI) guidelines* (CDC, 2018; Lumba-Brown et al., 2018a). The CDC, in collaboration with the American Academy of Pediatrics, developed a comprehensive program, HEADS UP, in 2003 with the goal of providing widespread information and resources to help children recover from an mTBI. As part of the program, the CDC has created psychoeducational resources and training for setting specific needs to help children return to learning and play effectively during recovery (Online Training for Health Care Providers, CDC, 2020; Heads Up to Schools: Concussion Training, CDC, 2021). The full scope of the resources through HEADS UP can be found at https://www.cdc.gov/headsup/. When assessing the usefulness of these resources, it was found that 84% of athletic coaches who had access to the HEADS UP toolkit had provided concussion education to their athletes, at least 50% of athletic coaches changed their view on the seriousness of concussions, and 38% made changes in their prevention and management strategies (Sarmiento et al., 2010). Comparably, in a follow-up study, 77% of coaches reported having better discrepancy skills in identifying athletes who have a concussion, and 50% reported learning something new about concussions after reviewing materials (Covassin et al., 2012).

In addition to the HEADS UP campaign, the CDC pediatric guideline workgroup developed the first evidence-based guideline on the diagnosis and management of pediatric mTBI, *The Pediatric* M*ild Traumatic Brain Injury (mTBI) Guidelines* (CDC, 2018; Lumba-Brown et al., 2018a). The guideline workgroup looked to provide evidence-based best practices on the diagnosis, prognosis, and symptom management for children with a mTBI (Lumba-Brown et al., 2018b). The guidelines are directed at providing best practices for those in healthcare settings. However, some of the recommendations could also be implemented within a school system if adequately trained providers are available (Lumba-Brown et al., 2018a). For example, utilizing validated, computerized, age-appropriate neurocognitive batteries during the acute phase of injury and providing psychoeducation and counseling for parents and children surrounding the likelihood of recovery. More specifically, school-based recommendations include developing a CMT to assess and determine what educational supports should be implemented or altered, as adjustments should be assessed on an ongoing basis until the students return to pre-morbid levels of functioning. Lastly, as dictated by the guideline, if all efforts have been made by the CMT and the students are still experiencing prolonged symptoms and academic challenges, the healthcare providers on the team should encourage a formal evaluation by a pediatric mTBI specialist (Lumba-Brown et al., 2018a; recommendations 15A-15F).

Confidence and Competence in School Psychologists' Training Related to mTBI

Due to vague return-to-learn policies and the classification of TBI as a "low incidence" disability, there continues to be variability and lack of effective training for SPs relating to mTBIs. However, SPs must be aware of the variability in how students

can present following an mTBI, the impairments they may experience, and best practices in recovery (Arroyos-Jurado & Savage, 2008). They must also be well-versed in how pre-morbid conditions can affect post-injury functioning and the environmental factors that either aid or cause barriers to recovery (Arroyos-Jurado et al., 2006). However, research has shown that SPs lack awareness in these domains (Hooper, 2006). It was found that when presented with common myths and misconceptions surrounding TBIs, inaccuracy rates reached 59.8% among SPs, highlighting SPs' need for additional training in the area (Hooper, 2006).

Given the limited number of students with a mTBI who would qualify for special education services, graduate training courses do not always incorporate in-depth information on mTBIs (Davies, 2013; Davies & Ray, 2014). SPs in North Carolina reported lacking a specific focus on TBI rather than receiving a general overview (Hooper, 2006). In 1999, 86 school psychology programs based in the United States were assessed, and none provided in-depth training on children with acquired brain injuries. Those that incorporated some neuropsychological assessment into their training programs incorporated limited information on TBI and reported having few faculty (27%) with expertise in the area (Walker et al., 1999). Specifically, for those who had taken a course related to TBIs, the content often touched on the characteristics of an acquired brain injury but lacked follow-up on interventions or accommodations. Programs also reported that only 5-10% of graduate students had practical experiences with this population (Walker et al., 1999). These results were confirmed at intervals years later, which found similar outcomes on the incorporation of TBI training in graduate programs (Davies, 2013; Hooper, 2006). Therefore, most school psychology interns felt that additional

instructional support in the area of TBIs was warranted. Overall, only 12% felt they were comfortable working with this population and felt inadequately trained in the care of these students, indicative of a significant gap in the needs of students and the training of SPs (Canto et al., 2016; Davies, 2013).

As SPs report feeling unprepared from their graduate training, they will look to professional development resources (Dettmer et al., 2014; Glang et al., 2010; Ylvisaker et al., 2005). Hooper (2006) found that most SPs who had training in TBI acquired this through post-graduate workshops. These workshops or seminars were offered by local hospitals, through school neuropsychology training programs, neuropsychology certification opportunities, or through National Association of School Psychologists (NASP)-related workshops (Davies & Ray, 2014). Similar to rates found by Hooper (2006), 14 years later, 62% of respondents indicated that their main source of TBI training came from either on-the-job training or their own research (e.g., professional development or webinars; Eftaxas & Canto, 2020). 38-83% of practicing SPs reported not feeling competent in their current training despite a large majority of information being obtained from conferences or workshops on the topic of TBI (Canto et al., 2014; Eftaxas & Canto, 2020). Generally, 46-79% of practicing SPs indicated that they had not received any formal training related to TBIs, whether that be through their graduate program or post-graduate training seminars or workshops (Davies & Ray, 2014; Hooper, 2006). Most SPs report wanting or needing additional training to improve their services (Hooper, 2006). Only a little over half of SPs feel their identification, evaluation, and intervention services for students post-TBI are successful in nature (Canto et al., 2014). 64% of practicing SPs have indicated that they would be interested in and benefit from school

districts providing further training on the topic of mTBIs and return-to-learn protocols to help better support their students (Canto et al., 2014; Eftaxas & Canto, 2020).

Given the challenges that SPs face in obtaining knowledge on this population, multiple trainings may be warranted to provide the care needed (Davies & Ray, 2014; Hooper, 2006). Research alludes to the concept that one-time professional development seminars do not offer the type of training needed for the transference of information into practice (Davies & Ray, 2014; Glang et al., 2010). Specifically, when provided a half-day training on assessing and serving students to increase SPs' knowledge and skills, it was found that there were some training aspects retained at the two-month follow-up, but little increase in knowledge and usage of information from pre-training to a one-year follow-up (Davies & Ray, 2014). Despite the lack of implementation and transference of learning, participants did report a slight increase in their confidence level related to decision-making abilities when working with students with a TBI. Given this information, there is sufficient evidence that one-time training is not sensitive enough for SPs to be effective members of a CMT. Therefore, continued training annually or biennially may be warranted.

Legislation and Policy Related to mTBIs

Currently, all 50 states and the District of Columbia have created policies or recommendation plans on how to assist children who are recovering from a concussion. However, these policies more often address students' return-to-play plans, and limited language is included on return-to-learn procedures (Albano et al., 2016; Shenouda et al., 2012). Due to the heavy emphasis on return-to-play protocols, SPs are often void in guidelines or legislation as critical school-based members to aid in recovery. While the

CDC's HEADS UP program proves to be a useful resource, it also falls prey to this pitfall. Included in the 90-page report to Congress on the management of TBIs, SPs are only mentioned once (CDC, 2018; Hooper, 2006). According to the National Federation of State High School Associations (NFSHSA) guidelines, adjustments will need to be made to students' return-to-learn plans throughout their recovery; however, they also noticeably disregard and lack inclusion of SPs as vital personnel (NFSHSA, 2017).

