Early-career Elementary Teachers' Perceptions of Self-efficacy in Teaching School-aged Children with ADHD

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ABSTRACT

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Teaching is a stressful and demanding profession, and teachers have reported above-average rates of burnout compared to other professions. One stressor is teaching and managing the behavior challenges of students, including students with ADHD. Early-career teachers are often critical and, at times, inaccurate in their perceived capabilities, which can negatively affect them and lead to lower job satisfaction and burnout. An online workshop for early-career elementary school teachers (n = 5) was implemented to teach them about ADHD, help them reflect on their perceptions of ADHD, as well as provide them with effective teaching strategies. After the workshop, the teachers completed a reflective workbook which addressed the four sources of information processing pertaining to self-efficacy when teaching and managing students with ADHD (Bandura, 1997). The workbook's goal was to increase their TSE in teaching and managing students with ADHD. An exploratory mixed method design was used. Data was gathered from the participating teachers using demographic surveys, semi-structured interviews, the *KADDS*, the *TSES*, and from their reflective responses in the workbooks. The quantitative survey data triangulated the qualitative data and showed a consistent increase in participants' scores on the scales at post-intervention. Qualitative findings indicated that all the participants had an increased understanding of ADHD, their perceptions of students with ADHD became more positive, and they reported that they applied more teaching strategies as a result of the workshop. Moreover, the participants described feeling more confident in their abilities post-intervention. This research has implications for designing professional development workshops for teachers.

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Introduction

Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by difficulty paying attention and excessive activity (Centers for Disease Control and Prevention, 2021). Children receive a formal diagnosis of ADHD when they exhibit six or more symptoms related to inattention (e.g., having trouble holding attention on tasks, failing to finish schoolwork, and often avoiding tasks), as well as six or more symptoms of hyperactivity-impulsivity, which include leaving their seat frequently, having trouble staying quiet during leisure activities, and being often described as 'on the go' (American Psychiatric Association, 2013). These symptoms must display for at least six months before being diagnosed with ADHD. Three subtypes of ADHD are recognized: inattentive-ADHD, hyperactive-ADHD, and combined-ADHD (Chhabildas et al., 2001). These subtypes are diagnosed if a child exhibits more than six symptoms of either inattention or hyperactivity-impulsivity.

ADHD is one of the most common disorders in childhood with a prevalence rate of 5% in school-aged children in Canada (Statistics Canada, 2015). ADHD has been shown to be comorbid with conduct and mood disorders, and is also associated with poor school performance, and difficulties with relationships (Centers for Disease Control and Prevention, 2021; Statistics Canada, 2015). The comorbidity rate between ADHD and learning disabilities, such as writing, reading, and math disabilities, is 45.1% (DuPaul et al., 2012), and these comorbidities can present additional challenges. Many learning disabilities make a student eligible to receive special education services; however, ADHD, without the diagnosis of a comorbidity, does not make a student eligible for additional services (DuPaul et al., 2012). While students with ADHD would benefit from additional services, they are not entitled to it and are placed in general education classrooms. With that said, there is a significant gap between the achievement of students with and without ADHD. Notably, ADHD has been shown to cause difficulties within and outside of the classroom for both the student with ADHD themselves and for their teachers.

Teaching is a very stressful and demanding occupation, and teachers have reported above-average rates of burnout compared to other professions (Aloe et al., 2014). One stressor is teaching and managing students with different challenges, such as inattention and hyperactivity. There are several aspects that contribute to the stress that teachers experience when teaching and managing students with ADHD. For example, teachers experience less co-operation, less emotional closeness, and more conflicts with students with ADHD compared to students without ADHD (Ewe, 2019). It has been shown that elementary school teachers rate teaching students with ADHD as significantly more stressful to teach compared to teaching students without ADHD (Greene et al., 2002). In turn, teachers reject students with ADHD which poses risks (i.e., academic failure, rejection, and peer exclusion) to these students (Ewe, 2019). These risks can lead to loneliness and low self-esteem for these students. Therefore, it is important to support teachers in order to prevent negative outcomes for the teachers and their students with ADHD.

Hence, an intervention for teachers, with the focus on knowledge of ADHD, teacher self-efficacy (TSE), and classroom strategies, can provide teachers with the knowledge and confidence to teach and manage students with ADHD or behaviors of ADHD. The following literature review will discuss the theoretical foundation the current study was built upon. Also, it will describe the difficulties students with ADHD and teachers face. Most importantly, it will review the research literature on the relationship between teachers' knowledge of ADHD and their TSE.

Literature Review

Theoretical Framework

Bandura's Social Cognitive Theory and Self-efficacy

Albert Bandura's (1986) Social Cognitive Theory suggests that learning occurs within a social context in which there are interactions between environmental, personal, and behavioral factors. The influence of others and social norms are types of environmental factors, whereas expectations, attitudes, and knowledge are examples of personal factors. Lastly, behavioral factors consist of practice, skills, and most importantly, self-efficacy. Each factor is affected by the other two. Specifically, self-efficacy beliefs are informed by attitude and knowledge. In turn, one's beliefs regarding their self-efficacy affect their behavior.

Self-efficacy is defined by Bandura (1997) as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). A person's choices, behaviors, and thoughts regarding their effort, goals, motivation, and persistence are affected by one's beliefs regarding their self-efficacy. Self-efficacy is task-specific, and there are four sources of information that impact one's expectations of their self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states.

The first source of information is one's own mastery experiences. If a person has successful experiences with a given situation, their mastery expectations rise for similar situations. Through repeated success, strong efficacy expectations are developed and the occasional failure has a lesser impact on one's self-efficacy. Performance accomplishments allow one to understand that through sustained effort, they are able to master a task. Therefore, when encountering a task, a person will assess how well they have handled a similar task in the past, which helps determine how much effort a person will put into accomplishing the task at-hand.

The second source of information is vicarious experience, which is the experience of seeing others perform a task. Through the process of observing a person successfully accomplish a task, the observer can begin to believe they can do it too or, at least, improve in their abilities to do the task at-hand (Bandura & Barab, 1973). Notably, a person's self-efficacy will be more impacted by vicarious experiences if the person they observe is similar to themselves (i.e., a teacher observing a teacher).

The third source of information is verbal persuasion. Through verbal suggestion, especially by a trusted person and combined with another source of self-efficacy information (Palmer, 2011), people can be led to believe they have the ability to successfully cope with a challenging task (Bandura, 1977). The opposite is also true; negative verbal persuasion can cause doubt in one's abilities. However, verbal persuasions are not as effective in inducing efficacy expectations as performance accomplishments.

The fourth source of information is one's physiological and affective state. In stressful situations, emotional arousals occur which have informative value regarding a person's own competency and ability in dealing with a challenge (Bandura, 1997). People judge their own anxiety and vulnerability to stress based on their emotional and physiological arousals. For example, people expect failure if they are agitated or stressed. In turn, a person will engage in avoidance behavior and their self-efficacy will diminish. Therefore, the way in which a person interprets their emotional and physiological states influencing one's self-efficacy.

Teacher Self-efficacy

Similar to the original theory of self-efficacy, TSE is also a construct that is situation-specific; research has shown that the task a teacher is performing is relevant and important in determining the teacher's self-efficacy beliefs (Bandura, 1977; Labone, 2004; Tshannen-Moran

et al., 1998). The four sources of information for self-efficacy expectations previously described are pertinent to TSE (Tschannen-Moran et al., 1998). Mastery teaching experiences allow a teacher to judge and perceive their own strengths and weaknesses as a teacher. In this case, vicarious experiences are experiences of other teachers that a teacher observes. These observations give teachers opportunities to learn from others. Also, verbal persuasion, such as formal and informal performance feedback, can influence a teacher's perceived competence. Lastly, physiological and affective states (e.g., nervousness, excitement, stress) experienced during teaching have the ability to affect a teacher's perceived capabilities (Tschannen-Moran et al., 1998). The four sources of information are internal influences of TSE; however, there are also external influences.

External influences include the constraints and resources present for teachers, such as their knowledge, training, preparation, and teaching experience. A particular external influence of interest for this project is teacher experience. Several researchers have explained that TSE differs between experienced and novice teachers (Hoy & Spero, 2005; Pas et al., 2012; Tschannen-Moran et al., 1998). Teachers do not have repeated mastery experiences at the beginning of their career, whereas experienced teachers do. Therefore, novice teachers rely on social persuasion, their interpretation of physiological states, and vicarious experiences to inform their TSE. With that, novice teachers are often inaccurate in their perceived capabilities (Dassa & Nichols, 2019).

Tschannen-Moran et al. (1998) explain that the TSE levels of first-year teachers are related to their commitment to teaching, satisfaction with support, and stress. Novice teachers with higher levels of TSE showed greater satisfaction in teaching. They also had less stress and more positive reactions to teaching. The novice teachers with greater TSE rated the adequacy of support higher than new teachers who had a less optimistic outlook on their competence. The efficacious novice teachers rated the difficult of teaching lower and the quality of their preparation higher compared to those with lower levels of efficacy. Notably, novice teachers with high self-efficacy have shown to indicate greater optimism that they would continue teaching and remain in the field (Chesnut & Burley, 2015). At the beginning of a teacher's career, another factor that they can find challenging is the students' behavior in the classroom environment, which explains the importance of high TSE at the beginning on one's teaching career.

Attention-Deficit/Hyperactivity Disorder

Classroom Context

ADHD has been shown to affect a student within the classroom setting in two ways: academically and behaviorally. Firstly, their educational attainment is negatively impacted as a result of their disorder (Classi et al., 2012; Kuriyan et al., 2013). The academic outcomes of students with ADHD are poorer than their typically developing peers, as well as when compared to their peers with other neurodevelopmental disorders (Arnold et al., 2020; Mayes et al., 2020). Students with ADHD often have academic impairments (Frazier et al., 2007); they exhibit lower scores on standardized tests, worse academic performance, lower rates of task and homework completion, and trouble with time management.

Their school functioning is also affected by their behavioral challenges. Children with ADHD express greater off-task behaviors, non-compliance, and inappropriate behaviors within classroom settings (Junod et al., 2006; Tamm et al., 2021). Several studies have shown that students with ADHD are significantly more likely to be retained, expelled, suspended, or dropout of school compared to typically developing students (LeFever et al., 2002; Volpe et al., 2009). These challenges were exacerbated, and new challenges arose, as a result of the coronavirus (COVID-19) pandemic for students with ADHD.

Pandemic Context

Throughout the pandemic, children with ADHD struggled through several aspects of their personal and academic lives. It has also been shown that the lifestyle changes during the pandemic, which included less sleep, unhealthy eating, little exercise, and elevated screen time, resulted in greater levels of hyperactivity, impulsivity, oppositional-defiant symptoms, and higher inattention (Swansburg et al., 2021). Studies have shown that for children and adolescents with ADHD, media use and sleep quality predict ADHD symptomatology (Thoma et al., 2020). This explains the increase of ADHD symptoms as there was a significant increase in media use and a significant decrease in sleep quality during the pandemic (Sciberras et al., 2022). Specifically, Masi et al. (2021) and Shah et al. (2021) found that the pandemic caused a worsening of symptoms for certain disorders, such as ADHD, for which conduct problems increased. In He et al.'s (2021) study, over 47.5% of parents reported that their child's attention worsened during the months of online learning. The symptoms that worsened included hyperactivity, behavioral problems, impaired executive functioning, oppositional defiant symptoms, emotional problems, and lower motivation for learning.

Several studies examining the mental health of children and adolescents with ADHD during the pandemic have shown that they suffered tremendous impacts to their mental health compared to those without ADHD (Dvorsky et al., 2021; Swansburg et al., 2021). Their lifestyle during the pandemic caused a rise in depression and anxiety. Specifically, 17% of children with ADHD in Swansburg et al.'s (2021) study had severe depression symptoms and 14% had severe anxiety symptoms. In general, the moods of children with ADHD became significantly sadder and more depressed (Sciberras et al., 2022). One study found that children with ADHD exhibited severe emotional problems and executive functioning impairments (He et al., 2021). These symptoms were expressed physically through emotional outbursts, and oppositional and defiant attitudes (Bobo et al., 2020). Lastly, it was shown that parents perceived their children with a Neurodevelopmental Disorder (NDD) as more anxious, compared to parents of children without an NDD (Termine et al., 2021).

That being said, students with ADHD, as well as their families, have faced adversities in the past few of years. Considering the worsening on symptomology that has been observed throughout the pandemic, it is important to help teachers moving forward in their teaching and managing skills with students with ADHD due to potential long-term effects.

Teachers

Pandemic Context

Teachers were essential frontline workers during the pandemic. Before the COVID-19 pandemic, teaching was already a very stressful profession as teachers have above-average rates of burnout compared to other professions (Kyriacou, 2015). For the past three years, teachers have adopted novel roles and responsibilities, while adapting to new challenges. As such, the pandemic has created an opportunity to examine teaching in a different light. Several studies have shown that elementary school teachers reported being emotionally exhausted, and having a strong decline in their mental health during the stay-at-home orders, which led to many more burnouts (Chan et al., 2021; Pressley, 2021).

While the teachers faced disruptions to their work life, they also faced personal difficulties. Pressley (2021) conducted one of the first empirical studies exploring teacher burnouts and anxiety during the COVID-19 pandemic. Surveys completed by 359 elementary and high school teachers in October 2020 included the COVID Anxiety Scale, and two teacher burnout subscales. The findings revealed four predictors of teacher burnout: COVID anxiety,

teacher anxiety, anxiety while communicating with parents, and lack of administrative support. Given these results, Pressley (2021) explained how it is important to monitor teachers and support them as they are facing adversities, such as above average levels of stress due to novel instructional requirements (e.g., hybrid teaching), overall effects of the pandemic, and its effects on teaching practices. This was explored further and it was found that teachers' overall stress levels were positively correlated with their anxiety toward the pandemic, the environment of online teaching, and the communication within the school (Pressley et al., 2021). Overall, the rapid changing of teaching environments, which occurred several times for teachers in Quebec during the pandemic was linked to high-stress levels for teachers.

Additionally, Chan et al. (2021) recognized that teachers have faced many difficulties during the pandemic; they explored teachers' well-being and which types of support teachers needed. Elementary school teachers were asked to describe their experience teaching during the original shutdown in spring of 2020. The quantitative analysis revealed a pattern of high stress, job ambiguity, and emotional exhaustion felt by the teachers. It was also shown that teachers expressed wanting resources related to the development of competence for distance learning, and they would feel supported through flexibility and workplace emotional support. That being said, it is crucial to support teachers through uncertain and stress-inducing times. Resources should be available to strengthen autonomy, TSE, and emotional support for teachers.

Teaching and ADHD

Teachers' Perceptions and Knowledge of ADHD

To a large extent, teachers play a critical role in a student's ability to adjust to a classroom setting and succeed in their studies. A teacher is often involved in the process of implementing an intervention in their classroom; therefore, their beliefs, knowledge, and attitudes towards the practices are important (DuPaul & Stoner, 2014; Langley et al., 2010; Sugai & Horner, 2020). A teacher is more willing to use an intervention in their classroom for a student with ADHD if they feel knowledgeable, perceive it to be useful, and when their beliefs about students with ADHD are more positive (Blotnicky-Gallant et al., 2015; Bussing et al., 2002). With that said, some teachers easily accept and implement behavioral interventions in their classrooms (Chafouleas et al., 2006); however, others have a harder time and are not as welcoming and open to these new practices (Blotnicky-Gallant et al., 2015; Weyandt et al., 2009). Flower et al. (2017) and Poznanski et al. (2018) note that approximately only half of teachers receive training in classroom behavior management strategies during their undergraduate studies, which may explain their unwillingness to trust and adapt strategies in their classrooms.