As of current, New York's Concussion Management and Awareness Act (CMAA) is viewed as one of the most comprehensive pieces of legislation related to mTBI (Concussion Management and Awareness Act, Education Law No. S3953B, 2011; Straus, 2011). In addition to the state legislation, The University of the State of New York published and updated the New York State Guidelines for Concussion Management in 2023 for schools to follow and utilize (The University of the State of New York et al., 2023). Given the comprehensive nature of the two resources, New York State will be used for illustrative purposes on state legislation related to mTBIs. In both sources, return-to-play provisions are included, but return-to-learn policies are minimally addressed. School administrators, district medical directors, private medical providers, school nurses, physical education teachers, athletics trainers, and teachers are all included as effective members of an optional CMT with specific requirements related to concussion management. However, SPs are noticeably excluded or mentioned in a very limited nature (e.g., once within the full NYS Guidelines). Comparatively, school nurses are designated as the school-based members to perform baseline and post-injury neurocognitive testing and to determine appropriate accommodations as a coordinator between private medical providers and school personnel. However, SPs are theoretically

better trained in these areas and could provide further insight into the student's cognitive functioning. With regard to continued training, the CMAA and the NYS Guidelines require athletic coaches/directors/trainers, physical education teachers, and nurses to take the HEADS UP to schools' course biennially, excluding SPs (CDC, 2021). Yet, SPs could use their expertise in assessment, consultation, and intervention to better serve their students if provided opportunities to be trained specifically in concussion management, as other school-based members are.

Furthermore, given the increased awareness of concussion management protocols, an amendment and update to the CMAA is currently under review in the NYS senate committee. Despite the need for increased policies on return-to-learn protocols, the revision is only set to incorporate any medical personnel who are employed or contracted by a school to complete annual training on recognizing and treating concussions. These changes still notably exclude SPs, and further changes should incorporate biennial or annual training for SPs (Concussion Management and Awareness Act, Education Law No. S3953B, 2011).

Currently, there is no national law to address concussion recovery. A bill was introduced in the United States House Committee on Education and Labor on September 10th, 2021; however, the bill has since not made progress (Protecting Student Athletes from Concussions Act, Bill No. H. R. 5216, 2021). This legislation looks to require concussion safety and management plans, which would include an educational component, support for students, and best practices for safety standards, treatment, and management. This bill would include providing academic accommodations and would incorporate the role of an SP in the implementation of return-to-learn plans. If passed,

this piece of legislation could make a significant impact on students' reentry to the school (Albano et al., 2016).

CHAPTER III: Research Objectives

Primary Objective

The primary objective of this study was to assess the current perceived competency and confidence SPs have on the topic of mTBI. This includes training from graduate school as well as from professional development or post-graduate opportunities.

Secondary Objectives

The study also aimed to explore SPs' familiarity with return-to-learn policies, updated guidelines, and post-training resources to inform the need for the inclusion of SPs in mandatory training opportunities. Lastly, the study aimed to investigate the frequency and involvement of SPs in managing concussions.

Proposed Hypotheses

This study asserted the following hypotheses: (1) SPs feel unqualified and lack confidence in their training when working with a child diagnosed with an mTBI. (2) SPs will report having received minimal training and/or education on the topic of mTBIs, and the training received was predominantly through post-graduate opportunities. (3) SPs have limited awareness and utilization of resources specific to the management of students with an mTBI and return-to-learn policies (e.g., HEADS UP, CDC Guidelines, CDC training). (4) SPs will report minimal involvement with and/or awareness of children recovering from a mTBI within their schools. (5) SPs would like additional training on the topic of mTBI.

CHAPTER IV: Methods

Study Design and Setting

The aim of the study was to explore the perceived competency SPs have regarding mTBIs, their awareness of resources and return-to-learn recommendations for school-aged youth, and the training they received on concussions. Therefore, an Institutional Review Board (IRB) application was submitted and approved through St. John's University. Following approval, a survey was developed utilizing the online software Qualtrics (https://www.qualtrics.com) and was disseminated via online domains to practicing SPs across the United States from November 16th, 2023, to March 19, 2024, as described below.

Procedure

Participants

Recruitment. SPs were recruited through listservs and social media platforms from November 2023 to March 2024. The recruitment statement distributed included information regarding the study and a URL to the survey (see Appendix A). Forty-five school psychology state associations were contacted via email or online form submission to request dissemination of the survey to their current members. One-hundred and seventy-six NASP-accredited or approved school psychology program directors or administrative assistants were contacted via email for survey distribution to their alumni listservs. One thousand and ninety-one SPs from across the United States were sent the recruitment statement via their publicly available email addresses. Lastly, the recruitment statement was posted to 11 Facebook groups/pages targeted to SPs (see Appendix B). Participants were made aware via the recruitment statement that their participation would be completely voluntary and that there would be no compensation for participation.

Inclusion Criteria. Practicing SPs must have been credentialed in their respective states and have worked in a school-based setting for at least one year, full-time. SPs may have received a specialist, master's, or doctoral degree.

Exclusion Criteria. School psychology trainees or interns were excluded. School psychologists who have not practiced full-time for at least one academic year were also excluded.

Sample Size. It was expected that about 26% of participants included in recruitment would respond to the online survey. This is consistent with previous surveys disseminated on the topic (Canto et al., 2014). However, given the nature of the online recruitment model, it is unclear how many potential participants received the recruitment statement. Similar studies had an average of 68 SPs participate in their respective studies (Davies, 2013; Davies & Ray, 2014; Eftaxas & Canto, 2020; Walker et al., 1999). Therefore, the sample size of this study is comparable to the recruitment efforts of similar studies. Overall, 101 participants initiated the survey. Of these 101 participants, 11 participants provided consent; however, they did not proceed with the survey and, therefore, were excluded from the analysis. An additional participant was removed from analyses due to not meeting the inclusion criteria of having completed at least one year full-time in a school-based setting, resulting in a total of 89 participants.

Measure

The lead author created the questionnaire for this study based on surveys developed by Davies (2013), Davies and Ray (2014), Eftaxas and Canto (2020) and Walker et al. (1999). The URL associated with the Qualtrics survey first brought participants to the informed consent, at which point they could indicate if they would like

to proceed with the survey (see Appendix C). Following the provision of consent, participants were presented with the survey which included demographic questions and questions related to concussion training, perceived qualifications, management of mTBI in the school environment, and awareness of mTBI resources for school-based management. Based on their responses to certain questions, participants were potentially exposed to 22-44 questions. The complete questionnaire included ten demographic questions, nine multiple-choice questions, six multiple-option questions, thirteen 5-point Likert-scale questions (Not At All, Qualified to Highly Qualified; Strong Disagree to Strongly Agree), and six open-ended questions (see Appendix D). The survey was estimated to take about 10-15 minutes to complete. All responses were anonymously collected, and all questions were optional.

CHAPTER V: Results

Descriptive statistics were obtained to enhance the analysis of the proposed hypotheses. Questions throughout the survey often allowed for multiple response options, allowing for percentages equating to greater than 100. Furthermore, the primary researcher analyzed open-ended responses qualitatively for common themes, consistency, similarities, and frequency of responses.

Participant Demographics

Eighty-nine total participants were included in the data analysis. Of these 89 respondents, 83.1% identified as a woman ($N = 74$), 13.5% identified as a man ($N = 12$), 1.1% preferred to self-describe ($N = 1$), and 2.2% did not disclose ($N = 2$). The majority of respondents, 88.8%, identified as White ($N = 79$), followed by Black or African American (5.6%, $N = 5$). Most participants, 60.7%, endorsed that they are practicing under a permanent state certification ($N = 54$) and are currently employed as a school psychologist in a school-based setting (93.3%, $N = 83$). Eight percent ($N = 7$) reported working in other employment settings such as for their school districts, in administrative positions, hospital setting or were currently on maternity leave. A master's degree was the most common highest degree achieved (59.8%, $N = 52$) with a mean of 13.7 years since degree conferral (SD = 9.83), and with most respondents endorsing that their program was accredited through NASP at the time of attendance (86.2%, $N = 75$). Participants had a mean of 14 years of having worked in a school-based system (SD = 9.63), and 85.4% of respondents reported having worked in an elementary setting ($N = 76$). Given that participants could report having worked in more than one setting, total responses equate to greater than 100%. Therefore, 68.5% reported working in a middle

school (*N* = 61), 65.2% in High School *(N* = 58), and 52.8% in a preschool setting (*N* = 47). Eight respondents indicated they had also worked within birth to three programs: transitional programs, post-secondary education, and with the adult population. Lastly, a total of 122 different zip codes in the United States were represented within the sample, spanning 23 states. The most common state represented was Pennsylvania (14.8%, *N* = 18), followed by New York (10.7%, *N* = 13). Inclusive demographic information can be found in Table 1.

Table 1

Sociodemographic Characteristics of Participants

Characteristic	*n*	%
Gender Identity		
Woman	74	83.1
Man	12	13.5
Non-Binary	0	0
Prefer To Self-Describe	1	1.1
Prefer Not To Say	2	2.2
Racial/Ethnic Background		
White	79	88.8
Black or African American	5	5.6
American Indian or Alaska Native	0	0
Asian	1	1.1
Native Hawaiian or Pacific Islander	0	0
Hispanic or Latino or Spanish Origin	3	3.4
Other	0	0
Prefer Not To Say	1	1.1
Current Status as a School Psychologist		
Licensed Psychologist	26	29.2
State Certification: Provisional	9	10.1
State Certification: Permanent	54	60.7
License-Eligible	4	4.5
NCSP	36	40.4
Other	5	5.6
Current Employment Status		
School-Based Setting	83	93.3
Private Practice	6	6.7
Retired	2	2.2
Unemployed	0	0

Characteristic	*n*	%
Other	7	7.9
Highest Degree Earned		
Doctoral Degree	23	26.4
Master's Degree	52	59.8
Other	12	13.8
NASP Accreditation		
Accredited	75	86.2
Non-Accredited	12	13.8
Not Applicable	0	0
Populations Served		
Preschool	47	52.8
Elementary School	76	85.4
Middle School	61	68.5
High School	58	65.2
Other	8	9
State Where Previously/Currently Employed		
Alaska	1	0.8
Arizona	7	5.7
Arkansas	1	0.8
California	10	8.2
Colorado	10	8.2
Connecticut	9	7.4
Delaware	1	0.8
Florida	12	9.8
Idaho	4	3.3
Illinois	4	3.3
Maryland	1	0.8
Massachusetts	2	1.6
Michigan	1	0.8
Nebraska	1	0.8
New Jersey	2	1.6
New York	13	10.7
North Carolina	9	7.4
Oregon	3	2.5
Pennsylvania	18	14.8
South Dakota	1	0.8
Texas	1	0.8
Virginia	10	8.2
Wisconsin	1	0.8

Note. N=89.

The above demographics were compared to those obtained from the most recent NASP membership survey (Goforth et al., 2021). According to the percentages derived from the sample of 936 full-time school psychologists who completed the membership survey, this survey has a comparable distribution of reported gender identities. Racial/ethnic identity was largely representative in this sample, with the exception of those who identify as Hispanic or Latino, which this sample underestimated. Furthermore, this study over-represented licensed psychologists compared to the field and underrepresented those who have their Nationally Certified School Psychologist (NCSP) credential. Similarly, this survey overrepresented those who received master's and doctoral degrees, compared to specialist-level degrees. Years of experience as a school psychologist were in agreement with the average years reported for full-time school psychologists.

Training Experiences Related to mTBI

Participants were requested to provide information regarding their prior training experiences that included the topic of mTBIs (see Table 2). Of the 89 participants who responded, 24.7% reported that they had received no training on mTBI ($N = 22$). Of the remaining respondents, 42.7% ($N = 38$) reported receiving training during their graduate program, which was equivalent to the 42.7% receiving training from training sessions or workshops ($N = 38$). Furthermore, 32.6% reported on-the-job training ($N = 29$), followed by 28.1% noting they had received training via journal articles and research ($N = 25$). Additional reported training sources included online training courses coupled with supervisory experiences and exposure via neuropsychology departments ($N = 6$). Of those who indicated they had received some graduate coursework on the topic of mTBI, 63.2%

noted that the topic was taught in multiple courses ($N = 24$), with 44.7% endorsing that the topic was covered in one course ($N = 17$). Out of the one or more courses in which mTBI was a topic, 52.6% of participants indicated that the topic was covered in one to two class lessons ($N = 20$). If only covered in one class lesson, most endorsed that it was only taught for about 11-30 minutes (40%, $N = 4$). Twenty percent of respondents indicated it was covered for less than 10 minutes ($N = 2$), 31–60 minutes ($N = 2$), or 61–90 minutes ($N = 2$), irrespective of one another. Notably, no respondents endorsed that the topic had been taught for more than 90 minutes within one lesson.

Within these courses, there was variability in the way certain content areas were addressed. Specifically, 78.1% indicated that the characteristics of mTBI were covered in their graduate training ($N = 25$), followed by 68.8% recalling the effects of mTBI ($N = 22$), 50% of noted interventions, accommodations, and modifications ($N = 16$), 43.8% had the assessment of mTBI included in their course ($N = 14$), and lastly 37.5% were taught the neuroanatomical underpinnings of an mTBI ($N = 12$). A large majority, 96.6%, of the participants who noted they had received training in graduate school noted that they had received this as part of a required course ($N = 28$). When prompted for the name of the course, 15 respondents could not recall. Other responses included course themes of neuropsychology ($N = 8$), assessment ($N = 6$), IDEA disabilities classifications ($N = 4$), physiology ($N = 3$), abnormal child psychology ($N = 1$), exceptional children ($N = 1$), low-incidence disabilities ($N = 1$), and pupil behavior ($N = 1$). Qualitatively, the resources used during these courses included textbooks ($N = 3$), PowerPoint slides prepared by the course lecturer ($N = 3$), articles chosen by the lecturer ($N = 3$), Diagnostic and Statistical Manual of Mental Disorders (DSM; $N = 1$) or reviewing state eligibility

criteria ($N = 1$). Furthermore, the majority (54.2%) of respondents indicated that they had no exposure to children diagnosed with an mTBI during their training years ($N = 45$), with 32.5% noting limited exposure (<5 students; $N = 27$), followed by only 13.3% having seen more than five students during their training ($N = 11$). Comparably, for those who received training outside of their graduate program, these participants reported receiving training through their state department of education or school district's professional development opportunities ($N = 15$), online training programs ($N = 5$), corporation training programs (i.e., APA, CDC, NASP, CBIRT, VA; $N = 5$), school psychology state associations ($N = 3$), brainSTEPS ($N = 3$), working with a neuropsychologist or in a clinical setting ($N = 5$), or through peer presentations or school training ($N = 2$). Despite equitable levels of training from both graduate coursework and external training/workshops, 83.3% ($N = 10$) noted they felt more confident in their training from their additional training and workshops compared to 0% who felt more confident in their graduate coursework.

Table 2

Training Experiences Related to mTBI

Experience	*n*	%
Type of Training		
No Training	22	24.7
Graduate Coursework	38	42.7
Outside Training Sessions/Workshops	38	42.7
Journal Articles/Independent Research	25	28.1
On The Job Training	29	32.6
Other	6	6.7
mTBI Training in Graduate Coursework		
Specific Course Devoted to TBI/mTBI	2	5.3
Topic Covered in Parts of Multiple Courses	24	63.2
Topic Covered in One Course	17	44.7
Topic Was Not Covered	1	2.6
Extent of mTBI Instruction in Graduate Courses		

Experience	*n*	%
In More Than Two Class Lessons	10	26.3
In One to Two Class Lessons	20	52.6
Within One Class Lesson	12	31.6
Length of mTBI Instruction in Class Lesson		
<10 minutes	2	20
11 – 30 minutes	4	40
31 – 60 minutes	2	20
61 – 90 minutes	2	20
>90 minutes	0	0
Nature of mTBI Coursework		
Required Course	28	96.6
Elective Course	1	3.4
Required and Elective	0	0
Uncertain	0	0
Not Applicable	0	0
Content Areas Addressed in Coursework		
Characteristics of mTBI	25	78.1
Effects of mTBI	22	68.8
Neuroanatomy of mTBI	12	37.5
Assessment of mTBI	14	43.8
Interventions, Accommodations, and Modifications	16	50
Confidence from Information Source		
Graduate Coursework	0	0
Outside Trainings/Workshops	10	83.3
Both: Coursework and Trainings	1	8.3
Neither: Coursework or Trainings	1	8.3
Exposure to mTBI During Training		
Limited Exposure <5 Students	27	32.5
>5 Students During Training	11	13.3
No Exposure During Training	45	54.2

Note. N=89.

mTBI Management in the Schools

All respondents were asked how many students they have assisted who were diagnosed with an mTBI, during their time as a practicing school psychologist. The mean number of students seen was 7.6 (SD = 23.1, range: 0 - 200). The participants who had indicated they had seen at least one student who was diagnosed with an mTBI, were asked to further indicate which approaches they utilize during the student's recovery. The

results can be found in Table 3. The most prominent supports were communicating with other school based professionals (87.5%, $N = 28$), conducting psychoeducational assessments (81.3%, $N = 26$), communicating with the student's parents (78.1%, $N = 25$), implementation of special education services (75%, $N = 24$), conducting classroom observations (75%, $N = 24$), and conducting a social-emotional assessment (68.8%, $N = 22$). One participant further reported that they ensure communication with the student. When freely asked to identify accommodations or modifications that they have put in place for students recovering from an mTBI, themes included limiting screen time, providing breaks throughout the day, having a shortened class day or a flexible schedule, having a quiet area to access as needed, excusing, reducing, or having additional time for assignments, testing accommodations (e.g., extra time, alternate location, postponement of exams, or ability to correct exams after recovery), accommodations for light or noise sensitivity (e.g., sunglasses, baseball hat, noise-canceling headphones), supports for executive functioning, repetition of instruction, and checks for understanding. Notably, only one participant reported that they would recommend counseling support as needed.