Teachers often describe feeling unprepared to manage challenges within their classrooms, which is one of the main motives for teacher attrition. Poznanski and colleagues (2018) questioned to what extent pre-service teachers know about classroom management strategies, as well as ADHD. Their results revealed that, for pre-service teachers, there are large gaps in their knowledge of classroom management strategies and ADHD. Next, Vereb and DiPerna (2004) conducted a study where they explored how an ADHD training can affect teachers' knowledge of ADHD and their acceptability of the supports available to those with ADHD. The training increased the teachers' knowledge of ADHD, as well as the acceptability of behavior management strategies. Therefore, it can be noted that the access to information on ADHD allows a teacher to be more open and accepting to alternative ways of support for students with ADHD.

Also, Chunta and DuPaul (2022) explored the influence in a teacher's decision in implementing combined behavioral and academic interventions between students with ADHD

and students with learning disabilities. Data from a sample of general educational elementary school teachers revealed that teachers are significantly more likely to recommend academic interventions for children with specific learning disabilities compared to children with ADHD. This pattern was also seen when both children showed identical needs. This shows that teachers do not perceive or evaluate the two diagnoses in the same light. This is a disadvantage to students with ADHD, as their needs, which are substantial, are often overlooked by their teachers.

Another important aspect of a child's educational experience is the relationship they have with their teacher. Zendarski et al. (2020) explored the differences in student-teacher relations between students with and without ADHD. Overall, they found that the children's prosocial behavior, as well as the teachers' years of experience, were positively correlated with the quality of the student-teacher relationships, regardless of the fact if the child had ADHD or not. This is important as many children with ADHD have difficulties with prosocial behavior, which may impact a child with ADHD more often than one without ADHD. Specifically, for children with ADHD, frequency of conduct problems negatively affected their student-teacher relationship quality.

A study conducted by Guerra and Brown (2012) examined middle school teachers' knowledge of ADHD. They explored their knowledge in three specific areas of ADHD: general knowledge, knowledge of symptoms and diagnosis of ADHD, and knowledge of treatments for ADHD. The *Knowledge of Attention Deficit Disorders Scale* (*KADDS*), which was completed by teachers, revealed that teachers are most knowledgeable in the area of symptoms and diagnosis of ADHD. Sciutto and colleagues (2000b) also explored teachers' knowledge of ADHD, and also investigated their misperception of ADHD. They explored three specific areas: symptoms and diagnosis, general information, and treatment. The data derived from the *KADDS* revealed that teachers knew significantly more regarding the symptoms and diagnosis of ADHD compared to the general information and treatment of ADHD. Teaching experience and experience specifically with children with ADHD were positively related to knowledge of ADHD. Lastly, TSE was also explored in relation to a teacher's knowledge of ADHD, which will be discussed next.

Teacher Self-efficacy

TSE influences many parts of an educational environment. A teacher's beliefs regarding their self-efficacy may impact their relationship with students, their ability to teach, their perceptions of themselves, their commitment to their job, as well as their job satisfaction (Caprara et al., 2006). Also, TSE is associated with student motivation and achievement.

Effect on Teachers

Teachers experience professional and personal benefits when they have high self-efficacy. Classroom management is a critical responsibility for teachers. Classroom management is necessary in running an effective classroom where a teacher successfully delivers lessons, enhances student achievement, and allows positive interactions. However, it is also an aspect of teaching that teachers often feel unprepared for (Brophy, 1988; O'Neill & Stephenson, 2011). Feelings of unpreparedness can negatively impact one's self-efficacy beliefs (Melnick & Meister, 2008). A teacher's belief regarding their classroom management skills is important as teachers with low TSE regarding their classroom management are less likely to approach and handle a situation (e.g., misbehavior) in their classroom appropriately (O'Neill & Stephenson, 2011). On the other hand, Dicke et al. (2014) expressed that teachers with high TSE for classroom management are inclined to implement effective behavior management methods in their classrooms, and, consequently, their students disrupt less.

More specifically, teachers with a strong sense of TSE are more organized and plan more (Allinder, 1994). Importantly, teachers with higher TSE also take greater responsibility for their students with special learning needs. They are more open and willing to implement new methods and ideas into their classrooms in order to meet the needs of their students (Stein & Wang, 1988). High TSE also allows a teacher to manage classroom problems more effectively, as well as maintain their students' attention and help keep them on task (Chacon, 2005). High TSE also encourages a teacher to work longer with a student who is experiencing difficulties (Gibson & Dembo, 1984). These aspects are important when teaching children with academic and behavioral difficulties, such as ADHD.

On the contrary, Ashton and Webb (1986) found that teachers with lower levels of TSE are more custodial in terms of their classroom management. They also react negatively to misbehavior; for example, they feel easily angered and threatened. Lastly, they revealed that teachers with low efficacy levels have difficulty maintaining their students on task. Aloe and colleagues (2014) also explored the outcomes of TSE and found that teachers with lower TSE were more likely to lack feelings of personal accomplishment and were more likely to feel exhausted. These outcomes can lead to lower job satisfaction, and eventually burnout. While TSE directly affects teachers, it also indirectly affects students.

Effect on Students

There has been extensive research done on the effects of a teacher's self-efficacy on their students. To begin, student achievement has been proven to be positively related to TSE (Almog & Shechtman, 2007; Chacon, 2005; Chaplain, 2008; Guo et al., 2010; Ross, 1992). There are many aspects, such as motivation, that contribute to a student's achievement, and it has been shown by researchers, such as Roeser et al. (1993), that TSE is positively associated to students' motivation. Also, Ross et al. (2001) found that TSE promotes students' own sense of efficacy, as well as helps improve the efforts of students in facing difficulties at school.

In terms of academic achievement, students with teachers with high levels of TSE outperform students with teachers with low levels of TSE (Tournaki & Podell, 2005; Wolters & Daugherty, 2007). TSE influences a teacher's passion, instructional practices, teaching behavior, and commitment, which in turns affects their students' academic achievements. Mojavezi and Tamiz's (2012) study found that there is a significant difference in grades between students with teachers with high TSE and low TSE. Students with teachers with higher levels of TSE had higher grades than those being taught by teachers with lower TSE.

With that said, it is important to note that TSE is a mediator of student achievement as it influences teachers' behaviors and ability to adapt in their classroom (Bruce et al., 2010). Specifically, Bruce et al. (2010) explain that high TSE promotes the perseverance towards reaching learning goals for students. As explained, teachers with high TSE are more persistent, which in turn affects their students' academic achievement. All in all, the influence of high TSE on teachers positively affects students as well.

Factors that Impact TSE

There are several factors that have been shown to affect TSE. Firstly, TSE is highly influenced by the stage of career a teacher is in. Bandura (1986) noted that the most critical time for the development of TSE is during the first few years of teaching. Tschannen-Moran and Hoy (2007) describe that self-efficacy is most malleable and influenced during the early stages of one's career since TSE because more established as a person gains experience. Also, Fives (2003) has shown that a teacher's level of education is linked to their TSE. Higher levels of TSE are shown in teachers with higher levels of education (i.e., Master's degree). Similarly, additional

professional development has the capacity to increase a teacher's knowledge about their abilities which influences their outlook on their own capabilities (Swackhamer et al., 2009). This influences their TSE beliefs. While it is critical to have the appropriate skills to teach students, content knowledge is also necessary. It has been shown that demonstrating different types of teaching methods that are appropriate for diverse groups of students, such as students with ADHD, and simply increasing a teacher's knowledge have the ability to increase the levels of efficacy (Swackhamer et al., 2009). For example, Palmer (2011) conducted a study on pre-service teachers' self-efficacy and found that their TSE was positively impacted by content courses.

Professional learning opportunities that stimulate teacher learning and development have a positive impact on TSE (Tschannen-Moran & McMaster, 2009). Importantly, an efficacious professional development opportunity includes the four sources of efficacy information (Bandura, 1977; Palmer, 2011; Tschannen-Moran & McMaster, 2009). To begin, mastery experiences happen when a teacher practices and successfully performs a skill or task; this can be done during a professional development course by reflecting on past experiences or practicing with a made-up scenario. Next, vicarious experiences happen when a teacher can relate to and identify with the individual presenting the professional development course. As explained by Bandura (1977), verbal encouragement is also critical; therefore, this can also have a positive effect on TSE. In terms of physiological arousal, this is improved for a teacher if they feel supported, as well as when a teacher believes in their own abilities. With this, they feel less anxious about the situation they are in, which in turn promotes their TSE.

TSE and Knowledge of ADHD

In general, the combined presence of TSE and knowledge leads to effective teaching (Raudenbush et al., 1992). Within the context of teaching students with ADHD, teachers are better equipped when they have high levels of knowledge of ADHD compared to those with lower levels. They can support students with ADHD more effectively (Alkahtani, 2013; Bradshaw & Kamal, 2013; Ohan et al., 2008). TSE also plays a role, as teachers with lower levels of TSE are less likely to implement additional supports for student with ADHD compared to teachers with higher levels of TSE (Guskey, 1988; Stein & Wang, 1988). With that said, both higher levels of TSE and higher knowledge of ADHD are critical when teaching and managing students with ADHD. Therefore, it is important to understand how the two interact.

TSE in teaching and managing students with ADHD is a recent phenomenon that deserves further exploration. There is a paucity of research regarding interventions that increase knowledge of ADHD and its subsequent effect on TSE. However, some studies have shown a link between the two. One of the earliest works on this topic was conducted by Sciutto and colleagues (2000b) and they found that TSE was positively correlated with a teacher's knowledge of ADHD. However, their self-efficacy was measured using a simple Likert scale and not a standardized TSE scale. Legato (2011) also found similar findings to Sciutto et al. (2000b) from a sample of elementary school teachers. TSE and knowledge of ADHD were found to be positively correlated; as knowledge of ADHD increased so did their TSE beliefs. These findings suggest that increasing teachers' knowledge of ADHD helps them feel more competent in managing and teaching children with ADHD, makes them better equipped to identify children with ADHD, and provides them with the belief that they are effective in managing and teaching these children, regardless of the challenges they face (Legato, 2011). Also, it was explained that this relationship works the other way around as well since teachers with high TSE are more likely to seek out additionally knowledge of ADHD, with the goal of helping their students more effectively.

While it has been shown that teachers with prior training on ADHD have greater self-efficacy in responding to and identifying the needs of students with ADHD (Reid et al., 1994), it was undetermined how an intervention on evidence-based interventions for ADHD can influence TSE, until a study was conducted by Latouche and Gascoigne (2019). The goal of their quantitative study was to assess the effectiveness of a short in-service training workshop in increasing elementary school teachers' knowledge of ADHD and TSE. Two-hundred and seventy-four teachers participated in the study where half participated in an intervention, and their TSE and knowledge of ADHD were assessed. The intervention yielded positive results. The teachers who participated in the intervention had a significant increase in TSE and knowledge of ADHD. This pattern was apparent a month later as well, which meant their knowledge and self-efficacy remained higher than their baseline rates. These results show that a brief professional development intervention can increase elementary school teachers' self-efficacy and knowledge of ADHD. This was the first study to find a direct correlation between the increase of knowledge of ADHD and the subsequent increase of TSE. Notably, the effects of the TSE increase were quite small, and there was no qualitative component included in the study.

Vlah and colleagues (2021) explored the self-efficacy of teachers in terms of teaching students with symptoms of ADHD. It was shown that the characteristics of the student predicts a teachers' self-efficacy scores. Specifically, better academic achievement, lower school grade, and more time spent with the teacher predicted higher TSE. The researchers explored TSE in terms of specific tasks, such as instructional strategies. Higher levels of impulsivity-hyperactivity significantly predicted lower levels of TSE for instructional strategies. It was also shown that for teachers who believed they were knowledgeable had higher rates of self-efficacy in terms of instructional strategies. In terms of classroom management, an important finding was that symptoms of hyperactivity-impulsivity were a significant predictor for TSE; these symptoms predicted lower TSE for classroom management. However, more time spent with the teacher predicted higher TSE for classroom management.

Teacher-Based Interventions

Improving knowledge of ADHD. Teachers' knowledge of ADHD has been studied extensively by several researchers. To begin, Jones and Chronis-Tuscano (2008) were the first to conduct a randomized control study that examined the impact of a brief in-service training for teachers on ADHD. The training was prepared and presented, using PowerPoint, by a clinical psychology doctoral student. A general description and overview of ADHD was included, as well as classroom behavioral management techniques and evidence-based treatments for ADHD. Teachers were also given daily report cards and handouts on ADHD. The presentation was interactive. The teachers were encouraged to share personal experiences of teaching and managing students with ADHD. Importantly, the treatment had fidelity and integrity checks to ensure the entire intervention was being presented properly and as planned. Also, a manipulation check was completed to ensure they were actively participating/listening. The length of the intervention was omitted. The ADHD knowledge was measured using a 25-item true/false measure constructed by the authors based on a review of the literature on ADHD. With that said, the intervention was successful as they found a small increase in teacher knowledge of ADHD.

Next, Syed and Hussein (2009) conducted a similar study where they explored and evaluated the development of an ADHD training program for teachers. Notably, the intervention was structured differently compared to Jones and Chronis-Tuscano's (2008). Their sample participated in a workshop that was five sessions long for two hours each, and three facilitators conducted the intervention. They created a program and the teachers' knowledge on the signs and

symptoms of ADHD were tested before and after the implementation of the intervention, then again six months later. The intervention used an interactive approach as it included handouts, printed material, and videos. A general description of ADHD, and its diagnoses, comorbidities, and medications related to the deficit were taught during the first two days, as well as topics covering normal developments and psychoeducational issues that arise during childhood. The remaining three days focused on teaching the participants the measuring tools related to ADHD. Also, several behavior techniques were worked on by working on case scenarios. Lastly, they addressed real-life situations in groups, and a clinical psychologist taught classroom management skills to the group. Additionally, the teachers were given handouts. The intervention was successful as there was a statistically significant increase in the improvement of knowledge of teachers' ADHD knowledge. These results remained significant after six months.

Next, Aguiar et al.'s (2014) took a different approach to their workshop on ADHD and learning disorders (LD). Their training workshop was held on one day for a total of six hours. The intervention included a mixture of lectures on LD and ADHD, presentations of clinical vignettes, and a group discussion. Three professionals conducted the program. The comparisons of the results from the pre- and post-questionnaires on knowledge of ADHD showed that the intervention was successful and increased the knowledge of ADHD of their sample of teachers. This workshop is the most practical and efficient of the ones discussed as it was implemented on one day, and for this reason, the proposed project's workshop's structure reflected Aguiar et al.'s (2014) intervention.

Another intervention that inspired this project's proposed workshop is one by Latouche and Gascoigne (2019). While their study was previously discussed above, it is critical to describe their intervention. Their single-session training workshop was brief as it ran for only 2 hours and 15 minutes. The workshop was presented via PowerPoint and it was divided into two halves. The first half focused on the etiology of ADHD, executive and neuropsychological functioning impairments, symptoms, assessments, and diagnosis of ADHD, course and consequences, cultural conceptualizations, and treatments. The second half presented the topic of classroom management strategies; they used Barkley's (2008) *Classroom Accommodations for Children with ADHD* to help them create this section. They also presented instructions on communicating with health professionals, talking to parents, and making referrals. At the end of the workshop, the participants were given additional sources (e.g., links to videos, websites), which was also included in the current study's workshop. The intervention was successful in increasing knowledge of ADHD in primary school teachers, as shown by the significant increases in their scores on the *KADDS*.

Improving self-efficacy. There is a paucity of research which includes an intervention intended to improve self-efficacy. To our knowledge, there have been no studies which have applied an intervention/workshop for teachers that directly target their TSE. Therefore, it is necessary to explore other research fields in order to gain inspiration to create a workbook with the goal of increasing TSE. Nichols et al. (2009) conducted a study that aimed to increase the breast-feeding self-efficacy of mothers. Notably, their research interest was task-specific; they were not interested in improving the general self-efficacy of mothers. This reflects the goal of the current study; the aim was to improve the self-efficacy of a task-specific aspect of a teacher's career, not their general TSE.