Table 3

Support for Students with a mTBI

Type of Support	*n*	%
Implementation of Informal Supports	19	59.4
Implementation of a Return-to-Learn Plan	14	43.8
Implementation of a Return-to-Play Plan	9	28.1
Implementation of a Section 504 Plan	20	62.5
Implementation of Special Education Services	24	75
Symptom Monitoring	16	50
Psychoeducation Assessment	26	81.3
Social-Emotional Assessment	22	68.8
Classroom Observation	24	75
Development of a Concussion Management Team	6	18.8

Type of Support	*n*	%
Communication with School-Based Staff	28	87.5
Communication with Student's Medical Team	18	56.3
Communication with Student's Parents	25	78.1
Other	1	3.1

Note. N=89.

Perceived Qualification in mTBI Management in School

Participants were asked to rate how qualified they believe themselves to be on a five-point Likert scale (Not At All Qualified to Highly Qualified) regarding integral components of concussion management in the school system. Seventy-nine participants responded to these prompts. The results can be found in Table 4. The majority (43%, *N* = 34) of respondents indicated they feel highly qualified to be part of a multidisciplinary team serving a student with an mTBI. Participants reported more hesitancy when asked to serve as the leader of a concussion management team with 36.7% reporting they do not feel qualified at all to do so. Equally, 29.1% noted they would be somewhat qualified and highly qualified to provide educators with information about mTBI. In terms of providing students with information about mTBIs, 29.5% similarly felt somewhat qualified and highly qualified to do so. Thirty-five and four-tenths percent believe they are highly qualified to provide assessment services for students with an mTBI, 43.6% noted they are somewhat qualified to provide appropriate interventions, and 50.6% felt somewhat qualified to provide accommodations or modifications as needed. Thirty-four and two-tenths percent reported they are somewhat qualified to differentiate between students with an mTBI and other disabilities. While 39.7% indicated they are somewhat qualified to monitor classroom behavior and academic progress for students with an mTBI. Overall, 34.2% of participants indicated that they disagree with the statement "I feel

confident in the amount of training I have received on the topic of mTBI" ($N = 27$), with an additional 20.3% strongly disagreeing with the aforementioned statement ($N = 16$).

Table 4

Perceived Qualification for Concussion Management in School

Management Goal	*n*	%
Be a Part of a Multidisciplinary Team Serving a Student with a mTBI		
Not At All Qualified	1	1.3
Somewhat Unqualified	8	10.1
Neither Qualified nor Unqualified	6	7.6
Somewhat Qualified	30	38
Highly Qualified	34	43
Provide Educators with Information About mTBI		
Not At All Qualified	11	13.9
Somewhat Unqualified	9	11.4
Neither Qualified nor Unqualified	13	16.5
Somewhat Qualified	23	29.1
Highly Qualified	23	29.1
Provide Students with Information about mTBI		
Not At All Qualified	10	12.8
Somewhat Unqualified	13	16.7
Neither Qualified nor Unqualified	9	11.5
Somewhat Qualified	23	29.5
Highly Qualified	23	29.5
Serve as a Concussion Management Team (CMT) Leader for a Student with a mTBI		
Not At All Qualified	29	36.7
Somewhat Unqualified	17	21.5
Neither Qualified nor Unqualified	9	11.4
Somewhat Qualified	17	21.5
Highly Qualified	7	8.9
Provide Assessment Services for Students Who Display Signs of a mTBI		
Not At All Qualified	10	12.7
Somewhat Unqualified	7	8.9
Neither Qualified nor Unqualified	9	11.4
Somewhat Qualified	25	31.6
Highly Qualified	28	35.4
Provide Appropriate School-Based Interventions for Students with a mTBI		
Not At All Qualified	6	7.7
Somewhat Unqualified	14	17.9

Management Goal	*n*	%
Neither Qualified nor Unqualified	8	10.3
Somewhat Qualified	34	43.6
Highly Qualified	16	20.5
Provide Accommodations or Modifications for Students with a mTBI		
Not At All Qualified	5	6.3
Somewhat Unqualified	4	5.1
Neither Qualified nor Unqualified	3	3.8
Somewhat Qualified	40	50.6
Highly Qualified	27	34.1
Differentiate Between Students with a mTBI and Students with Other Types of Disabilities		
Not At All Qualified	7	8.9
Somewhat Unqualified	11	13.9
Neither Qualified nor Unqualified	9	11.4
Somewhat Qualified	27	34.2
Highly Qualified	25	31.7
Monitor Classroom Behavior and Academic Progress for Students with a mTBI		
Not At All Qualified	2	2.6
Somewhat Unqualified	11	14.1
Neither Qualified nor Unqualified	6	7.7
Somewhat Qualified	31	39.7
Highly Qualified	28	35.9
I Feel Confident in the Amount of Training I Received Regarding mTBI		
Strongly Disagree	16	20.3
Disagree	27	34.2
Neither Agree nor Disagree	11	13.9
Agree	19	24.1
Strongly Agree	6	7.6

Note. N=89.

Administrative Guidance Regarding mTBIs

Upon questioning regarding guidance from administrative staff and through district protocols, a large majority (84.8%, $N = 67$) of the respondents endorsed that their school districts do not currently mandate any mTBI specific professional development. However, 8.9% endorsed that it is required for some staff but not for school psychologists ($N = 7$), with 3.8% noting that it is available for any school-based team member ($N = 3$).

Only 3.8% indicated that mTBI specific professional development was required for school psychologists (*N* = 3). Furthermore, when asked if their current school district has an active concussion management plan, 48.1% of participants noted that they were unsure (*N* = 38), 32.9% endorsed their district does have a plan (*N* = 26), with 15.2% reporting their district does not have a current plan (*N* = 12). Other responses (*N* = 3) included that there is a team inclusive of a principal and a counselor designated for concussion management, that athletics has a specified plan, whereas return-to-learn procedures are handled on a "case-to-case" basis, and with one respondent noting that they believed all public education domains in North Carolina were required to have a plan. Of the respondents who endorsed that their school district has a current concussion management plan, 58.6% reported that this plan also included policies for return-to-learn procedures (*N* = 17), with 24.1% reporting that these return-to-learn policies were limited in nature (*N* = 7). Ten and three-tenths percent endorsed that they were unsure if their district policies included return-to-learn guidance (*N* = 3), and 3.4% definitively stated that the policy does not include this guidance (*N* = 1).

Awareness of Resources

While publicly available, easily accessible, and a free resource, it was hypothesized that most SPs would not have awareness of the mTBI resources and guidelines available through the CDC. Therefore, participants were asked about their familiarity with specific resources and recommended guidelines. The majority (70.9%, *N* = 56) of participants noted that they were unfamiliar with the CDC's *HEADS UP* publicly available program for concussion education. Following, 25.3% reported they had heard of the program but had not utilized the resources (N = 20), with only 10.1% having used

resources from the program (N = 8), with even fewer participants having taken any of their online training (5.1%, *N* = 4). Consistently, 68.4% reported that they were unfamiliar with the CDC's *Guideline on the Diagnosis and Management of Mild Traumatic Brain Injury Among Children* (*N* = 54), with 24.1% noting they are aware of the guideline (*N* = 19), and with 7.6% reporting they have read and implemented recommendations from the guideline (*N* = 6). Similarly, 53.8% indicated that they are unfamiliar with return-to-learn procedures (*N* = 42), with 35.9% endorsing some awareness of these procedures (*N* = 28), and only 10.3% implementing these procedures when aware of a student who has suffered an mTBI (*N* = 8).

Need For Additional Training

Participants' perception of their need for further training was also evaluated (see Table 5). Largely, most participants "agreed" that they require additional training on the topic of mTBI to successfully serve the population (51.9%, *N* = 41), with an additional 24.1% indicating they strongly agree they require additional training (*N* = 19). Furthermore, most agreed that they would be interested in obtaining additional training (58.2%, *N* = 46), with 30.4% strongly agreeing that they would be interested in the additional training (*N* = 24). Despite this, most participants felt ambivalent on whether their students would be better serviced if they attended biennial concussion seminars (36.7%, *N* = 29), closely followed by 34.2% of respondents who agreed mandatory biennial concussion seminars would be beneficial (*N* = 27).

Table 5

Perceived Need for Additional Training

Statement	*n*	%
I Require Additional Training on the Topic of mTBI to Successfully Serve the Population		
Strongly Disagree	0	0
Disagree	4	5.1
Neither Agree nor Disagree	15	19
Agree	41	51.9
Strongly Agree	19	24.1
I Would be Interested in Additional Training on the Topic of mTBI		
Strongly Disagree	0	0
Disagree	1	1.3
Neither Agree nor Disagree	8	10.1
Agree	46	58.2
Strongly Agree	24	30.4
My Students and I Would be Better Serviced if I, as the School Psychologist were Mandated to Attend Biennial Concussion Seminars as Other School-Based Members are Required to do		
Strongly Disagree	0	0
Disagree	7	8.9
Neither Agree nor Disagree	29	36.7
Agree	27	34.2
Strongly Agree	16	20.3

Note. N=89.

Barriers to mTBI Management in the School System

Participants were lastly asked to freely report any barriers they felt were present for mTBI management in the school system. Fifty-five participants responded to this open-ended prompt. Responses included content reflecting barriers due to lack of knowledge and training among school-based professionals, communication and collaboration challenges, and barriers to implementation and support. Specifically, respondents indicated that school-based professionals lack understanding and knowledge of mTBIs, including limited identification, the misconception that it is strictly a

"medical" diagnosis and does not impact education, lack of experience with this population, and insufficient training. Regarding communication, respondents noted inefficient communication between school staff, parents, and healthcare providers, which impacts awareness of current concerns for the student. Lack of collaboration between special education, general education, nurses, and athletic staff can also create barriers to appropriate care for these students. Lastly, concerns such as funding for training, inequitable policy focus for return-to-learn versus return-to-play, distribution of time to appropriately track symptomatology, and stigma were all raised as barriers to management for children with mTBIs.

CHAPTER VI: Discussion

The present study explored SPs' preparation, familiarity, and experiences when working with students with mild traumatic brain injuries. The study explored SPs' training, self-perceived qualification and confidence, awareness of resources, typical protocol, and the need for additional training on the topic of mTBIs. It is important to note the representative nature of the sample obtained compared to the demographic sample of school psychologists within the United States obtained via the most updated NASP Membership Survey (Goforth et al., 2021). The survey sample obtained was grossly aligned with the demographics of current full-time school psychologists regarding gender identity, racial/ethnic identity, and years in practice. This survey overrepresented licensed, master's level, and doctoral level psychologists, while underrepresenting those with their NCSP. However, while the comparative sample consists of SPs who are members of NASP, it may not accurately capture the socio-demographic characteristics of SPs who are not affiliated with NASP, thus potentially limiting the generalizability of the findings to the broader population of SPs in the United States.

School Psychologists' Training Experiences

The results of this study highlight the variability in training that SPs have received on the topic of mTBI, with equitable rates of training from their graduate programs and additional training obtained outside of their graduate programs. Notably, more than half of the respondents noted that during graduate school, they had never received training on concussions, and more so, almost one-quarter of participants stated they had never received any training on the topic. While many are not receiving this training during their graduate education, there does appear to be some improvement in the accessibility of this

information during SP training. Compared to results obtained by Davies (2013), training has changed over the past 10+ years to include more mTBI content in graduate coursework. Davies (2013) surveyed faculty and interns of school psychology programs on the coverage and extent of coverage of mTBI during their courses. This study revealed that there has been an increase in course coverage on the topic of mTBI, with a reduction in the percentage of respondents indicating they had received no training on the topic. Furthermore, respondents were more likely to indicate that they were engaging with the topic over one to two-course lectures than compared to those from the Davies (2013) results. Despite this, there was a reduction in the time spent on the topic if only taught in one class lesson, such that from Davies' (2013) study, participants were more likely to indicate the topic was covered for 61-90 minutes. Results from the present study, however, reveal that among those surveyed, the topic is more likely only covered for 11-30 minutes during their graduate training. This discrepancy, however, may be due to the increase in the number of class lectures the topic is covered in.

In comparison to the Walker et al. (1999) study in which graduate programs reported content areas of TBIs that were taught in their curricula, SPs from this study were less likely to report that they had exposure to these same content areas in comparison to the percent of programs that indicated they offer the topics. The percentage of SPs who had exposure to topics of neuroanatomy and assessment of mTBI was much less than the percentage of programs reporting they offer this training. Furthermore, many respondents indicated that they had no exposure to students with mTBIs during their training years, indicative of less opportunity for training on the topic.

When externally receiving training on this topic, participants most commonly reported that they had received the training through their state department of education, school district, online training programs, corporation training, school psychology state associations, work within a clinical setting, supervision from a neuropsychologist, or through peer presentations and school training. Other sources of training were associated with on-the-job training and via journal articles and independent research. This study, however, hypothesized that SPs would have received minimal training on the topic of mTBI and that this would predominantly be from post-graduate training opportunities. However, the results reveal variable evidence to support this hypothesis. Participants indicated they obtained training equally from their graduate coursework and additional training sessions/workshops, with only less than one-quarter of participants indicating they had received no training on the topic. However, there remains more than 50% of SPs who were surveyed who have received no formal training from their graduate studies, which is therefore, indicative of areas of improvement.

School Psychologists' Perceived Qualifications and Confidence with mTBI Management

Based upon results from SPs graduate training and other training opportunities, most respondents noted that they felt more confident with the information they obtained via their outside training/workshops compared to their graduate training as a whole. Specifically, no participants felt more confident in their graduate training, with only one SP noting that they felt confident in both their additional and graduate training. To emphasize this lack of confidence, over 50% of the SPs who responded generally indicated that they did not feel confident with the amount of training they received on the

topic of concussions, with similar rates of diminished confidence found by Eftaxas and Canto (2020).

Despite this lack of confidence in training, participants were asked to rate how qualified they felt to engage in concussion management. Largely, a majority of participants noted that they felt either somewhat or highly qualified to be a part of a multidisciplinary team for mTBI management, provide psychoeducation on mTBIs to school staff or students, conduct appropriately tailored assessments, provide appropriate interventions, accommodations, or modifications, monitor classroom behavior and academic progress, and be able to differentiate between students with a concussion or other disabilities. These rates of comfortability were much higher than those found by Davies and Ray (2014) at a one-year follow-up post-TBI training, except for speaking with other school staff, where lower rates were reported in this study. However, contrasting these perceived competencies, a large majority of SP respondents noted that they did not feel qualified or somewhat unqualified to serve as the leader of a CMT.

The results of the present study are consistent with the hypothesis that SPs will lack confidence in their training on mTBIs and specifically highlight the lack of confidence they have in their graduate training on the topic. However, the results of this study failed to show that SPs feel unqualified to work with this population. Most SPs noted that they feel qualified to engage in many concussion management expectations. This is except for holding the position of leader of a CMT, which may lend to the lack of confidence reported in their training. The mechanism behind increased perceived qualifications compared to poor confidence in training is unknown and should be an area of future research.