Nichols et al. (2009) created a successful intervention, in the form of an interactive workbook based on Bandura's (1997) self-efficacy theory within the context of breastfeeding. The workbook was divided into sections which reflected the sources of self-efficacy information. The first section offered a description of the workbook's rational and objectives. The second

section, which reflected the source of information of mastery experiences encouraged participants to reflect on their feelings and thoughts regarding previous accomplishments and the participants were prompted to identify skills that are involved in breastfeeding. The third section, which reflected vicarious experiences, included testimonials from mothers who have successfully breastfed. The fourth section, which reflected verbal persuasion, invited mothers to write encouraging statements. Then, they were instructed to use the statements to ask for support. The fifth section, which reflected physiological responses, explained and showed, with written and visual examples, how negative physiological responses has the ability to negatively affect breastfeeding. Also, this section offered skills (e.g., self-talk) that can help a person regain control and alter their perceptions in a positive way. The last section concluded the intervention by presenting aspects of motivation that relate to the sources of self-efficacy and breastfeeding. Overall, the researchers ensured to make the workbook solution-oriented as that would in turn increase the probability of positive cognitive appraisal (Bandura, 1997). This study also included a control condition workbook which focused on parenting issues and omitted breastfeeding.

Finally, the women who participated in the intervention displayed significant increases in breastfeeding self-efficacy compared to the women in the control group. Consequently, the mothers in the intervention group breastfed their babies for longer and they breastfed more exclusively compared to the mothers in the control group. Simply, greater increases in breastfeeding self-efficacy were related to significantly higher levels of breastfeeding. The researchers explained that this suggests that self-efficacy-based interventions, such as a self-reflective workbook, have potential and should be explored in other domains, such as TSE.

The Present Study

While several studies have shown the importance of both knowledge of ADHD and TSE, this research topic is still in its infancy. To date, no study has included a qualitative analysis to understand teachers' perspectives of TSE, nor have they tested the efficacy of a workbook (i.e., self-reflection) designed to increase TSE. Thus, this study aimed to introduce a novel methodological approach within the realm of research. The goal of this qualitative study was to examine and describe the experiences of early-career elementary school teachers' TSE beliefs based on Bandura's (1977) four psychological sources of information, as well as to examine and describe their knowledge of ADHD. This study also aimed to explore how teachers perceived and responded to a workbook that allowed them to express their self-efficacy beliefs when teaching students with ADHD. Using a pre- and post- research design, this study aimed to answer the following questions:

1) How do early-career elementary school teachers describe their knowledge and understanding of ADHD before and after attending a workshop on ADHD?
2) How do early-career elementary school teachers perceive the special needs of students with ADHD before and after attending a workshop on ADHD?
3) How do early-career elementary school teachers support students with ADHD before and after attending a workshop on ADHD and completing a reflective workbook?
4) How do early-career elementary school teachers describe their self-efficacy in teaching and managing the behavior of students with ADHD before and after attending a workshop on ADHD and completing a reflective workbook?

Methodology

Recruitment and Sample

Upon obtaining ethical approval from Concordia University, participants were recruited from the Greater Montreal Area using two methods of purposeful sampling. Firstly, participants were recruited using posters distributed on social media (e.g., Facebook, Instagram, and LinkedIn) (Appendix A). Secondly, recruitment was conducted through word of mouth. The latter proved to be the more successful recruitment approach. Interested participants contacted the researcher by email or through a social media platform. Potential participants were given an overview of the study and had the opportunity to ask the researcher questions.

Five participants ($n = 5$) were recruited to participate in the current study. The participants satisfied the inclusion criteria, as they were full-time elementary school teachers with experience teaching students with an ADHD diagnosis or behaviors of ADHD. They all had less than five years of experience teaching full-time. Additionally, they were English-speaking and from the Greater Montreal Area. Further details regarding each participant will be presented within their individual case studies.

Data Collection

Research Design

The present study used a mixed methods research design. Specifically, it used a Convergent Parallel Design (Creswell, 2013). In this type of design, qualitative and quantitative data are collected, and analyses are conducted in parallel. The data are then compared and related. An interpretation of the results is made based on the comparison, as it is important to analyze and use the qualitative data to help interpret the quantitative data obtained. The quantitative and qualitative data together allowed for verification (i.e., enhanced the validity and credibility of the findings) (Creswell, 2013).

Measures

Demographic questionnaire. A demographic questionnaire (Appendix B) was designed to obtain information regarding each participant to ensure they satisfied the inclusion criterion. Within the questionnaire, they were also asked to provide their contact information, the university they attended, and the undergraduate program they completed to provide contextualization to the findings in the present study.

Scales. The *Knowledge of Attention Deficit Disorders Scale* (*KADDS*) is a scale that measures one's knowledge and misperceptions of ADHD (Sciutto et al., 2000a). Specifically, it explores three areas of ADHD: symptoms and diagnosis of ADHD, general information regarding the causes, nature, and outcomes of ADHD, and the treatment of ADHD. These areas are subscales within the *KADDS*. In total, the most recent scale has 36 items and has three options for answers (true, false, or don't know) for each item. This is ideal, as it does not force the participant to choose between true or false by giving the participant freedom to disclose that they are unsure about an answer. The items have been designed to accurately measure the participant's knowledge of what ADHD is and what it is not. Therefore, this scale was used within the current study to assess the participants' knowledge of ADHD (Appendix C). Every item associated to the *Symptoms/Diagnosis* subscale (i.e., 3, 5, 7, 9, 11, 14, 16, 21, 26) was addressed in the findings. Some items within the other two subscales (*Associated Features* and *Treatment*) were not addressed in the findings as the workshop did not address the content of those items. For example, the workshop did not address any type of medication or treatment for ADHD, so the items related to medication and other treatments (i.e., 23, 25, 34, 35, 36, 37, 38) were not addressed

The *Teachers' Sense of Efficacy Scale* (*TSES*), developed by Tschannen-Moran and Hoy (2001), measures the teachers' self-efficacy beliefs. The scale explores teachers' efficacy in student engagement, instructional strategies, and classroom management, which make up the three subscales within the *TSES*. Notably, the scale is publicly available and has been validated by researchers, such as Heneman et al. (2006). They concluded that the *TSES* should be the preferred scale for future research on TSE. The scale has been shown to have high internal consistency (Tschannen-Moran & Hoy, 2001; Wolters & Daugherty, 2007). The long version of this scale was used to measure participants' TSE (Appendix D). The long version is 24-items long and every item has nine options ranging from 'Nothing' to 'A Great Deal', allowing for a greater degree of nuance within participants' response patterns. For the *TSES*, participants were instructed to answer the questions in terms of teaching and managing students with ADHD. While the scale is often used to broadly measure self-efficacy levels of teachers, it was used to explore the participants' TSE regarding teaching and managing students with ADHD.

Interviews. Participants were asked to participate in two interviews, both of which were peer-reviewed by the researcher's supervisor and by the thesis committee members (Appendix E). Interview questions were adapted with the goal of providing interviewees the opportunity to give concrete descriptions of the experiences as opposed to abstract reflections and one-worded responses (Brinkmann, 2018). The semi-structured interviews allowed for rich descriptions of the participant's experiences, interactions, and actions with students with ADHD. The format of the interviews allowed teachers to have space to elaborate. During the semi-structured interviews, the interviewer was able adapt their interview questions as they deemed fit to provide the interviewee with more space to elaborate if it was required (Glesne, 2011).

Information regarding a teacher's self-efficacy beliefs was derived from the interviews as well using Gale et al.'s (2021) methodology. In their mixed-methods study, they designed questions to complement the quantitative ratings and explore further themes related to TSE. The interviews were used to further explore and describe the sources of self-efficacy, as well as to understand potential relationships between self-efficacy, teacher experience, and the sources of self-efficacy in teaching and managing the behavior of students with ADHD. Therefore, the interviews allowed for additional information and insight into the participants' TSE beliefs. During the post-interviews, the participants were asked some similar questions to the pre-interview, as well as new questions. For example, if they described a change in their confidence teaching and managing students with ADHD, they were asked "What caused the change in confidence?" (Palmer, 2011). Considering the *TSES* measures a teacher's general TSE, the interviews helped gain information using task-specific questions and ultimately employed triangulation to provide multiple sources of information to obtain a more comprehensive understanding of the phenomenon (Denzin, 1978). Also, it allowed for the topic to be explored in a qualitative way, which complemented the data derived from the *TSES*.

The semi-structured interviews also provided an opportunity for the participating teachers to be questioned about their knowledge of ADHD. The participants described any instances with students with ADHD that they were not able to describe in the *KADDS*. A specific instance where an interview was used to assess teachers' knowledge of ADHD was from McDougal et al.'s (2022) study. In this study, they interviewed ten elementary school students and their teachers about their knowledge of ADHD, the children's strengths and challenges at school, and the strategies that were in place to support the challenges.

Procedure

The current study implemented an intervention based on the combination of a workshop and workbook. In Phase 1, pre-intervention data was collected. In Phase 2, the intervention was implemented, and data was collected from the completed workbooks. Finally, post-intervention interviews were conducted and post-intervention data was collected to comprise Phase 3.

Phase 1. The recruitment process started following Concordia University ethics approval. Once the participants showed interest in the project, their written consent was obtained using a consent form (Appendix F). Their verbal consent to be audio-recorded and to use their quotes as part of the disseminated results were obtained at the beginning of the pre-interview. Following this step, the participants completed the Demographic Survey electronically through Survey Monkey. Participants then individually participated in semi-structured interviews. The interviews were conducted over Zoom and were audio-recorded. After the interview, the participants completed the pre-scales (e.g., *TSES* and *KADDS*).

Phase 2. The workshop phase commenced once all the scales were collected. Firstly, a training workshop on ADHD was held for the participants. Unfortunately, access to Latouche and Gascoigne's (2019) workshop was not obtained as they were in the process of adapting it. The workshop in the present study was informed by content from Aguiar et al.'s (2014) workshop on ADHD and learning disorders (LD). The authors who developed this workshop provided the necessary material (e.g., presentation slides, resources). The training workshop lasted an hour and a half and was conducted remotely over Zoom. Similar to Aguiar et al.'s (2014) study, the workshop included a lecture on ADHD, presentations of clinical vignettes, and a group discussion (Appendix G). The intervention schedule was as follows: (a) ADHD definition and diagnosis, (b) lecture on ADHD etiology and symptoms presentation at school, (c) presentation of clinical vignettes dealing with ADHD symptoms presentations, (d) group discussion of clinical vignettes dealing with ADHD symptoms presentations, and (e) lecture on effective teaching strategies and classroom management.

At the end of the workshop, there was a brief description of the workbook. The participants were instructed to complete this self-guided workbook within a week on their own time. The workbook was inspired by Nichols et al.'s (2009) study on the self-efficacy of breastfeeding for mothers. The author granted permission to use their workbook to create a workbook on self-efficacy for teachers, specifically to improve their self-efficacy teaching and managing students with ADHD (Appendix H). The sections of the workbook reflect the four sources of information related to self-efficacy (Bandura, 1997).

Phase 3. Two weeks after the workbooks were collected, the participants completed the post-scales (i.e., *TSES* and *KADDS*). They also participated in a follow-up semi-structured interview (Appendix E). Lastly, they were given a copy of the workshop PowerPoint and a list of resources (Appendix I).

Data Analysis

Coding

Elemental coding methods were used during the first-cycle coding process. Specifically, descriptive coding was used sparingly, and In-Vivo coding was used frequently with the goal of honoring the participants' voice as much as possible (Appendix J). Considering the phenomenological nature of this study, an appropriate and suggested coding method was Descriptive (Saldana, 2021). In-Vivo coding was also appropriate, since the research questions tapped into the subjective experiences of participants and granted agency to participants by honouring their voices. Regarding second cycle coding, pattern coding was employed. During

this cycle, the codes were placed into categories (Appendix J). The categories were created to gauge the importance and salience of certain themes by noting the frequency of codes in each category. Categories were then merged into larger themes/topics of discussion. Additionally, notes (i.e., memoing) were gathered to facilitate organization and subsequent categorization and classification of both categories and themes. During the second cycle coding process, peer debriefing with a fellow student was used as a strategy to consolidate the codes properly (Maxwell, 2013).

In an effort to ensure reflexivity validity, throughout the entirety of the study, continued reflection was conducted to identify potential researcher bias, such as example, parking biases related to previous research experience working within the school system to reconcile one's role as both insider and outsider (Hays & Singh, 2012). This perspective allows one to stay neutral and not influence the data with existing thoughts or expectations. A reflective journal was kept to ensure neutrality was maintained during the interviews. Additional notes documenting participants' body language (i.e., nonverbal feedback), reactions to questions, and feelings during the interview were noted. In terms of interpersonal reflexivity, professionalism throughout the entirety of the study was maintained. For example, communication with the participants was maintained over email, regardless of how they were recruited. Their emails were responded to in a timely manner, and accommodations were made when scheduling interviews and extending deadlines. Participants were also given the chance to review their transcribed interviews. With that, the participants gave permission to integrate their quotes in the written report.

Descriptive Statistics

The data derived from the *TSES* and the *KADDS* were analyzed using descriptive statistics. By administering pre- and post-scales, the participants' answers were compared. The responses were compared within-subjects to understand whether there were any notable gains in their knowledge of ADHD and TSE in teaching and managing students with ADHD. This allowed for descriptions of potential changes in participants' self-efficacy and knowledge of ADHD to be noted, specifically with respect to whether outcomes increased, decreased, or stayed the same from pre-intervention to post-intervention.

Findings

Data derived from interview transcripts were analysed to understand how the teachers in the present study described their knowledge, understanding, and perceptions of ADHD, their classroom management strategies, as well as their TSE beliefs. Their experiences were compared before and after the intervention (i.e., workshop and workbook). In addition, the teachers' responses to the two scales (i.e., *TSES* and *KADDS*) were described and compared for any changes in perspectives and knowledge before and after the intervention. A triangulation of methods was used to develop a more comprehensive picture of the participants' experiences. Additionally, a case study design allowed for an in-depth investigation of the themes that each teacher discussed. The main goal of this qualitative study was to gain insight on teachers' perspectives on teaching and managing students with ADHD, their understanding of ADHD, and to analyse their TSE when teaching students with ADHD behaviors. In particular, we were interested in:

(1) Early-career elementary school teachers' knowledge and understanding of students with ADHD before and after a workshop on ADHD.
(2) Early-career elementary school teachers' perception of students with ADHD before and after a workshop on ADHD.

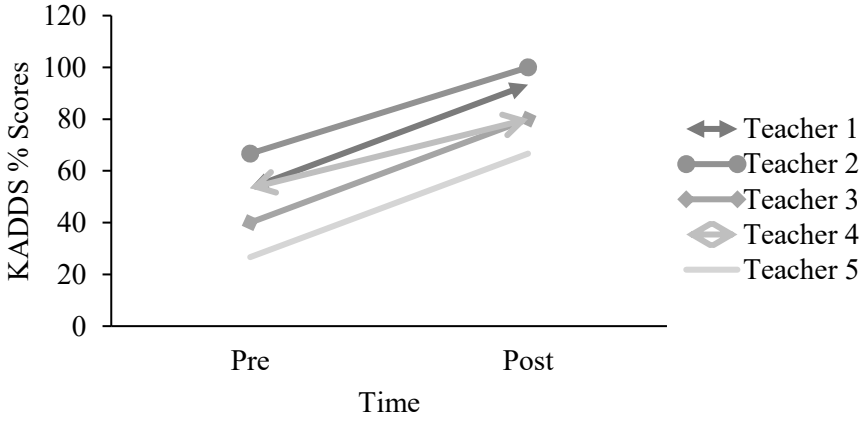
(3) Early-career elementary school teachers' support of learners with ADHD before and after an intervention targeting ADHD and TSE.
(4) Early-career elementary school teachers' descriptions of their TSE before and after an intervention targeting ADHD and TSE.