School Psychologists' Awareness and Utilization of Resources for mTBI Management

While SPs self-reported feeling comfortable with their skill set to manage students who present with a concussion, their awareness of resources and utilization of supports was explored. The SPs who responded were asked to indicate how many students they have seen with a mTBI throughout their professional careers. The average number of students seen was 7.6. However, the most common response reported was having no prior experience working with a student who had suffered from an mTBI. Seventy-five out of the 78 respondents to this question indicated that they had seen 15 or fewer students throughout their career. However, of those who had seen at least one student with an mTBI, they were asked what their approach to care may include. Most notably, SP indicated that they would ensure communication with other staff members and parents, would conduct a classroom observation, may implement special education services, and may also conduct a psychoeducational assessment. Participants additionally freely reported the aforementioned common accommodations they may put in place for students during their recovery, herein highlighting that only one participant noted the addition of counseling services to address any psychological distress or adjustment difficulties. With this, while still supported by a number of respondents, a reduced proportion of SPs expressed willingness to administer a social-emotional assessment. Consequently, there could be an imbalance in the assessment of cognitive abilities compared to psychological well-being following an mTBI, as well as in the implementation of accommodations for cognitive versus psychological challenges, despite similar occurrences of social-emotional and cognitive symptoms.

The least utilized supports by SPs were the implementation of return-to-learn or return-to-play plans and the development of a CMT. In addition to mTBI-specific supports, SPs' awareness of the resources available to them was analyzed. Respondents consistently indicated that they were unfamiliar with the CDC's *HEADS UP* program or their guidelines for the management of mTBIs in children. Less than 11% have utilized resources from either of these sources. The limited utilization of return-to-learn plans was also consistent with most informants who noted they were unfamiliar with these procedures. These results further indicate that exposure to children with an mTBI is highly variable, with SPs commonly reporting that they have never worked with a child with this diagnosis. This finding is consistent with the proposed hypothesis that SPs may have limited engagement with or awareness of students who are recovering from an mTBI in their schools.

Additionally, while SPs indicated engagement in numerous supports and accommodations for students recovering, they were unfamiliar with resources to guide recovery. They were less likely to utilize concussion-specific protocols such as return-to-learn plans or the development of a CMT. These results suggest consistency with the proposed hypothesis that SPs have limited awareness and utilization of mTBI-specific resources. Furthermore, results revealed less emphasis placed on psychological symptoms when compared to cognitive or physical symptomatology post-mTBI.

Administrative Protocols and Interest in Additional Training

As noted, SPs are frequently not included in decision-making procedures regarding legislation or district policies about mTBI management in schools. However, given the lack of confidence SPs have reported in their training on the topic, it may

benefit SPs to be included in professional development seminars available to other school personnel on the topic. At present, this study revealed that a large majority of school districts represented do not currently have any mandated mTBI professional development requirements for SPs. Close to half of the respondents were also unsure if their district currently has an active concussion management plan. This study further explored the need for additional training due to variability in SPs awareness of district policies, return-to-learn plans, confidence in prior training, and utilization of mTBI-specific resources. Respondents to this survey endorsed that they do need additional training on the topic to successfully serve the population, with over 80% indicating that they would be interested in pursuing additional training, consistent with the final hypothesis proposed by this study.

These results provide a promising future, as prior research has shown that when there is at least one school-based provider knowledgeable in this area, there is a higher rate of students who are serviced due to better identification and management strategies (Davies et al., 2016). If taking the opportunity to educate themselves further, SPs can significantly impact this population. This research underscores the importance of involving school psychologists in seminars focused on concussion management. They possess the expertise to monitor students' symptoms throughout the school day and implement tailored accommodations effectively. Moreover, they can adjust learning recommendations during recovery to prevent prolonged absence and recovery. District teams and state education departments should consider including school psychologists in their regular training seminars to maximize their impact.

Additionally, addressing the barriers identified by respondents through administrative procedures is crucial. Overall, the analysis of barriers revealed a pervasive lack of knowledge, communication gaps, and systemic barriers that hinder effective identification, support, and management of mTBI among school-aged children. Addressing these issues will require comprehensive training programs, improved communication channels, and better collaboration between school staff, medical professionals, and parents to ensure the well-being and academic success of students with mTBIs.

CHAPTER VII: Limitations and Future Directions

Several limitations were encountered during this study. First, the distribution and recruitment method of the survey led to an inability to track how many SPs received the survey invitation. Despite reaching out to a significant number of group/listserv administrators, it is probable that some recipients did not share the survey with their respective groups, despite diligent recruitment efforts. Second, the small sample size hinders the generalizability of the study's findings. With a limited number of respondents, the results may not accurately reflect school psychologists' attitudes, knowledge, and practices nationwide. Third, the lack of national participation from those surveyed also poses a significant limitation, as data were only collected from representatives in 23 states. This limited representation may further restrict the generalizability of findings to the broader population of school psychologists in the United States. Fourth, there may have been response bias, as individuals with a stronger interest or familiarity with the topic of mTBI may have been more likely to respond compared to those with less awareness of the topic. Together, these factors resulted in a sample that was not fully representative of all SPs within the United States and, therefore, a limitation of the present study.

Another limitation pertains to the unknown reasons behind the lack of confidence in training compared to self-reported qualifications to work with a student who has been diagnosed with an mTBI. While it is suspected that SPs may feel their skills can be generalized to other student populations that they may be less familiar with, the study did not delve deeper into the specific factors contributing to this phenomenon, thereby limiting the depth of understanding regarding this issue, but allowing for future research

to explore this discrepancy. Furthermore, similar studies on mTBI management among SPs often suffer from small sizes as well. This common limitation across studies in the field may impede efforts to draw robust conclusions and generalize findings to the larger population of SPs in the United States. Therefore, future research may explore any potential resistance to the topic of mTBIs from SPs. Lastly, these results specifically focus on mTBIs; however, future research may also seek to explore how these results may generalize for all severities of TBIs. In sum, while this study provides valuable insights into the challenges and practices related to mTBI management among SPs, future endeavors should aim to address these limitations through more comprehensive sampling methods and exploring observed patterns in greater detail.

CHAPTER VIII: Implications for the Profession of School Psychology

Due to the increasing prevalence of mTBIs, this study's findings carry significant implications for school psychologists (SPs), graduate programs, legislators, and policymakers involved in concussion management within educational settings. First and foremost, the identified barriers for SPs highlight the critical need for comprehensive training in managing mTBIs during graduate and post-graduate training. Specifically, SPs expressed a lack of confidence in the training they received on mTBIs, with only one person out of the sample reporting confidence in their graduate school training on the topic. The absence of quality training underscores a limitation in the training of SPs, particularly concerning the lack of specified training outlined in the NASP Standards for Graduate Preparation of School Psychologists regarding mTBIs (NASP, 2020). Consequently, graduate programs should enhance their curricula to include coursework on mTBI management, integrating it with assessment, intervention, counseling, consultation, and/or neuropsychological courses (Davies, 2013). Training should emphasize identification, appropriate return-to-learn procedures, accommodations, and formulation of CMTs. Graduate programs may also consider incorporating the HEADS UP school-based training campaign into course requirements if scheduling constraints limit in-class lectures. This approach ensures SPs receive the practical tools and strategies needed to support students' recovery and to promote a safe return to learning.

Given the majority of SPs expressing interest in additional training, state legislation and school districts should consider mandating annual or biennial training sessions for SPs. Moreover, efforts should be made to enhance the visibility of SPs in legislation, guidelines, and school policies related to mTBI management. Legislators and

school administrators should recognize the essential role of SPs in facilitating students' re-entry to school post-injury and, therefore, should begin to incorporate SPs as integral members of the CMT. These requirements and increased visibility can ensure that SPs remain updated on best practices and emerging research in mTBI management, ultimately enhancing their effectiveness in supporting students' recovery and reintegration into the academic environment.

For SPs seeking additional training, free resources such as the CDC's *HEADS UP* program offer valuable information and training materials. Leveraging these resources can enhance SPs' awareness and knowledge of concussion recovery, enabling them to effectively manage mTBIs and reduce the risk of secondary impacts/injuries in the school environment. SPs have a unique opportunity to assist in the identification of students with a concussion, monitor recovery progress, and adjust their educational needs accordingly. By receiving comprehensive training in mTBI management, SPs can increase their understanding of return-to-learn plans and follow effective recovery models, potentially reducing recovery times. Furthermore, SPs can collaborate effectively with teachers, parents, and healthcare providers to facilitate students' recovery and ensure a supportive academic environment during the recovery process.

In conclusion, addressing this study's identified limitations while implementing the recommended strategies can significantly enhance SPs' capacity to support students' recovery from mTBIs. By investing in comprehensive training, increasing visibility and advocacy, and integrating mTBI management into graduate education, therefore influencing confidence levels and awareness of resources, SPs can play a pivotal role in promoting students' well-being and academic success following mTBIs.

Appendix A:
Recruitment Statement

Dear School Psychologist,

You are invited to participate in an online research survey that seeks to explore school psychologists' graduate training regarding mild traumatic brain injuries (mTBIs), the usage of *return to learn* plans, and the confidence school psychologists have in assisting a child through their recovery from an mTBI. The results of this study aim to improve how graduate training opportunities and legislation can adapt to meet the growing demand for children recovering from an mTBI, while providing information on how mTBIs are currently being managed in the school environment. This study is being conducted as part of the primary investigator, Jessie Beshara's, doctoral dissertation, under the supervision of Dr. Marlene Sotelo-Dynega, Professor of Psychology at St. John's University.

Participants must be credentialed school psychologists working/having worked for at least one year, full-time in a public or private school setting. If you are interested in participating in this study, please take the online survey available at: School Psychologists, mTBIs, and Return to Learn Plans

It should take approximately 10-15 minutes to complete. Participation in the study is completely voluntary. You may choose to withdraw at any point without any penalty. In addition, you may skip any questions you choose. Your answers will remain anonymous; Any responses or information that you provide will remain confidential and be used for research purposes only. There are no foreseeable risks to participation in the study.

Although you will receive no direct benefits, your participation is appreciated. The information provided will shed light on the training and confidence school psychologists have on the topic of mTBIs, in addition to utilization and familiarity with *return to learn* plans post-concussion.

Thank you for your time and consideration. If you have any questions, please email me at jessie.beshara10@my.stjohns.edu

Thank you,

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Appendix B:
Facebook Group Recruitment

Name of Facebook Page	URL Link
School Psychology Social Skills Resources	https://www.facebook.com/groups/145639365603303/
Said No School Psychologist Ever	https://www.facebook.com/groups/SNSPE/
The Life and Times of a School Psychologist	https://www.facebook.com/groups/458125637612383/
Sincerely, School Psychologist	https://www.facebook.com/SincerelySchoolPsychologist/
School Psychology Tools	https://www.facebook.com/SchoolPsychologyTools/
School Psyched, Your School Psychologist	https://www.facebook.com/YourSchoolPsychologist/
Get School Psyched Up	https://www.facebook.com/groups/1628609357448643/
Thriving School Psychologist	https://www.facebook.com/ThrivingSchoolPsych
Early Childhood School Psychology	https://www.facebook.com/groups/157987471422643
School Psychologist	https://www.facebook.com/groups/176842253196623/
School Psychologists of NYC	https://www.facebook.com/groups/67717514571/
School Psychologists	https://www.facebook.com/groups/1719031775015901/
Virtual School Psychology (Telepractice)	https://www.facebook.com/groups/2248034951962790/
School Psych to School Psych	https://www.facebook.com/groups/568921983238924/
The Testing Psychologist Connections: Clinical to School Psychology	https://www.facebook.com/groups/619953325747142/

Appendix C:
Informed Consent Form

Informed Consent Form

Statement of Research Purpose:
You have been invited to take part in a research study to learn more about the training and engagement of school psychologists regarding "Return to Learn" procedures for students having suffered a mild traumatic brain injury (mTBI).

Investigator Information:
This study will be conducted by Jessie Beshara, M.A., M.S., of the School Psychology Program in the St. John's College of Liberal Arts and Sciences at St. John's University. This study is part of the primary investigator's doctoral dissertation. Her faculty sponsor is Dr. Marlene Sotelo-Dynega of the School Psychology Program in the St. John's College of Liberal Arts and Sciences at St. John's University.

Research Procedures:
By choosing to participate in this study, you will be asked to complete an online survey regarding your knowledge about mTBIs and *return to learn* procedures. You will also be asked questions regarding your graduate and post-graduate training regarding the aforementioned topics and demographic information. The survey will be available through an accessible system and should take approximately 10-20 minutes of your time to complete.

Risks:
There are no known risks associated with your participation in this research beyond those of everyday life.

Benefits:
Although you will receive no direct benefits, this research will help the investigator understand how mTBIs are managed in the school environment, how graduate programs and post-graduate training opportunities can adapt to meet the training needs of school psychologists, and how legislation can be changed to meet the growing demand for children recovering from an mTBI.

Privacy and Participation:
All information collected from this online survey will be kept confidential as no individually identifying information will be requested, only demographic information. Surveys will instead be identified through assignment of confidential numerical codes. Participation in this study is voluntary. You may refuse to participate or withdraw at any time without penalty. You also have the right to skip any questions you prefer not to answer.

Contact Information:

If there is anything about the study or your participation that is unclear, or that you do not understand, if you have questions, or if you wish to report a research-related problem you may contact Jessie Beshara at jessie.beshara10@my.stjohns.edu. You may also contact the faculty sponsor, Dr. Marlene Sotelo-Dynega at sotelodm@stjohns.edu, 718-990-1545, School Psychology Department, St. John's University, 8000 Utopia Parkway queens, NY 11439. For questions about your rights as a research participant, you may contact the University's Institutional Review Board, St. John's University, Dr. Raymond DiGiuseppe, Chair digiuser@stjohns.edu 718-990-1955 or Marie Nitopi, IRB Coordinator, nitopim@stjohns.edu 718-990-1440.

Statement of Consent:
By clicking the "Begin" button below, you are acknowledging and agreeing to the following:

- I have read the above information and understand the nature of the study.
- I am at least 18 years old.
- I understand that my participation is voluntary and that I may discontinue at any time without repercussion.
- I willingly and freely agree to participate in this study.

Prior to clicking begin, please consider saving or printing this page for your own records, as no signature is required to indicate your consent. You can save this form as a pdf by choosing file, print, and changing the print choice to "save as a pdf." You may also choose file followed by print.

By clicking "Begin" you will be directed to the first page of the survey. If you do not wish to participate in the study, you may exit this page now or at any point during your completion of the survey.

Thank you. Your consideration to participating in our study is greatly appreciated.

○ I do consent to participate in this survey based on the aforementioned description. (1)

○ I do not consent to participate in this survey based on the aforementioned description. (2)

Appendix D:
Survey

Start of Block: Block 1

Q3 What is your gender identity?

- ○ Man (1)
- ○ Woman (2)
- ○ Non-binary (3)
- ○ Prefer to self-describe (4) _____
- ○ Prefer not to say (5)

Q4 What is your racial or ethnic background?

- ☐ White (1)
- ☐ Black or African American (2)
- ☐ American Indian or Alaska Native (3)
- ☐ Asian (4)
- ☐ Native Hawaiian or Pacific Islander (5)
- ☐ Hispanic or Latino or Spanish Origin (6)
- ☐ Other (7) _____
- ☐ Prefer not to say (8)

Q5 Current status as a school psychologist (select all that apply):

- [ ] Licensed Psychologist (1)
- [ ] State Certification: Provisional (2)
- [ ] State Certification: Permanent (3)
- [ ] License-Eligible (4)
- [ ] NCSP (5)
- [ ] Other (6) _____

Q6 Current employment status:

- [ ] School psychologist in a school-based setting (1)
- [ ] School psychologist in private practice (2)
- [ ] Retired (3)
- [ ] Unemployed (4)
- [ ] Other (5) _____

Q7 Highest degree achieved:

- ○ Doctoral Degree (1)
- ○ Master's Degree (2)
- ○ Other (3) _____

Q8 What year did you obtain your highest degree?

_____

Q9 Was your program NASP accredited when you attended?