Summary

Every participant had an increase in their scores on the KADDS, which is displayed on Figure 1. This increase of knowledge of ADHD was also apparent in the qualitative data derived from the interviews, which will be discussed.

Figure 1

Changes in KADDS Percentage Scores Pre- and Post-Workshop



As displayed on Table 1, every participant had an increase in raw scores on the *TSES*. The participants had different rates of change on each *TSES* subscale. Table 2 displays the percentage scores derived from the participants' scores on the *TSES*, as the percentage scores were used to determine the degree of differences between the pre- and post-*TSES* scores. Figure 2 displays the difference in total percentage scores for each participant. This increase of TSE was also apparent in the qualitative data derived from the interviews, which will be discussed.

Table 1

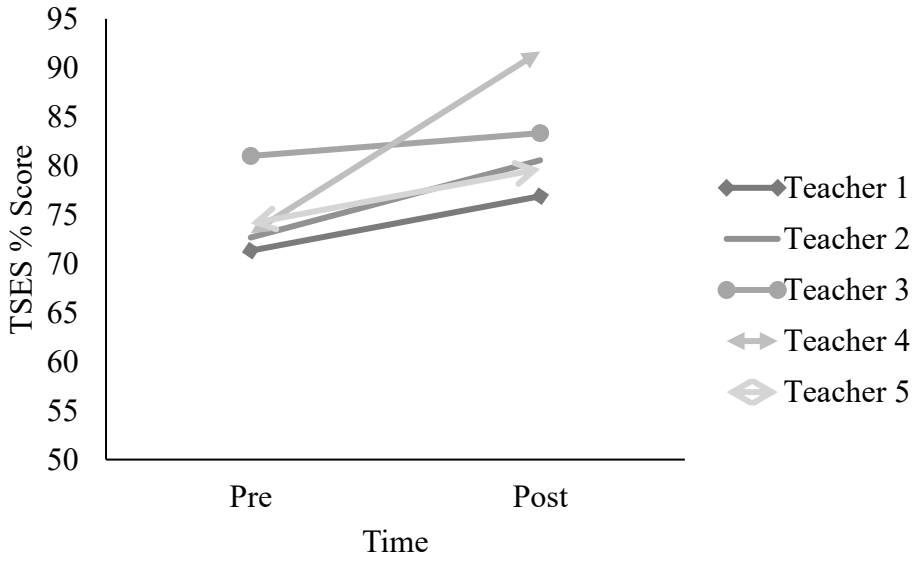
Pre- and Post-TSES Raw Scores of Subscales and Totals

	Teacher 1		*Teacher 2*		*Teacher 3*		*Teacher 4*		*Teacher 5*	
	Pre	*Post*	*Pre*	*Post*	*Pre*	*Post*	*Pre*	*Post*	*Pre*	*Post*
Engagement	6	6.5	6.375	7.75	6.625	7.375	6.25	7.875	7	7.625
Instructions	6.375	7.125	6.75	7	7.75	7.5	6.875	8.375	6.375	6.625
Management	6.875	7.125	6.5	7	7.5	7.625	6.625	8.5	6.625	7.25
Total	6.42	6.92	6.54	7.25	7.29	7.5	6.58	8.25	6.67	7.17

Table 2
Pre- and Post-TSES Percentage Scores of Subscales and Totals

	Teacher 1		*Teacher 2*		*Teacher 3*		*Teacher 4*		*Teacher 5*	
	Pre	*Post*	*Pre*	*Post*	*Pre*	*Post*	*Pre*	*Post*	*Pre*	*Post*
Engagement	66.67	72.22	70.83	86.11	73.61	81.94	69.44	87.50	77.78	84.72
Instructions	70.83	79.17	75.00	77.78	86.11	83.33	76.39	93.06	70.83	73.61
Management	76.39	79.17	72.22	77.78	83.33	84.72	73.61	94.44	73.61	80.56
Total	71.33	76.89	72.67	80.56	81	83.33	73.11	91.67	74.11	79.67

Figure 2.
Changes in TSES Percentage Scores Pre- and Post-Intervention



Participant 1

Participant 1 graduated in 2021 with a Bachelor's in Education from a university in Montreal, Quebec. At the time of the study, they had been teaching full-time for two years.

Knowledge and Understanding of ADHD

Descriptive findings. Before the workshop, Participant 1 answered 53.33% of the relevant items correctly on the *KADDS*. After the ADHD workshop, Participant 1 answered 93.33% of the relevant items correctly. Their score improved by 40%. As will be discussed, there was consistency between Participant 1's beliefs and perceptions of an increase in their knowledge and understanding of ADHD and their responses on the *KADDS*.

Phase 1. Participant 1 described a student with ADHD as, "someone who cannot sit still", and who, "talk(ed) out of turn". Participant 1 described their level of experience with students with ADHD as "moderate", and mentioned that they had attended classes in university on ADHD. However, they did not mention any behaviors related to impulsivity, nor inattention.

Also, Participant 1 explained how they did not have any knowledge of the comorbidities often seen with ADHD, nor any knowledge of the causes of ADHD. This points to a clear lack of knowledge of ADHD, which they openly expressed. With that, Participant 1 articulated that they wanted to understand "the whole thing more", as well as learn about the causes of ADHD and how to manage students with ADHD.

Phase 3. Participant 1 believed their knowledge of ADHD increased, and that they finally understood the disorder better. Their description of the disorder was more detailed and well-rounded post-workshop compared to their description pre-workshop. For example, during Phase 3, Participant 1 correctly described the three types of symptoms associated with ADHD and explained that each child with ADHD showed different behaviors and symptoms, which they had not addressed during Phase 1. Their increase in knowledge and understanding of ADHD also manifested in their classroom, as they stated they have come more attuned to the behaviors of ADHD that they had either not noticed before or did not believe were associated with ADHD (e.g., disorganization). Participant 1 was also surprised to learn how a child must have at least six symptoms within a category of behaviors to receive a diagnosis of ADHD. The lesson on ADHD gave them clarity, as they finally had an answer for the question that they had asked themselves several times: "Why isn't this child coded?". They described finally being able to understand why so many students that they suspected had ADHD had never been diagnosed. For example, they realized that those children only showed at most three behaviors of ADHD.

Perception of Students with ADHD

Phase 1. While describing a typical student with ADHD, Participant 1 stated that "they [were] not ones to conform" and they have tended to "operate on their own clock". While Participant 1 described a negative experience where a student with ADHD "launched a desk" at them, they explained it very calmly and neutrally. They did not blame the child. Instead, they explained they believed the child did not have control over themselves in that moment. They also described children with ADHD as "very bright", as "tactile learners", and as "leaders". They explained that "other children looked up to them" as they were often "louder than the other children". In their experience, students with ADHD were fun and creative, yet still held themselves accountable. For example, students with ADHD had admitted to Participant 1 when they did not study for an exam, for which Participant 1 admired their honesty and accountability.

Phase 3. The workshop seemed to have given Participant 1 a new perspective with respect to understanding the "actual science behind the disorder". They were happy to have gained knowledge on the potential factors that determine developing the disorder. This gave them a new perspective of ADHD that was based on science, and not simply on the behaviors exhibited by the disorder. They described a newfound awareness of the struggles that students with ADHD face. For example, they realized the struggle of sitting in a classroom where everyone, except them, was understanding the material. Participant 1 stated they did not have this level of awareness prior to beginning the workshop.

Supporting Learners with ADHD

Phase 1. When asked about any strategies that Participant 1 had not had success with in their classrooms, they mentioned preferential seating. They explained how a student with ADHD had "always been themselves" (i.e., fidgety and talkative) no matter where they sat in the classroom. Therefore, Participant 1 stopped implementing preferential seating in their classroom.

Participant 1 also described several helpful strategies. Firstly, they explained how students with ADHD did not work well at the beginning, nor at the end of the day. To address this, at the start of the school day a "question of the day" was posed to the class, which they described as helpful to coax students with ADHD to "get into the swing of things". At the end of

the day, they did their "classroom sporting brackets" as an opportunity to evaluate the students' oral competencies in a fun and interactive manner. In an effort to give students with ADHD a way to stay stimulated and involved, Participant 1 often gave them classroom roles, such as the "messenger". Participant 1 also never stood in one spot while teaching, requiring students to follow them around the room and thus keeping them engaged throughout the lesson. Overall, they described that their responsibility of keeping students entertained all day involved mimicking a "TV show" and a "clown". Participant 1 explained how the reality of the classroom was not as it was "described in textbooks" and taught in university. Participant 1 also described how they had previously reminded students about an exam until they were "blue in the face", but it did not help. Participant 1 had offered "recoup" to tackle this issue, but this decreased the students' play time, which made Participant 1 feel guilty. With that said, it is important to note that Participant 1's strategies often directly targeted the student.

When asked to describe the signs that a lesson was successful, Participant 1 explained that students with ADHD may have been talking and distracted during a lesson. However, as long as the work was completed they considered it a "win". They explained that even when a student had spoken to someone when they were not supposed to, if the conversation was relevant to the lesson Participant 1 saw that as a success. Other signs were less overt, however. For example, Participant 1 explained how they had seen a "sparkle" in their students' eyes, which they believed to be a sign of a successful lesson. Other signs included watching for subtle, physical behavioural cues such as students asking questions, nodding, and following the teacher with their eyes. Successful lessons had also resulted in high quality work (i.e., elaborate answers) from the students.

Participant 1 described how one-word answers/responses were an obvious sign that a lesson had not gone well for a student with ADHD. Also, when students had disengaged and did not have a response when called upon, Participant 1 knew the lesson was not successful. Lastly, and most importantly for Participant 1, when students did not have the "sparkle" in their eye at the end of a lesson, and instead the students had a "blank stare", they knew the lesson was unsuccessful.

Phase 3. Participant 1 described how they became more aware of the difficulties students with ADHD have struggled with and how they began to pay closer attention to them by "walking by them more frequently" and "tapping on their desk to get their attention". While Participant 1 had previously described preferential seating as an unhelpful strategy, in the post-interview, they described that they implemented the seating strategies described in the workshop and it worked well for their students. In considering why this new strategy proved to be effective, they described how "the students were boxed in", which reduced instances of disruptive and distracted behaviour.

Participant 1 described how it had been previously difficult to stay patient with students who were easily distracted. However, as a result of the workshop, they felt that they had more patience towards their students with behaviors of ADHD. They attributed this increase in patience to their newfound understanding of these students, the disorder, and the awareness of struggles that students with ADHD face.

TSE Teaching and Managing Students with ADHD

Descriptive findings. This scale asked participants to rate each item on a scale from 1 to 9, 9 being the highest. Before the workshop, Participant 1 scored an average of 6.42 out of 9 (71.33%), whereas, after the workshop, they scored an average of 6.92 (76.89%). Overall, their score improved by 0.5 points, which was a 5.47% increase. Notably, Participant 1 had the lowest overall average scores for both the pre- and post-*TSES*.

Their scores related to *Efficacy in Instructional Strategies* increased the most, with a score of 6.375 (70.83%) at Phase 1, and a 7.125 (79.17%) at Phase 3. In addition, their score increased by 5.55% in *Efficacy in Engaging Students* and by 2.78% in *Efficacy in Classroom Management.*

Phase 1. While Participant 1 described they felt comfortable teaching students with ADHD, they admitted that they believed they were not doing everything that they could have possibly been doing for these students. They rated themselves an 8.5 out of 10 in terms of their confidence in teaching in general, but with respect to their confidence teaching students with ADHD, they rated themselves as a 6.5 out of 10. Participant 1 attributed the lower score to their lack of knowledge of ADHD. They stated that "without understanding it completely", they could not have been as effective as they were towards learners without ADHD. They understood that there were not as many barriers for regular learners, and they also stated how it was hard for them to relate to students with ADHD, as they never had ADHD, nor entirely understood the disorder. Also, a reoccurring topic throughout the pre-interview was the lack of parent involvement. They believed some students had become "stagnant" due to the lack of support at home, which discouraged Participant 1. With that said, they also described several positive teaching experiences that had increased their confidence.

Participant 1 simply stated that their confidence had increased when they experienced more successful outcomes, when they had been told they had good control of the class, and when they had received compliments from other teachers. Participant 1 was visibly excited and proud when they explained how their students' parents had told them that their child had spoken about Participant 1 in a positive way at home. Also, they valued compliments and constructive criticism from their students. In general, they believed they became more confident with experience. They were unsure about themselves during their first year, but they explained how they have "check[ed] something off [their] list every day", which increased their confidence.

Phase 2 and Phase 3. During the post-interview, Participant 1 described the importance of self-reflection when asked about their experience and takeaways from the workbook. The reflective exercises encouraged them to look back on their experiences and think about what made them feel good and what did not. For example, Participant 1 wrote, in the *Mastery* section of the workbook, that they had to "think of methods to incorporate studying in [their] class" to help "instill good study habits in [their] students". They reflected on their experience with this and noted that they have sought advice from "veteran teachers". Participant 1 also expressed how, through this process of reflection, they realized how they had been told similar comments to those presented in the workbook in the *Utilizing Encouragement* section. For example, they wrote "You need to try hard" and "It's a lost cause at this point" as examples of what colleagues have said to them which have hindered their confidence. On the other hand, they wrote "I know it's hard, but don't give up" and "I can see how engaged X is in your class" as examples of what colleagues have said to them which have encouraged them. During Phase 3, Participant 1 explained how reflecting and writing these quotes made them realize how impactful comments had been to their confidence, both in positive and negative ways.

Notably, during the post-interview, Participant 1 rated their confidence teaching and managing students with ADHD as an 8 out of 10, which was 1.5-points higher than their rating at Phase 1. When asked to describe how they felt after the intervention in terms of their confidence with students with ADHD, they quickly said that they "[felt] better".

Participant 2

Participant 2 graduated with a Bachelor's degree in Kindergarten and Elementary Education in 2018 from a university in Montreal, Quebec. At the time of the study, they had been teaching full-time for four years. They were the participant with the most teaching experience.

Knowledge and Understanding of ADHD

Descriptive findings. Before the workshop, Participant 2 answered 66.67% of the relevant items correct on the *KADDS*. After the workshop, Participant 2 answered 100% of the relevant items correct on the *KADDS*. Their score improved by 33.33%. As will be discussed, there was consistency between Participant 2's beliefs and perceptions of an increase in their knowledge and understanding of ADHD and their responses on the *KADDS*.

Phase 1. When asked to describe their understanding of ADHD and to describe a child with ADHD, Participant 2 identified only one behavior of inattention (i.e., "difficulty focusing"), and mentioned how students with ADHD are often jittery and "need to move a lot". They also stated that "noise really affects" students with ADHD. They did not mention any behaviors related to impulsivity, and they did not have any knowledge of the comorbidities often seen with ADHD. Therefore, there was an apparent lack of knowledge of ADHD.

Phase 3. During the post-interview, Participant 2 immediately described the three different types of ADHD when asked to describe their understanding ADHD. They identified a couple of behaviors, such as difficulty focusing and issues related to hyperactivity. They explained that a diagnosis requires at least six symptoms of one category of symptoms, and that the symptoms must be present before the age of 12. They concluded their description by stating that these children cannot control their behaviors, and their behaviors are not a conscious choice. They also explicitly said that they felt more knowledgeable in terms of their understanding of ADHD as a result of the workshop.

Perception of Students with ADHD

Phase 1. When asked to describe the strengths of students with ADHD, Participant 2 stated that they are "very observant", "very happy", and often had "a good sense of humour". Participant 2 also stated that students with ADHD had been a distraction to others in the classroom, which had resulted in unsuccessful lessons. When difficult situations had arisen with children with ADHD, Participant 2 expressed that they became "frustrated and angry at the child".

Phase 3. Participant 2 described that the workshop helped them gain a better understanding of ADHD and, overall, a new perspective of the disorder. They explained how teachers create their own perceptions of ADHD based on their experiences, and Participant 2 explained that they realized that these perceptions were not always accurate. Participant 2's new perspective allowed them to get less frustrated as they understood that these children did not portray certain behaviors intentionally. They also mentioned noticing more behaviors of ADHD in their students which they had not previously noticed, but they did not name which ones.

Supporting Learners with ADHD

Phase 1. When asked about helpful strategies that they used in the classroom, Participant 2 mentioned the usefulness of brain breaks, timers, and movement breaks. They also explained that they had a "calm down corner" in their classroom, and that students often used it voluntarily. As previously mentioned, Participant 2 described noise sensitivity as a behavior of ADHD, so they explained how noise-cancelling headphones were often used in their classroom. Also, they described the success of offering different seating options (e.g., standing desk) to maximally support diverse learners in their classroom. Notably, Participant 2 stated only one unhelpful strategy, which was "redirecting".

When asked about any hurdles that had gotten in the way of their ability to support learners with ADHD, they explained that their personal life had affected their teaching. During hard situations in life, it was difficult for them to go into their classroom and "forget about the hard times going on in life". Within the classroom, hard situations with students (e.g., when a student hit them) made it difficult for them to continue to support their students. In general, when students were dysregulated and they did not have additional help in the classroom, it added additional barriers to Participant 2's teaching. They described that these types of situations often led them to rely on ineffective classroom management techniques, such as constantly reminding the same child to stop, and in severe cases, resorting to "yelling and screaming".

When asked how they knew a lesson was unsuccessful, Participant 2 said that they were aware it was not successful when the students were not listening or when they were "bouncing around during the lesson", despite multiple attempts at redirection throughout a lesson. On the other hand, if the students were able to complete the activity, even if they were "acting silly" or were jittery, Participant 2 viewed the lesson as a success. They believed that as long as the students understood the material, it was a success. Another sign that a lesson was successful was when students were able to do something on their own. Interestingly, they described that they sometimes thought a lesson did not go well due to disruptions and need for redirection throughout the lesson, though they eventually re-assessed and recognized a lesson as successful on the basis of completed work.

Phase 3. Participant 2 described that when working with a hyperactive student, they had often resorted to asking the student to "take a walk". However, they explained that after the workshop, they realized that there were strategies that can help prevent children from getting to the point of having to take a walk outside of the classroom. They expressed that they had not previously realized how important and impactful basic changes (e.g., lighting and seating arrangements) to the classroom environment can be. They described that they became more aware of the environment of their classroom after the workshop.

During the post-interview, Participant 2 described that they had more patience. They attributed this to learning more about the disorder, and reminding themselves the behaviors were not in their control. They explained how they started reminding themselves on many occasions that "it's not the students' fault, they're trying their best". They stated that "at the end of the day, [they are] only human, and it is just a job". Participant 2 explained that this new mindset allowed them to become more patient.

TSE Teaching and Managing Students with ADHD

Descriptive findings. As described, the *TSES* scale had participants rate each one a scale from 1 to 9, 9 being the highest. Before the workshop and workbook, Participant 2 scored an average of 6.54 (72.66%), and they scored an average of 7.25 (80.55%) after the workshop and workbook. Overall, their score improved by 0.71 points, which was a 7.89% increase.

The items related to their *Efficacy in Engaging Students* increased the most; they scored a 6.375 (70.83%) at pre-workshop, and a 7.75 (86.11%) at post-workshop. Their *Efficacy in Classroom Management* increased by 5.56%, and their *Efficacy in Instructional Strategies* increased by 2.78%.

Phase 1. When asked to rate their overall TSE beliefs teaching and managing students, Participant 2 rated themselves a 7.5 out of 10. Then, when asked if they felt comfortable teaching students with ADHD, they answered quickly and simply said: "No". They rated their confidence teaching and managing students with ADHD as a 5.5 out of 10.

Participant 2 described that when they became frustrated with students, it affected their confidence as a teacher. Specifically, when they had to "give up on a lesson" to help a child stop

disrupting the class, they were reminded that they did not have all the knowledge and/or tools to help these students. Also, they explained how they had not participated in any professional development courses on ADHD, and that they did not believe their university teacher-training program was sufficient in covering specific topics related to ADHD and classroom management. They also explained how, in difficult situations, they heavily relied on integration aids, which negatively affected their confidence as a teacher. Participant 2 also reported that hearing about the increase of ADHD diagnoses in society had decreased their confidence; specifically, they felt discouraged to hear that ADHD was on the rise, yet teachers were not being provided supplemental trainings. Overall, Participant 2 explained how they often blamed themselves. Especially when they felt like they "lost control" and resorted to yelling, it made them feel like they had failed.

Participant 2 explained how it was a confidence booster when students were able to do work independently. They also described how problem-solving on their own, the academic success of their students, and positive feedback from parents had made them gain confidence. Also, they described how their Principal's evaluations had helped their confidence, as they were mostly positive, and it was a good reminder of their abilities, knowledge, and skills. Also, when other teachers spoke about the difficulties of teaching and managing students with ADHD, Participant 2 explained that it made them feel like there were "not the only one having difficulty", which had increased their confidence.

Phase 2 and Phase 3. In the *Mastery* part of the workbook, Participant 2 expressed that they were relieved when a task went well on the "first attempt" and that they "felt a boost of confidence". This directly reflects the *Mastery Experiences* source of information. While discussing their confidence teaching and managing students with ADHD during the post-interview, Participant 2 also explained that they realized the importance of conversations with coworkers, comments from coworkers, and their own self-reflections. Notably, Participant 2 was the only participant who underlined phrases included in the testimonials within the *Building Confidence by Learning from Others* section. They described that they had not realized the extent to which conversations, positive comments, and self-reflection had positively affected them until they completed the workbook. This mindset was important for them, as they were previously very hard on themselves, as they emphasized during Phase 1. Within the *Exploring How We Respond to Stress* section of the workbook, Participant 2 wrote some encouraging self-task, such as "I am a good, hardworking, and caring teacher" and "I am only human and it is okay not to have all of the answers". Lastly, Participant 2 was the sole participant to fill out every line provided in the *Keeping Motivated* section.

During the post-interview, Participant 2 described that their newfound knowledge of positive affirmations allowed them to gain confidence, which was important as they wrote that "taking the time to learn more about it" was something that they knew would help them with teaching and managing students with ADHD. Through the completion of the workbook, they described their new mindset and realized that a student's actions are out of the teacher's control, and oftentimes, they are out of the student's control as well. They stated that they realized that "it had nothing to do with [them]" as a teacher. They described these new ways of thinking as "little things that [they] can implement that could help [them]".

When asked if they felt comfortable and equipped teaching students with ADHD, they responded: "Yeah, better". When asked to rate their confidence teaching and managing students with ADHD, Participant 2 rated themselves an 8 out of 10, which was 2.5-points higher than their previous 5.5 out of 10 rating. They expressed their need to continuously learn more and add more

tools to their toolbox, but given their experience and newfound knowledge of ADHD, they felt rather confident.

Participant 3

Participant 3 graduated in 2021 with a Bachelor's degree in Teaching English as a Second Language from a university in Montreal, Quebec. At the time of the study, they had been teaching full-time for three years.

Knowledge and Understanding of ADHD

Descriptive findings. Before the workshop, Participant 3 answered 40% of the relevant items correctly on the *KADDS*. After the workshop, Participant 3 answered 80% of the relevant items correctly on the *KADDS*. Their score improved by 40%. As will be discussed, there was consistency between Participant 3's beliefs and perceptions of an increase in their knowledge and understanding of ADHD and their responses on the *KADDS*.

Phase 1. When asked to describe their understanding of ADHD, Participant 3 stated two behaviors of inattention and two behaviors of hyperactivity. They described children with ADHD as children who "cannot stay focused on a task" and as children who "just babble on". They also said that students with ADHD oftentimes "just looked at the walls" during class. They also mentioned that a sign of ADHD was "throwing things". When asked about their knowledge of any comorbidities associated to ADHD, they said that students with ADHD had "difficulties with motor skills and cognitive skills", such as "cutting, gluing, and drawing". In terms of the different manifestations of ADHD, they mentioned how some students with ADHD were very calm.

Overall, they described their experience level with students with ADHD as "moderate"; however, they noted that they were "not an expert on it" and that they "[did] not really know details of [ADHD]". With that, Participant 3 explained that they wanted to know more about the disorder. Specifically, they mentioned wanting to learn more about the diagnostic procedure. They were particularly interested in participating in a "hands-on workshop". They believed that, in order to learn, it was essential to physically show teachers how to support students.

Phase 3. During Phase 3, Participant 3 described ADHD as a disorder that required a diagnosis. Specifically, they explained that students with ADHD had a hard time focusing on tasks and required facilitated instructions. They stated that some children with ADHD were disorganized and fidgety, and that children with ADHD have presented differently. They explained how the disorder can impact many aspects of a child's current and future life. They expressed that, if caught early and treated properly, ADHD was quite manageable.

Also, when asked if they believed they had gained knowledge from the workshop, they said "yes, of course", and said that "there were many different things that [they] never heard of before", such as the fact that there was a genetic component to the disorder. Participant 3 also mentioned that they noticed students with ADHD often spoke "without raising their hand", which they had not previously noticed.

Perception of Students with ADHD

Phase 1. Participant 3's perception of students with ADHD was rather negative before the workshop. They believed that some students with ADHD "were angry because they did not know how to deal with their emotions". They often described students with ADHD as being "lost" and described one child with ADHD as being "awful". They also explained that one child in particular "had a lot of baggage" and that the child's "dad did not believe his son had ADHD". They also stated that many students with ADHD had "something going on at home". While they seemed very informed and aware of the struggles these children had experienced, their perception

of them seemed rather negative. When talking about having students with ADHD in their class, they said: “Sometimes you will get a rotten class”. They also said that students with special needs, including ADHD, were “the most problematic kids on the level system” used at their school, and that these students “paid for their behavior”. However, they also stated that they “felt bad because it was always the same kids” being reprimanded. Notably, they described students with ADHD as very good socializers and stated that “some of them are very smart”.

Phase 3. During the post-interview, Participant 3 expressed their new perspective of children with ADHD. They explained that they were able to “let things go” once they realized that a student’s behavior was not affecting their own success and was not distracting others. Participant 3 tried to let certain behaviors (e.g., not sitting properly) not bother them. They said that they began to “choose [their] battles”. The workshop allowed them to realize how important routines were, which they noticed in their students. Lastly, they realized how, if taken care of properly, ADHD is very manageable, which they had not believed before the workshop.

Supporting Learners with ADHD

Phase 1. Participant 3 stated that they did not believe in reward systems, so they never used them in their classroom. Instead, they explained that they often took the time to provide positive feedback and encouragement to the students. Participant 3 expressed the importance of short and quick activities. They also explained how they had used gestures in class and elicited instructions as much as possible. When needed, they sat with their students and did “one step at a time together”. They emphasized that overall class management was critical by stating that “if you do not have it, you are dead”. In an effort to manage their classroom, they gave “the students a lot of responsibilities”, such as passing out papers, since they believed that “keeping [students with ADHD] occupied is key”. Overall, they stated that their goal had been to show “them that they can do something better than misbehaving”. With that said, it is important to note that Participant 3’s strategies often directly targeted the student.

Work did not need to be fully completed, nor entirely correct, for Participant 3 to believe their lesson was successful. They explained how “as long as they tried”, it is a success. They valued the students’ effort and general understanding of the topic more than correct responses and completion of the work. On the other hand, the only unsuccessful outcome described by Participant 3 was when they sent a student outside of their class “because [they] could not manage them anymore”.

Phase 3. Participant 3 explained that they became more aware of the lighting in their classroom after the workshop, and they started using this newfound awareness in their classroom, which reflects the mastery experiences source of information. For example, they turned off the lights to try to calm the students down. Also, they explained how they began to “take a breather before an activity”, which helped them feel calmer while teaching. Notably, this pertained to the physiological states source of information. Overall, they stated that the workshop gave them more strategies and ideas that they planned to implement. While they did not state which ones they would implement, they expressed an appreciation for having those to look back on.

TSE Teaching and Managing Students with ADHD

Descriptive findings. As described, this scale had participants rate each one a scale from 1 to 9, 9 being the highest. Before the workshop and workbook, Participant 3 scored an overall average of 7.29 (81%), then they scored an average of 7.5 (83.33%) after the workshop and workbook. Overall, their score improved by 0.21 points, which was 2.33%. Notably, Participant 3 had the highest overall pre-test average out of the five participants, and the smallest increase pre- and post-intervention.

The items related to *Efficacy in Instructional Strategies* decreased by 0.25 points, which was a 2.78% decrease. Notably, Participant 3 was the sole participant to show a decrease in a subscale of the TSE scale. Their *Efficacy in Engaging Students* increased the most; they scored a 6.625 (73.61%) pre-workshop, then a 7.375 (81.94%) post-workshop. Lastly, their *Efficacy in Classroom Management* increased by 1.39%. These small increases may be explained by the fact that their pre-intervention scores were already quite high.

Phase 1. When asked how comfortable they felt teaching and managing students in general, they rated their confidence levels an 8 out of 10. Whereas, they rated their confidence levels teaching and managing students with ADHD a 7 out of 10. They explained that they felt comfortable teaching some children with ADHD, but that "it [was] very hard to manage", especially in a class with children with other special needs (i.e., autism). Participant 3 explained that they felt less confident with students with ADHD as they did not think they "would be able to teach a whole class of students with ADHD". They believed they can teach and manage one or two students with ADHD at a time in their class, "but not more".

They explained how the connection they had with their students was the most important part of teaching and heavily influenced their confidence. They also described how their demeanor affected their students, and in turn, affected themselves as students have sensed their nerves and "took advantage of that". On the other hand, when Participant 3 was calm, they explained that their students were also calm. Participant 3 described how parent feedback had influenced their confidence levels. They explained how there had been situations where parents had expressed disapproval of some of their management strategies. Additionally, negative comments from students (e.g., "I don't like your class") had negatively affected their confidence. These comments had made them doubt themselves and their "identity as a teacher". However, they stated that challenges were important and had sometimes led to an increase in confidence. For example, whenever a student had been escorted out of class for their behavior, Participant 3 expressed that it decreased their confidence because they thought to themselves: "How could I have done better?". With that, they described the importance of self-reflection, adaptability, and the willingness to change, as they believed these practices can increase confidence.

In an effort to face challenges, Participant 3 described how they had searched for new ways to be "more efficacious and a better teacher", which increased their confidence. They also described the importance of a good environment and supportive colleagues and explained that their experience working with different students had increased their confidence every year. However, they explained that when they felt frustrated, angry, and overwhelmed while teaching, it made them feel less confident.

Phase 2 and Phase 3. Within the *Mastery* section of the workbook, Participant 3 described reflecting on "how [they] would act if [they were] sitting and learning a new language" when they "felt overwhelmed by the excitement of the students". They also stated that "by using trial and error and adjusting to the different students" it helped them improve as a teacher, which reflects mastery experiences.

When asked to rate their confidence teaching and managing students with ADHD at Phase 3, Participant 3 rated themselves an 8 out of 10, which was 1 point higher than their previous rating. They explained that the reason they would not score themselves higher than an 8 was due to their lack of patience at times. They were "comfortable and a little bit more confident", but they believed that they did not have enough experience with ADHD yet. On that note, they stated that they felt as though they had been able to let some behaviors go more easily after attending the intervention, which increased their confidence. In the *Exploring How We Respond to Stress* section of the workbook, Participant 3 described how they have worked towards evaluating how

and why negative feelings have manifested in them at times. They wrote that by doing so, they can learn how to "avoid it next time". As previously mentioned, Participant 3 described taking a breath before teaching, and they had written "Breathe in and out. Take a breath." as a phrase that can help them in difficult situations. Therefore, this is an example of a strategy, as a result of self-reflection, that they applied to their teaching.