- ○ Yes (1)
- ○ No (2)
- ○ N/A (3)

Q10 How many years have you worked as a school psychologist in a school-based system? (excluding externship or internship years):

_____

Q11 When employed in a school, where did you work? Enter Zip Code:

_____
_____
_____
_____
_____

Q12 When employed in a school, what populations did you serve? (select all that apply):

- ☐ Preschool (1)
- ☐ Elementary School (2)
- ☐ Middle School (3)
- ☐ High School (4)
- ☐ Other (5) _____

End of Block: Block 1

Start of Block: Block 2

Q13 What type of training have you received on the topic of mTBI? (select all that apply):

- ☐ No training (1)
- ☐ Graduate coursework (2)
- ☐ Outside training sessions or workshops (3)
- ☐ Journal Articles/Independent Research (4)
- ☐ On the job training (5)
- ☐ Other (6) _____

Display This Question:
If Q13 = Graduate coursework

Q14 How was the topic of mTBI covered in your program? (select all that apply):

- ☐ A specific course devoted to TBI/mTBI (1)
- ☐ The topic was covered in parts of multiple courses (2)
- ☐ The topic was covered in one course (3)
- ☐ The topic was not covered at all (4)

Display This Question:
If Q14 = A specific course devoted to TBI/mTBI
Or Q14 = The topic was covered in parts of multiple courses
Or Q14 = The topic was covered in one course

Q15 What was the title of the course in which mTBI was covered?

_____
_____
_____
_____
_____

Display This Question:
If Q14 = A specific course devoted to TBI/mTBI
Or Q14 = The topic was covered in parts of multiple courses
Or Q14 = The topic was covered in one course

Q16 What is the extent to which mTBI was covered in your course?

- ☐ More than 2 class lessons (1)
- ☐ Over 1-2 class lessons (2)
- ☐ Within one class lesson (3)

Display This Question:
If Q16 = Within one class lesson

Q17 In the one lesson, how long was this topic covered for?

- ○ Less than 10 minutes (1)
- ○ 11-30 minutes (2)
- ○ 31-60 minutes (3)
- ○ 61-90 minutes (4)
- ○ More than 90 minutes (5)

Display This Question:
If Q13 = Graduate coursework

Q18 Were the courses with exposure to mTBI required or elective courses in your program?

- ○ Required (1)
- ○ Elective (2)
- ○ Both (3)
- ○ Unsure (4)
- ○ N/A (5)

Display This Question:
If Q13 = Graduate coursework

Q19 What content areas were covered by your graduate training courses? (select all that apply):

- ☐ Characteristics of mTBI (1)
- ☐ Effects of mTBI (2)
- ☐ Neuroanatomy of mTBI (3)
- ☐ Assessment of mTBI (4)
- ☐ Interventions, accommodations, and modifications for students with an mTBI (5)

Display This Question:
If Q13 = Graduate coursework

Q20 What texts or resources were utilized in your courses that pertain to mTBI?

_____
_____
_____
_____
_____

Display This Question:
If Q13 = Outside training sessions or workshops

Q21 Where did you receive your outside training or workshops?

_____
_____
_____
_____
_____

Display This Question:
If Q13 = Graduate coursework
And Q13 = Outside training sessions or workshops

Q22 I feel more confident in my training on mTBIs from the information obtained from:

- ○ My graduate coursework (1)
- ○ Outside trainings or workshops (2)
- ○ Both (3)
- ○ Neither (4)

Q23 During your training in school-based sites (practicum, externship, internship), did you have exposure to students with mTBIs?

- ○ Yes, but limited exposure ((1)
- ○ Yes (>5 students total) (2)
- ○ No experience during my training years (3)

Q24 During your time as a school psychologist in a school setting, about how many students have you assisted who were diagnosed with an mTBI?

_____
_____
_____
_____
_____

Display This Question:
If If During your time as a school psychologist in a school setting, about how many students have you a... Text Response Is Greater Than or Equal to 1

Q25 What is your approach to supporting a student with an mTBI? (select all that apply):

- ☐ Implementing informal supports (1)
- ☐ Implementing a return-to-learn plan (2)
- ☐ Implementing a return-to-play plan (3)
- ☐ Implementing a section 504 plan (4)
- ☐ Implementing special education services (5)
- ☐ Symptom Monitoring (6)
- ☐ Psychoeducational Assessment (7)
- ☐ Social-Emotional Assessment (8)
- ☐ Classroom Observation (9)
- ☐ Development of a Concussion Management Team (CMT) (10)
- ☐ Communication with other school-based staff (11)
- ☐ Communication with the student's medical team (12)
- ☐ Communication with the student's parents (13)
- ☐ Other (14) _____

Display This Question:
If If During your time as a school psychologist in a school setting, about how many students have you a... Text Response Is Greater Than or Equal to 1

Q26 What, if any, accommodations or modifications do you provide to students with a mTBI?

_____
_____

End of Block: Block 2

Start of Block: Block

Q27 For each of the following, how qualified do you feel to conduct each activity? Not At All Qualified to Highly Qualified

	Not At All Qualified (1)	Somewhat Unqualified (3)	Neither Qualified nor Unqualified (4)	Somewhat Qualified (5)	Highly Qualified (6)
Be a part of a multidisciplinary team serving a student with a mTBI (1)	○	○	○	○	○
Provide educators with information about mTBI (3)	○	○	○	○	○
Provide students with information about mTBI (4)	○	○	○	○	○
Serve as a Concussion Management Team (CMT) leader for a student with a mTBI (2)	○	○	○	○	○
Provide assessment services for students who display signs of a mTBI (5)	○	○	○	○	○

Provide appropriate school-based interventions for students with a mTBI (6)	○	○	○	○	○
Provide accommodations or modifications for students with a mTBI (7)	○	○	○	○	○
Differentiate between students with a mTBI and students with other types of disabilities (8)	○	○	○	○	○
Monitor classroom behavior and academic progress for students with a mTBI (9)	○	○	○	○	○

Q28 To what extent do you agree with the following statements:
Strong Disagree to Strongly Agree

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
I feel confident in the amount of training I received regarding mTBI (1)	○	○	○	○	○
I require additional training on the topic of mTBI to successfully serve the population (2)	○	○	○	○	○
I would be interested in additional training on the topic of mTBI (3)	○	○	○	○	○
My students and myself would be better serviced if I, as the school psychologist was mandated to attend biennial concussion seminars as other school-based members are required to do (4)	○	○	○	○	○

Q29 Does your school district/current employer mandate mTBI specific professional development seminars? (select all that apply):

- ☐ Yes, but not for school psychologists (1)
- ☐ Yes, for any school-based team member (2)
- ☐ Yes, school psychologists are mandated to attend (3)
- ☐ No (4)
- ☐ Other (5) _____

Q30 Does your school-district currently have an active concussion management plan?

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)
- ○ N/A (4)
- ○ Other (5) _____

Display This Question:
If Q30 = Yes
Or Q30 = Other

Q31 Does your school's concussion management plan address ***return-to-learn*** procedures?

- ○ Yes, but limited in nature (1)
- ○ Yes (2)
- ○ No (3)
- ○ Unsure (4)
- ○ Other (5) _____

Q32 Are you aware of the CDC's *Heads Up* Program? (select all that apply):

- ☐ Yes, I have heard of the program (1)
- ☐ Yes, I utilize their resources (2)
- ☐ Yes, I have taken their trainings (3)
- ☐ No, I am unfamiliar with the program (4)
- ☐ Other (5) _____

Q33 Are you aware of the CDC's *Guideline on the Diagnosis and Management of Mild Traumatic Brain Injury Among Children?*

- ○ Yes, I have heard of the guideline (1)
- ○ Yes, I have read and implemented recommendations from the guideline (2)
- ○ No, I am unfamiliar with the guideline (3)
- ○ Other (4) _____

Q34 Are you familiar with return-to-learn procedures in response to a student returning to school after an mTBI?

- ○ Yes, I am familiar with return-to-learn procedures (1)
- ○ Yes, I implement return-to-learn plans whenever faced with a child with a mTBI (2)
- ○ No, I am unfamiliar with return-to-learn procedures (3)
- ○ Other (4) _____

Q35 What barriers do you feel there are to concussion/mTBI management in the school system?

_____
_____
_____
_____
_____

End of Block: Block 3

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