Participant 4

Participant 4 graduated in 2022 with a Bachelor's degree in Early Childhood and Elementary Education from a university in Montreal, Quebec. At the time of the study, it was their first year teaching full-time. They had also taken on the role as Resource Teacher for Cycle 1. They were the participant with the least amount of experience teaching full-time, and they were completing a Master's degree part-time.

Knowledge and Understanding of ADHD

Descriptive findings. Before the workshop, Participant 4 answered 53.33% of the relevant items correct on the ADHD Knowledge Scale. After the workshop, Participant 4 answered 80% of the relevant items correct on the ADHD Knowledge Scale. Their score improved by 26.67%. As will be discussed, there was consistency between Participant 4's beliefs and perceptions of an increase in their knowledge and understanding of ADHD and their responses on the *KADDS*.

Phase 1. When asked to describe their understanding of ADHD, Participant 4 mentioned two types of hyperactive behaviors (i.e., fidgety and talkative). While Participant 4 described their level of experience with students with ADHD as "moderate", due to their experience as a Resource Teacher, they did not mention any behaviors related to impulsivity, nor inattention. Also, Participant 4 explained how they did not have any knowledge of the comorbidities often seen with ADHD, nor any knowledge on the causes of ADHD. With that, Participant 4 expressed wanting to learn more about why ADHD manifested differently in every child. They also expressed a desire to understand the diagnostic process more.

Phase 3. Participant 4 expressed that their biggest takeaway from the workshop was the information regarding the process of diagnosing ADHD. Specifically, they mentioned that they did not know that a diagnosis required six or more behaviors from one specific category. When asked to describe their understanding of ADHD, they named several behaviors, such as "super hyperactive, easily distracted, and always fidgeting". Overall, they were more descriptive and knowledgeable during the post-interview.

Perception of Students with ADHD

Phase 1. Participant 4 described students with ADHD as being very bright, creative, and funny. They stated that they were helpful, energetic, very fun to be around. However, Participant 4 also described students with ADHD as "distractors" in a classroom, due in part to the aforementioned positive qualities listed. Their energy had been difficult to handle at times, but they tried to work through any negative biases associated to ADHD and focus on the positive.

Phase 3. Their perception of ADHD had changed as they mentioned that they learned and finally understood why some children were not diagnosed. The newly acquired knowledge of ADHD allowed them to have informed conversations about ADHD with their colleagues. For example, after the workshop, Participant 4 proudly said that when conversations arose at school where teachers questioned why some students were not diagnosed with ADHD, Participant 4 was able to explain to their colleagues the process and criteria required for an ADHD diagnosis. Participant 4 explained that the case scenarios included in the workshop allowed for ADHD to

become “more realistic”. This allowed them to “stop and think about all the characteristics and components that make up ADHD”, which in turn, gave them a newfound understanding and perception of ADHD. They expressed their ability to notice new behaviors, which they had not noticed before; for example, they started to notice the children who “were very mellow and to themselves”.

Supporting Learners with ADHD

Phase 1. Participant 4 stated that preferential seating had not worked well for their students. Also, they expressed how fidget toys were helpful for some students, but distractors for others. Participant 4 incorporated movement breaks to help students with ADHD get some of their energy out. They would also ask hyperactive students to complete tasks for them, such as handing out papers or delivering messages to other teachers.

Participant 4 described how they knew a lesson had gone well for students when they were engaged throughout the lesson and asking questions. After a lesson, when students were asked to complete a related worksheet, as long as the general ideas from the lesson had been implemented into their work, Participant 4 perceived the lesson as a success. They did not value the work being completed, nor correct; instead, they valued when the students tried their best and showed that they were attentive during the lesson. In terms of behavior, Participant 4 explained how there had been times where the class disruptions, such as walking around, speaking to others, and throwing objects around the classroom, had derailed Participant 4’s lesson.

Phase 3. Participant 4 expressed that they had successfully incorporated flexible seating in their classroom. They explained that they gave their students the option to complete their work on the floor, to use a table desk, or a wobble chair. They emphasized that is seemed to be helping and that it had been going well, especially for those with ADHD or behaviors of ADHD.

As a result of the intervention, Participant 4 realized that, out of comfort, they often resorted to using the same resources and tools. They also noticed that their seating arrangement (i.e., placing a student with ADHD near the window) was not ideal as the child got easily distracted. Upon realizing this, they reflected on the strategies introduced during the workshop and they implemented a new seating arrangement for their students. They expressed that they always thought that “placing them right in front would be the best”, but they admitted that “in the middle, between other students who were good models, was actually the best spot for students with ADHD”. They stated that this new arrangement “was working well and the student with ADHD was more focused”.

When asked if they would approach their teaching differently, Participant 4 explained that they planned to continue to be “more reflective of [their] practices”. They expressed being excited to look back on their anecdotal records in the workbook as a reflective exercise. Lastly, they explained that they planned to continue implementing different types of flexible seating and more brain breaks.

TSE Teaching and Managing Students with ADHD

Descriptive findings. As described, this scale had participants rate each one a scale from 1 to 9, 9 being the highest. Before the intervention, Participant 4 scored an overall average of 6.58 (73.11%), then they scored an average of 8.25 (91.67%) after the intervention. Overall, their score improved by 1.67 points, which was 18.56%. Notably, Participant 4 had the highest overall average post-test score out of the five participants. They also displayed the biggest improvement.

Their *Efficacy in Classroom Management* increased the most; they scored a 6.625 (73.61%) pre-workshop, then an 8.5 (94.44%) post-workshop. With that, there was a 20.83% increase in their self-efficacy related to classroom management. Their *Efficacy in Engaging*

Students also improved by 18.06%, and their *Efficacy in Instructional Strategies* increased by 16.67%.

Phase 1. When asked if they had felt comfortable and equipped to teach students with ADHD, they said they had felt comfortable. They rated their general confidence levels in teaching an 8.5 out of 10. They expressed feeling confident, while still knowing that they had a lot to learn. When asked about their confidence levels teaching and managing students with ADHD, they rated themselves a 7 out of 10.

Participant 4 emphasized how, while they were in their first-year of teaching full-time, they did have ample experience with children with regular and special needs in different settings. They explained that their education, past experience, and experience as a Resource Teacher had led them to be comfortable in the classroom. However, they explained that they knew they had a lot more to learn, which had been their motivation to pursue a Master's degree in education. Importantly, they emphasized how their mentors had influenced their confidence the most. Participant 4 described how they were not shy to ask for help, and that they often took advice from other teachers. They described times where teachers had helped them through difficult situations with students, which, in turn, gave them the tools and confidence to thrive in subsequent situations. Also, when they had received compliments and praise from experienced teachers, it had increased their confidence.

Phase 2 and Phase 3. When asked if they felt comfortable and equipped to teach and manage students with ADHD, they responded by saying: "Yeah, a little bit better". They rated their confidence levels teaching and managing students with ADHD an 8 out of 10, which was a 1-point increase from the previous rating. They believed their rating of an 8 was "relatively good", and expressed their awareness of the fact that they were still in their first year of teaching, so they did not have enough experience yet to rate themselves higher than an 8. However, they expressed that the workshop "made [them] super knowledgeable", and they explained that they expect their confidence to improve as they gain more experience with students with ADHD. Participant 4 also described how the workbook allowed them to reflect on their past and future practices. Through reflecting, they noticed that they kept using "the same resources and tools all the time", and that the workshop "motivated [them] to try something different, and to step out of [their] comfort zone", which reflects a newfound confidence. In the *Mastery* section of the workbook, they wrote that asking themselves 'why?' "helped [them] master the task". They described that this process "allowed [them] to lean into [their] teacher heart, which gave [them] the willingness and strength to complete the task effectively".

Participant 5

Participant 5 graduated with a Bachelor's in 2020 with a degree in Early Childhood and Elementary Education from a university in Montreal, Quebec. At the time of the study, they had been teaching full-time for three years.

Knowledge and Understanding of ADHD

Descriptive findings. Before the workshop, Participant 5 answered 26.66% of the relevant items correct on the *KADDS*. After the workshop, Participant 5 answered 66.66% of the relevant items correct on the *KADDS*. Their score improved by 40%. As will be discussed, there was consistency between Participant 5's beliefs and perceptions of an increase in their knowledge and understanding of ADHD and their responses on the *KADDS*.

Phase 1. During the pre-interview, Participant 5 recalled that, when completing their studies, they would read about ADHD in textbooks and they assumed that each child with ADHD

possessed every behavior listed in the textbooks. However, they explained that, with time and experience, their understanding of ADHD changed. They stated that ADHD "does not necessarily show the same way for every student". They explained that students with ADHD cannot stay on task, "they are not really able to sit down for a long period of time", and they "tend to play with things in their pencil case". They also said that students with ADHD "do not raise their hand" when they want to speak in class. Lastly, they explained that they often make "little mistakes" in their work.

They had never taken a workshop on ADHD, but it was incorporated in their undergraduate teacher training. They described their experience levels teaching students with ADHD as "low". They expressed wanting to "to know where to start" and they voiced their desire to learn about what steps are critical to take first and in what order to approach certain situations. They were also curious to know about the children with ADHD who go "unnoticed". In general, they wanted to learn about the behaviors, especially "the ones that are very faint or subtle".

Phase 3. When asked to explain their understanding of ADHD, Participant 5 listed the three types of ADHD. They also explained how ADHD can present itself in many different ways. Participant 5 expressed how the workshop helped them learn different signs and behaviors of the disorder. They listed a few behaviors, such as, fidgeting, not completing their work, inability to stay focused, not being able to wait their turn, disorganization, and shouting out answers. They noted that there were many more behaviors, but the ones they listed were the ones that they had seen the most in schools.

They expressed how the case studies presented in the workshop helped them understand how the disorder presents itself in different settings/environments. The case scenarios allowed Participant 5 to "see ADHD in action", which helped them understand the disorder more instead of simply displaying a list of behaviors, which was often done when learning about disorders in school.

Perception of Students with ADHD

Phase 1. They described students with ADHD as being very motivated with a willingness to learn, despite the challenges they face. Participate 5 expressed how students with ADHD actively participated in class and "brought a positive energy to the classroom". Notably, they did not mention any negative descriptions of students with ADHD.

Phase 3. Participant 5 described how they were been able to notice more inattentive behaviors in their students, whereas they had previously only noticed the hyperactive behaviors. They expressed how they were able to "have a different perception of the students who [they] had suspected may have had the inattention side of it".

Supporting Learners with ADHD

Phase 1. When asked to describe strategies they used in their classroom, Participant 5 described strategies as "tools in [their] toolbox". Firstly, in an effort to keep students with ADHD more attentive, Participant 5 seated these students at the front of the class during direct instruction. However, one boy with ADHD was placed in the front of the class and they explained that he would turn around and talk to others. This situation taught Participant 5 that a strategy's success is dependent on the child. Overall, they described the importance and usefulness of placing the student somewhere without distractions. Participant 5 had also removed objects from a student's desk in an effort to prevent them from getting distracted. Another strategy had been placing their hand on a student's desk as a reminder to be attentive. On a day-to-day basis, they described the importance of being flexible, adaptable, and willing to change their daily schedule to adjust to their students' needs. On the other hand, Participant 5 expressed

how weighted stuffed animals and noise cancelling headphones had shown to not be effective for their students. With that said, it is important to note that Participant 5's strategies often directly targeted the student.

When students were not engaged, nor focused during a lesson, Participant 5 deemed the lesson to be unsuccessful. Also, when some students had completed their work, but others "did not begin the work, were not close to being finished, or handed in work with missing parts", it was a sign that a lesson was not successful for everyone in their classroom. When this happened, Participant 5 viewed it as students not gaining anything from the lesson. They expressed that it was hard to juggle all the needs in their classroom, and that it was difficult to judge whether a lesson was unsuccessful or if the students understood, but did not complete the work for other reasons, such as distractions or lack of time.

They had experienced several successful outcomes as well. From Participant 5's experience, the more engaged their students were, the better the lesson was. In terms of the work completed after a lesson, Participant 5 explained that the answers did not need to be right for a lesson to be considered successful. As long as the answers were related to what the lesson was about, they deemed it as a success. They described that "as long as students follow along, as long as they learned, as long as they had fun, it was successful".

Phase 3. Participant 5's main takeaway from the workshop was the strategy related to seating arrangements. They were surprised during the seating chart activity, and how the other participants, as well as themselves, all agreed that they would place a student with ADHD at the front of the room, but the research presented disagreed with their answer. They explained how "[they] never considered" the recommended seating arrangement. While Participant 5 had not implemented this strategy in their classroom yet, they did express that they would try it. They also became more aware of the lighting in the classroom and had been mindful of when to keep the lights on or off.

TSE Teaching and Managing Students with ADHD

Descriptive findings. As described, this scale had participants rate each one a scale from 1 to 9, 9 being the highest. Before the intervention, Participant 5 scored an overall average of 6.67 (74.11%), then they scored an average of 7.17 (79.67%) after the intervention. Overall, their score improved by 0.5 points, which was a 5.56% increase.

Their *Efficacy in Classroom Management* increased the most; they scored a 6.625 (73.61%) pre-intervention, then a 7.25 (80.56%) post-intervention. Their *Efficacy in Engaging Students* improved by 6.94%, and their *Efficacy in Instructional Strategies* improved by 2.78%.

Phase 1. When asked if they felt comfortable and equipped to teach, they described having a "toolbox" that they had built over their years teaching. They rated their general confidence in teaching as an 8 out of 10. They expressed knowing they had "a lot of growing and learning to do". When asked about their confidence levels teaching and managing students' behaviors with ADHD, they rated themselves a 6 out of 10.

Participant 5 described how their confidence levels depended on how the students progressed with the tools they provided. Participant 5 explained how, at times, they had been confident that a tool would work, but when it failed, it decreased their confidence. Also, when a lesson had not gone well, Participant 5 described that they had questioned themselves and their abilities. They expressed that the lack of training on ADHD and their lack of experience with students with ADHD had prevented an increase in confidence. Participant 5 explained how teachers had spoken about students with ADHD to one another, and oftentimes, since students with ADHD tend to be very different, it had created stress for some teachers with little

experience, such as themselves. Keeping this in mind, Participant 5 tried to take everything "day by day and remember that [they were] always learning".

Phase 2 and Phase 3. When asked if they felt comfortable and equipped to teach students with ADHD, they said: "I feel like I am. Yeah, I do. Yes.". Participant 5 described that the workbook allowed them to develop a different perspective, and "allowed [them] to think about things that [they had not] always thought about". Specifically, they expressed the importance of affirmations and comments from others. They explained how they did not always realize how impactful comments from others can be on one's self-confidence. In the *Utilizing Encouragement* section, they wrote examples of things that have been said to them which had not been helpful, such as "I don't know how you do it" and "I know what you're going through". Whereas they wrote that "offering possible strategies and solutions" were helpful to them.

Overall, they explained that the workbook allowed them "to reflect in a different way that teachers do not necessarily have time to do during the day". They also stated that they had never thought to sit down and reflect in the way that the workbook allowed them to do. They rated their confidence teaching and managing students with ADHD as an 8 out of 10, while they previously rated themselves a 6 out of 10. They attributed this change to learning more about the disorder and to gaining more tools.

Discussion

The purpose of the current study was to examine how early-career elementary school teachers perceived and responded to a brief training workshop on ADHD and a workbook that allowed them to reflect on their self-efficacy when teaching students with ADHD. Specifically, this study aimed to answer the following questions: 1) How do early-career elementary school teachers describe their knowledge and understanding of ADHD before and after attending a workshop on ADHD? 2) How do early-career elementary school teachers perceive the special needs of students with ADHD before and after attending a workshop on ADHD? 3) How do early-career elementary school teachers support students with ADHD before and after attending a workshop on ADHD and completing a reflective workbook? 4) How do early-career elementary school teachers describe their self-efficacy in teaching and managing the behavior of students with ADHD before and after attending a workshop on ADHD and completing a reflective workbook?

In this section, common themes reflected in the case studies will be pulled together to answer the research questions and used to further discuss and interpret the analysed data. Links will be made to the theoretical foundation of the project. Lastly, the teachers' experiences and success of the intervention will be discussed.

Key Findings

Overall, the five participants held a very general and stereotypical understanding of ADHD prior to the workshop. All but one participant strictly mentioned behaviours related to hyperactivity when asked to describe their understanding of ADHD. Qualitative and descriptive quantitative responses revealed that these participants had a lack of knowledge of ADHD. The post-interviews and post-*KADDS* results suggested that there was an increase in knowledge of ADHD after the workshop. Each participant displayed their newly acquired knowledge in the post-interviews by describing the different types of ADHD, as well as presenting symptoms they had not previously stated in their pre-interviews. This increase in knowledge was also represented by the results of the *KADDS* as every participant had an increase in correct answers.

In terms of the participants' perceptions of students with ADHD, there were some negative descriptions made about students with ADHD during the pre-interviews. After the

intervention, the participants described having a new perspective of ADHD. They explained how they began to understand how students with ADHD are not in control of their behaviors, and they understood the diagnosis process better. There were also no negative comments made about students with ADHD during the post-interviews.

The data collected also suggested that the teachers gained new tools and strategies for teaching learners with ADHD or behaviors of ADHD. During the pre-interviews, the participants stated several helpful and unhelpful strategies. Then, during the post-interview, they reported takeaways (i.e., strategies) from the workshop. Notably, four out of five participants mentioned the seating arrangement recommendation as a tool they have successfully implemented or planned to implement. Before the workshop, these participants believed preferential seating meant placing a student at the front, back, or side of the class, which they deemed unhelpful. The workshop allowed them to think of preferential seating in a different way (i.e., placing the student in the middle), which they previously believed was not ideal. Thus, the workshop allowed them to identify potential benefits firsthand associated with implementing this strategy.

Lastly, the results indicated that there was an increase in TSE. Every participant described feeling more confident during the post-interviews. The data derived from the *TSES* also revealed an increase in self-efficacy for every participant. The participants also explained that the workbook allowed them to self-reflect and realize the types of comments and events that have made them feel more or less efficacious. Their reflections made annotatively in the workbook, as well as the post-interview data will be interpreted with regard to the four sources of information.

Interpretation of Results

Research Question 1: Knowledge and Understanding of ADHD

The first research question addressed early-career elementary school teachers' knowledge of ADHD, and questioned whether or not a brief workshop would increase participants' knowledge and understanding of ADHD. As highlighted in the case studies, each participant had their own unique understanding of ADHD prior to the workshop. All five teachers seemed to have low levels of knowledge of ADHD. These findings are consistent with previous literature, as several studies have shown that teachers' knowledge of ADHD tends to be rather low (Blotnicky-Gallant et al., 2015; Guerra & Brown, 2012; Poznanski et al., 2018; Sciutto et al., 2000b; Syed & Hussein, 2009). When examining teacher knowledge of ADHD, Youssef et al. (2015) implemented an ADHD knowledge Likert-scale they designed themselves. In this study, the average total knowledge score of their sample of teachers was less than 50%, which were similar results to those in the current study. Also, the participants in the current study had a maximum of four years of teaching experience and described having, at most, a moderate amount of experience teaching students with ADHD. Therefore, the lack of knowledge was expected since teaching experience and experience with children with ADHD have been shown to be positively related to knowledge of ADHD (Sciutto et al., 2000b).

The literature also supports the idea that an intervention, presented as a professional development course, can successfully increase teacher knowledge of ADHD (Aguiar et al., 2014; Jones & Chronis-Tuscano, 2008; Latouche & Gascoigne, 2019; Syed & Hussein, 2009; Vereb & DiPerna, 2004). The current study's workshop was most similar to the interventions in Aguiar et al.'s (2014) and Latouche and Gascoigne's (2019) studies. In these studies, knowledge of ADHD increased. For example, Latouche and Gascoigne's (2019) average percentage increased in knowledge of ADHD from pre- to post-training is the highest in the literature so far, as they found a 43.07% average increase in knowledge of ADHD. The current study revealed a 36% average increase in knowledge of ADHD. Despite the current study's small sample size, these

exploratory findings are comparable to Latouche and Gascoigne's (2019) study with 247 participants. It must be noted that almost every workshop, except one, was over six hours long, and many were presented over several days. Latouche and Gascoigne's (2019) workshop was the shortest at 2 hours and 15 minutes long, whereas the current study's workshop was only 1 hour and 30 minutes long. This introduces the idea that a workshop does not need to be extensive in order to be effective. However, it is important to note that if the workshop had been longer, perhaps teacher knowledge of ADHD may have been even higher.

Research has shown that effective professional developments for teachers are collaborative (i.e., emphasize active and interactive learning experiences) (Lieberman & Pointer Mace, 2008). The current study's workshop was active and interactive as it engaged the teachers cognitively through problem solving activities (e.g., diagnosis activity, seating arrangement activity) (Lieberman & Pointer Mace, 2008), and it engaged the teachers socially through opportunities to share ideas, solutions, and viewpoints (Guskey, 1995). Four of the participants attended one workshop session, and the fifth participant attended the workshop alone. As such, the teachers had ample opportunity to be actively involved and discuss their experiences due to the intimate nature of the workshop. We believe that this created a safe space for the participants to ask questions and participate freely. The problem-solving activities prompted the teachers to share and discuss their ideas (Lieberman & Pointer Mace, 2008; Tate, 2009), and to apply the knowledge they gained to solve the case study problems (Porter et al., 2003). These aspects of the workshop elicited active learning which has been shown to support memory (Markant et al., 2016). With that said, an actively engaging environment should be considered when schoolboards administer future professional development courses for teachers.

While McDougal et al.'s (2022) study included a qualitative element to help comprehend the teachers' knowledge and understanding of ADHD, they did not implement an intervention. A qualitative in-depth interview or reflection journal were not included in previous studies examining the effects of an ADHD training workshop on teachers. Therefore, the current study was, to our knowledge, the first to integrate a qualitative method of data collection where an intervention targeting knowledge of ADHD and behavior management was implemented. As such, the early-career elementary school teachers were able to describe their understanding of ADHD verbally, which allowed for an in-depth understanding of their knowledge and perceptions of ADHD (McDougal et al., 2022). When asked to describe their knowledge of ADHD before completing the pre-*KADDS*, participants were invited to state what they knew without being prompted by a statement, which could have been used as a reminder or hint. The qualitative method of data collection allowed the participants to elaborate on their understanding of ADHD in a different and more natural way without the pressure of answering questions correctly on a "True or False" questionnaire. When comparing the participants' pre- and post-descriptions of their understanding of ADHD, it was apparent that the teachers displayed more well-rounded descriptions of the disorder during the post-interviews. They also seemed more confident when describing it, whereas their confidence seemed to be lower when responding during the pre-interviews. These elements could not have been assessed by solely using the *KADDS*. Overall, by analyzing the qualitative and quantitative data, it can be noted that the workshop was successful in improving participants' knowledge of ADHD, which is important as teachers are better equipped to teach students with ADHD when they have high levels of knowledge of ADHD (Alkahtani, 2013; Bradshaw & Kamal, 2013; Ohan et al., 2008).

Lastly, this sample included only teachers with less than five years of experience teaching full-time, a group of professionals with a novice level of experience to deal with diverse learners and higher rates of burnout (Aloe et al., 2014). As a result, implementing an intervention to

support this group of teachers who showed an increase in knowledge of ADHD supports the literature which shows that professionals in the field of education can benefit from professional development activities (Porter et al., 2003).

Research Question 2: Perception of ADHD

The second research question addressed early-career elementary school teachers' perceptions of students with ADHD, and questioned whether or not a brief workshop would change their perceptions. As highlighted in the case studies, the teachers' perceptions of students with ADHD changed, and at times, became more positive. Most of the teachers described having a new perspective of the disorder after attending the workshop. In understanding the disorder more, it seemed as though their perception of ADHD changed as they became more aware and accepting of the disorder and the challenges students with ADHD face. The element of having more knowledge of ADHD is important, as teachers are more willing to use an intervention for a student with ADHD if they feel knowledgeable, perceive strategies to be useful, and when their beliefs about students with ADHD are more positive, which happens as one becomes more aware of their students' challenges (Blotnicky-Gallant et al., 2015; Bussing et al., 2002). One way to make a teacher more accepting is to improve their knowledge and to help them develop a positive perspective towards their students (Chafouleas et al., 2006). Taken together, it appears as though the workshop in the present study was successful in achieving these objectives.

It had been previously shown that teachers with little to no knowledge of ADHD tend to have more negative beliefs about students with ADHD (Youssef et al., 2015). With that said, due to the participants' lower levels of ADHD knowledge during Phase 1, it was anticipated that their perceptions of students with ADHD would have been more negative. During the pre-interview, there were several negative statements made about students with ADHD. Remarkably, during Phase 3, no negative comment was made about students with ADHD. Therefore, it can be noted that it seems as though this newly acquired knowledge changed the teachers' perceptions of ADHD in a positive way.

It was recently revealed that when a teacher feels that a child does not have control over their behaviors of ADHD, they are more likely and willing to provide support (Bartels, 2022). In addition, when teachers have perceived ADHD as a disorder that manifests due to neurological reasons, they assumed more responsibility in providing appropriate interventions (Bartels, 2022). In the current study, a re-occurring theme was the participants' new outlook on ADHD, and how they grew to understand, as a result of the workshop, that children with ADHD are not in complete control of their behaviors. With that, the participants also seemed more willing to support their students with ADHD. While we cannot imply that there is a causal relationship, it seemed as though the new awareness of the children's needs may have made teachers more active in supporting these students' learning by using the strategies from the workshop.

Research Question 3: Supporting Learners With ADHD

The third research question addressed early-career elementary school teachers' methods of support for students with ADHD, and questioned whether or not a brief workshop would change the participants' practices. Research has shown that teachers' unwillingness to trust and adapt strategies in their classrooms stems from a lack of training in classroom behaviour management during their undergraduate studies (Flower et al., 2017; Poznanski et al., 2018). With that, some participants expressed a lack of training regarding teaching and managing students with ADHD during their undergraduate studies. The participants were aware of this lack of training and expressed a belief that they required professional development courses to help understand how to support these students. While access to information on ADHD has been

shown to support teachers in their endeavour to becoming open and accepting to alternative ways to support a student with ADHD (Vereb & DiPerna, 2004), the participants described that their ADHD trainings had been very basic. While the current study's workshop allowed for an increase of knowledge of ADHD and classroom management, it seems as though the participants' attitude and openness towards alternative methods also improved.

While it was found that every teacher reported that they gained new methods to support students with ADHD or behaviors of ADHD as a result of the workshop, the types of supports named during the pre- and post-interviews were also different. At Phase 1, the participants described methods that targeted the child (e.g., noise-cancelling headphones, short activities, one-on-one time), whereas at Phase 3, they described methods that mostly targeted the physical environment of the classroom (e.g., lighting and seating arrangements). This demonstrated how the workshop seemed to allow the teachers to view their classroom space in a different way, to redirect their attention to the environment, and to focus on other aspects of the classroom to meet the needs of the children.

These findings are important, as it had been previously shown that demonstrating different types of teaching methods appropriate for diverse learners (e.g., students with ADHD), and increasing teachers' knowledge can potentially increase the levels of outcome efficacy (Swackhamer et al., 2009). Teachers are more open and willing to implement new methods and ideas into their classrooms in order to meet the needs of their students when they have higher TSE (Stein & Wang, 1988). Thus, the teachers may have also been more willing than before to implement new methods after having an increase of TSE after participating in the intervention.

Research Question 4: TSE Improvement

The final research question addressed how the self-efficacy of early-career elementary school teachers would change after the workshop and workbook intervention. While it has been previously found that TSE and knowledge of ADHD are positively correlated for elementary school teachers (Latouche & Gascoigne, 2019; Legato, 2011; Sciutto et al., 2000b), the increase in TSE in previous studies have shown a smaller increase than the percentage increase found in this study. For example, Latouche and Gascoigne's (2019) sample's TSE ratings increased by an average of 5.55%, and the current study's TSE ratings increased by an average of 7.97%. Perhaps, the additional component of a reflective workbook increased the teachers' self-efficacy in supporting these children. Previous studies have only used a professional development workshop without a reflective activity to increase TSE in teaching and management of ADHD. To our knowledge, no study on TSE has included a reflective component, which seemed to be viewed favourably by the teachers in the present study.

While the post-*TSES* showed an increase in TSE in general for every participant, the three subscales (i.e., *Efficacy in Student Engagement, Efficacy in Instructional Strategies, Efficacy in Classroom Management*) had different patterns, which is displayed in Table 3.

Table 3.

Differences in Raw and Percentage Scores of the Subscales of the TSES

	Average Score		*Average Percentage*	
	Pre	*Post*	*Pre*	*Post*
Engagement	6.45	7.425	71.67	82.5
Instructions	6.825	7.325	75.83	81.39
Management	6.825	7.5	75.83	83.33

There was one instance where a participant scored lower on a subscale at the post-test; Participant 3 showed a decrease in the *Efficacy in Instructional Strategies* subscale as they scored a 7.75 at the pre-test and a 7.5 at the post-test. Overall, when comparing the subtypes, the *Efficacy in Instructional Strategies* subscale saw the lowest increase with a 5.56% increase from pre- to post-intervention. Out of the five participants, four of the participants saw the smallest increase in the *Efficacy in Instructional Strategies* subscale out of all three subscales. On the other hand, the *Efficacy in Student Engagement* subscale saw the largest increase. Out of the five participants, two participants (i.e., Participant 2 and Participant 3) had the largest increase in the *Efficacy in Student Engagement* subscale and Participant 5 had a tie between the *Efficacy in Student Engagement* subscale and the *Efficacy in Classroom Management* subscale as their subscale with the greatest increase. The average score between the five participants on the *Efficacy in Student Engagement* subscale increased by 10.83% from pre- to post-intervention. The *Efficacy in Classroom Management* subscale saw a 7.5% increase. With that said, based on these trends, the teachers' efficacy in classroom management and student engagement were similarly affected, while their efficacy in instructional strategies was affected the least. This trend can be explained by a multitude of reasons.

First, while the workshop addressed instructional strategies, every teacher had graduated from university, so they may have already known a majority of the strategies presented. When the participants were asked to describe what they learned from the workshop, none of the participants mentioned any instructional strategies. However, the teachers did mention engagement and management strategies. Secondly, in Quebec, teachers are obliged to follow a curriculum; therefore, these strategies may have been, at times, not practical, nor useful to them. For example, the curriculum may oblige the teacher to grade students using written exams, but the workshop advised the teacher to try, if possible, verbal assessments. With that, the teachers may have also felt discouraged as they realized how restricted they were in their classrooms in terms of the instructional strategies they can use.

The second part of the intervention, the workbook, was a reflective exercise and did not mention any instructional strategies, which could be another reason for the small improvement in *Efficacy in Instructional Strategies.* Also, when asked about the challenges the teachers have faced when teaching and managing students with ADHD, most of their struggles had been related to management and engagement (i.e., lack of focus, distractions, off-task behaviors). They did not mention issues with their own instructional strategies; however, they did address insecurities with their management and engagement abilities. Also, the participants, when completing the workbook, mainly focused on management strategies in their reflections.

We believe that the workbook, inspired by Nichols et al. (2009) in their study on breastfeeding self-efficacy, allowed for a more in-depth reflection and eventual increase in TSE. The workbook allowed teachers to work on and integrate all four sources of information (i.e., mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states) that influence TSE. It has been shown that it is important to target all four sources of information when working towards increasing self-efficacy (Bandura, 1997; Tschannen-Moran & Hoy, 2007). Standard workshops designed to simply improve one's knowledge of ADHD do not target any of the four sources of self-efficacy, which may explain the slight increases in TSE in previous studies. In the current study, every participant proactively engaged with and reflected on the sources of information.

First, the participants engaged with mastery experiences in two ways. They reflected on past mastery experiences, and they created new ones. Every participant reflected on a successful experience in the *Mastery* section of the workbook. For example, Participant 1 explained how

they mastered a task by speaking to other teachers, and Participant 3 described how they changed their perspective to help them get through a difficult lesson with the student. This is important because when encountering a task, a person will assess how well they have handled a similar task in the past, which helps determine how much effort a person will put into successfully accomplishing the task at-hand (Bandura, 1997). Since these teachers are early in their career, it is critical for them to reflect on successful past experiences in order to gain the confidence to take on another challenge. The participants also described how they had success while implementing the new strategies from the workshop in the classroom (e.g., seating arrangements, lighting, taping on students' desks). These experiences are additional mastery experiences that may have had a positive impact on their TSE (Bandura, 1997).

Second, the participants engaged with vicarious experiences by reading the testimonials in the workbook. For early-career teachers, it is especially important to learn from others as they do not have as many mastery experiences as later-career teachers. However, the participants did not express this section as a major takeaway from the workbook. Third, the participants seemed very engaged with the *Utilizing Encouragement* section of the workbook, and they emphasized how this section was the greatest takeaway for them. This is important since through verbal suggestion, people can be led to believe they have the ability to successfully cope with a challenging task (Bandura, 1977; Palmer, 2011). The opposite is also true; negative verbal persuasion can cause doubt in one's abilities. While it has been shown that verbal persuasions are not as effective in inducing efficacy expectations as performance accomplishments, early-career teachers often rely on verbal persuasion as they do not have ample experience yet (Dassa & Nichols, 2019).

Fourth, the participants' physiological and affective states were addressed and seemed to have changed after the intervention. During the post-interviews, Participant 1, Participant 2, and Participant 3 described feeling more patient with their students after the intervention. The participants explained their new perception of students with ADHD and how it had helped them be calmer and more content in their classrooms. This is important as emotional and physiological arousal (e.g., nervousness, excitement, stress) experienced during teaching have the ability to affect a teacher's perceived capabilities (Tschannen-Moran et al., 1998).

Another reason to believe that the workbook was effective was the positive feedback from the participants. According to the participants, professional development courses are usually directed towards students, and they described how they appreciated the reflective exercises being directed towards themselves. The participants' reactions to the workbook are critical to note as, regardless of the increase in TSE according to the *TSES*, they described feeling more comfortable and confident in their role, which was the overall goal of the study.

The greater increase in TSE seen in the current study compared to Latouche and Gascoigne's (2019) findings may be explained by the stage of career this sample of participating teachers were in. As described by Tschannen-Moran and Hoy (2007), TSE is most malleable and influential during the early stages of one's career. Therefore, these early-career teachers' changes in self-efficacy is consistent with the literature. It also must be noted that TSE beliefs change and become more established as a teacher gains experience (Wyatt, 2014), which was reflected in the current study. Several of the participants described not feeling ready at the beginning of their career, and these feelings of unpreparedness can negatively impact one's self-efficacy beliefs (Melnick & Meister, 2008), which was apparent in this sample of teachers.

As this was an exploratory study, teachers' knowledge of ADHD and TSE were examined using a qualitative data collection procedure. This facilitated an open reflection allowing early-career elementary school teachers to express themselves in a way that has yet to be expressed in

this area of research. They were given the chance to describe how they felt, in addition to rating their own TSE, and these explanations supported the descriptive data derived from the *TSES*.

These findings are important and promising, as early-career teachers with higher levels of self-efficacy have been shown to have greater optimism about teaching and are more likely to remain in the field (Chesnut & Burley, 2015). Given the success of the combination of the brief workshop and workbook, which specifically targeted the four sources of information, both methods, when presented together, could provide teachers with valuable professional development experiences.

Limitations

Recruitment was limited to the Greater Montreal area. Thus, the findings cannot be representative to all teachers from different school districts. Moreover, all but one participant attended the same university. This heterogeneous sampling group may had limited the analysis of the how school contexts and school policies may have contributed to these findings, as well as limited the generalizability of the findings to other schools and school contexts. The qualitative nature of the study and the specific participant requirements enabled the sample size to be quite small (n = 5). As the study was not designed to empirically test changes in the individual participants' knowledge and perceptions, the data from the *TSES* and the *KADDS* were presented for each case study and the findings were not empirically analyzed. The data was presented in a descriptive way due to the small sample size. The gold standard in assessing causality is to conduct a randomized control trial (Haritom & Locascio, 2018), which was not plausible for the current study. This made the interpretation of the results challenging, as it was impossible to know whether the workshop, workbook, or the combination of the two were the most influential in the changes seen to the participants' knowledge of ADHD and TSE beliefs.

The variability in the participants' timelines may have also affected the results. While the participants were given deadlines, they were not always respected. Ultimately, this gave the participants more flexibility to respond in ways that were possible for them and not to feel pressure to respond. The delays were seen during Phase 2 and Phase 3. Two participants submitted the completed workbooks one week past the deadline due to extraordinary circumstances (e.g., ice storm), and one participant submitted it two weeks past the deadline due to personal reasons. While a strength of the workbook is that it is a self-paced exercise, it is also a potential limitation due to the possibility of delays causing potential memory loss. The self-paced nature of the workbook allowed the participants to complete it over varying amounts of time. The shortest amount of time it took a participant to submit the completed workbook was six days, and the longest amount of time was three weeks. These timeline differences may have affected the participants' scale answers and responses to interview questions during Phase 3. Additionally, three participants submitted their post-*KADDS* days later than they were asked to. Two participants submitted their post-*KADDS* a week late, one participant submitted it five days late, and one participant submitted it 10 days late.

Furthermore, since the participants openly mentioned their stress levels during the pre- and post-interviews, another important factor could be teachers' stress and/or burnout. By excluding any measures or questions on their levels of stress, it may have limited the interpretation of the findings. For example, by including measures asking teachers about their stress and/or burnout levels, we would have further contextualized the participants' comments. There is evidence in the literature that teaching is a very stressful and demanding occupation, and teachers have reported above-average rates of burnout compared to other professions (Aloe et al., 2014). One stressor is teaching and managing students with different challenges, such as

inattention and hyperactivity. It has been shown by Greene et al. (2002) that general education elementary school teachers rate teaching students with ADHD as significantly more stressful to teach compared to teaching students without ADHD. With that said, we could have explored whether or not the participants' stress and burnout levels decreased as a result of the intervention since we were targeting their teaching of children with challenges. This could have added an additional layer of analysis to the current study.

Future Directions

To build upon the current study, it is critical to recruit a larger sample and to implement a randomized control trial. This would remediate some of the aforementioned methodological limitations, which in turn would allow us to have greater confidence in the efficacy of both the workshop and workbook. It would be necessary to have a control group and three intervention groups. One intervention group would complete the workshop, the other would complete the workbook, and the last would complete both. This would allow us to explore which part of the current study's intervention was the most influential, or whether the combined approach of a workbook and workshop is the truly the most effective approach.

Also, it is crucial to add a longitudinal component to the study. By following up with the teachers, it would allow researchers to see whether the results are maintained long-term. This is important as high TSE has been shown to prevent teacher attrition (Chesnut & Burley, 2015). Therefore, it is critical to find sustainable practices, such as professional development courses and/or reflective workbooks, for teachers to engage in reflective practices and improve their TSE and maintain it long-term. To do so, the effects of these interventions need to be examined after time has passed (Bradshaw & Kamal, 2013). For example, by adding a six-month follow-up that requires participants to complete the *TSES* and *KADDS* again, it would allow the researchers to evaluate the durability of the gains in TSE beliefs and knowledge of ADHD acquired from the intervention.

To our knowledge, no study has directly targeted TSE when trying to improve TSE in teaching and managing students with ADHD. Every study has targeted knowledge of ADHD when trying to improve TSE, instead of targeting the four sources of information related to self-efficacy (Bandura, 1997; Tschannen-Moran et al., 1998). To our knowledge, this study was the first to target knowledge of ADHD and the four sources of information that impact TSE; however, it can be useful to further explore the sources of information individually.

When asked about their experience with the workbook, every participant mentioned the verbal persuasion source of information section of the workbook. They expressed the impact that particular exercise had on them and their confidence. Future research may aim to determine which source or combination is most effective in increasing TSE when teaching and managing students with ADHD. The source of information that is the most impactful may be dependent on the task at hand (e.g., teaching students with ADHD). Therefore, it is important to explore how and why the four sources of information can be used to improve TSE for early-career teachers when teaching and managing students with ADHD. It is possible that when targeting a teacher's TSE teaching and managing students with ADHD, one source of information may be more impactful than another. A possible explanation for this is that every participant expressed comments made by other teachers about students with ADHD or how they are hard on themselves, which are components of social persuasion. They did not express how the other sources of information have affected their confidence to the extent that verbal persuasion did. In a future study, the workbooks can be designed differently to target only one source of information at a time to try to assess which sources are most influential. This idea can also be used toward

other tasks for teachers, such as teaching students with autism, learning disabilities, and/or anxiety, as these are other stressors for teachers (Aloe et al., 2014).

Lastly, it would be beneficial to add measures, such as a stress scale (i.e., *Teacher Stress Inventory)* and a teacher burnout scale (i.e., *Teacher Burnout Scale*), to collect contextual information on the teachers. In a systematic quantitative study, this would allow us to examine whether this intervention can also decrease stress and burnout levels (Kourmousi et al., 2015).

Implications

This study demonstrated that early-career elementary school teachers' knowledge of ADHD and TSE beliefs could be improved using a brief ADHD workshop and self-paced reflective workbook. Given the fact that teachers' knowledge of ADHD is limited (Poznanski et al., 2018) and that teaching students with ADHD is stressful (Greene et al., 2002), the methodology used in this study has implications for designing interventions for teachers to promote TSE when supporting students with ADHD in the classroom.

While other researchers have shown the potential of providing professional trainings to address the gap in teachers' knowledge of ADHD (Aguiar et al., 2014; Jones & Chronis-Tuscano, 2008; Latouche & Gascoigne, 2019; Legato, 2011; Syed & Hussein, 2009), this study introduced the element of a shorter efficacious workshop. This study also highlights the idea that teachers feel unprepared for managing students with ADHD, and they tend to blame this on their own education, specifically on the lack of special-needs focused courses. Therefore, the current study's findings have implications for further study on teacher education programs in Quebec. Also, this study introduced a self-paced reflective workbook tailored to improving TSE when teaching and managing students with ADHD or behaviors of ADHD. A brief (i.e., hour and a half) teacher training may be a promising step in the right direction to help teachers to better understand ADHD, and to better identify and support the behavior of children with ADHD (Jones & Chronis-Tuscano, 2008; Latouche & Gascoigne, 2019). The workbook is a promising first step towards developing a reflective workbook for teachers to target their TSE and prevent future burnout. While research has shown the important reflective practices for teachers (Moayeri & Rahimiy, 2019), they have not reflected on the sources of information related to TSE. Teacher education and professional development focus on reflection as a tool to help teachers understand their knowledge and understanding of their students' needs. However, this study has shed light on the importance of having a reflective workbook designed and focused around the specific task at hand.

Conclusion

Data gathered from the five participants gathered qualitatively and quantitatively showed that there were improvements in the targeted goals of the present study. The present study aimed to explore the impact of a workshop on ADHD and a reflective workbook on early-career teachers' understanding, perspectives, and support of ADHD, and their TSE beliefs. By giving teachers the opportunity to reflect on their practices before and after completing the intervention, every participant showed an increase in knowledge of ADHD and TSE beliefs. Notably, all five participants had a more positive and well-rounded understanding of ADHD. They also seemed to have benefitted from the workshop as they all developed new strategies that they implemented and planned to implement. Thus, this explorative study contributed to and complemented the limited research on early-career teachers' TSE. The knowledge gained from the present study can be useful for teachers, principals, researchers, parents, and intervention specialists, as well as for developing efficient and well-rounded teacher education programs.

References

Aguiar, A. P., Kieling, R. R., Costa, A. C., Chardosim, N., Dorneles, B. V., Almeida, M. R., Mazzuca, A. C., Kieling, C., & Rohde, L. A. (2014). Increasing teachers' knowledge about ADHD and learning disorders: An investigation on the role of a psychoeducational intervention. *Journal of Attention Disorders*, *18*(8), 691–698. https://doi.org/10.1177/1087054712453171

Alkahtani, K. (2013). Teachers' knowledge and misconceptions of attention deficit/hyperactivity disorder. *Psychology, 4*(12), 963-969. http://dx.doi.org/10.4236/psych.2013.412139

Allinder, R. M. (1994). The relationship between efficacy and the instructional practices of special education teachers and consultants. *Teacher Education and Special Education*, *17*(2), 86-95. https://doi.org/10.1177/088840649401700203

Almog, O., & Shechtman, Z. (2007). Teachers' democratic and efficacy beliefs and styles of coping with behavioral problems of pupils with special needs. *European Journal of Special Needs Education, 22*(2), 115–129. https://doi.org/10.1080/08856250701267774

Aloe, A. M., Amo, L. C., & Shanahan, M. E. (2014). Classroom management self-efficacy and burnout: A multivariate meta-analysis. *Educational Psychology Review, 26*, 101–126. https://doi.org/10.1007/s10648-013-9244-0

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Ashton, P., & Webb, R. (1986). *Making a difference: Teachers' sense of efficacy and student achievement*. Longman.

Arnold, L. E., Hodgkins, P., Kahle, J., Madhoo, M., & Kewley, G. (2020). Long-term outcomes of ADHD: Academic achievement and performance. *Journal of Attention Disorders, 24*(1), 73–85. https://doi.org/10.1177/1087054714566076

Bandura, A. (1977). *Social learning theory*. Prentice-Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Bandura, A., & Barab, P. (1973). Processes governing disinhibitory effects through symbolic modeling. *Journal of Abnormal Psychology*, *82*(1), 1-9. https://doi.org/10.1037/h0034968

Barkley, R. A. (2008). Classroom accommodations for children with ADHD. *The ADHD Report*, *26*(4), 7-10. Retrieved from http://www.russellbarkley.org/factsheets/ADHD_School_Accommodations.pdf

Bartels, C. (2022). *Teacher perceptions of ADHD causality: Implications for educational leaders* (29162669) [Thesis, University of Missouri-Columbia]. ProQuest. https://doi.org/10.32469/10355/91553

Blotnicky-Gallant, P., Martin, C., McGonnell, M., & Corkum, P. (2015). Nova Scotia teachers' ADHD knowledge, beliefs, and classroom management practices. *Canadian Journal of School Psychology, 30*(1), 3-21. http://doi.org/10.1177/0829573514542225

Bobo, E., Lin, L., Acquaviva, E., Caci, H., Franc, N., Gamon, L., Picot, M. C., Pupier, F., Speranza, M., Falissard, B., & Purper-Ouakil, D. (2020). Comment les enfants et adolescents avec le trouble déficit d'attention/hyperactivité (TDAH) vivent-ils le confinement durant la pandémie COVID-19? [How do children and adolescents with attention deficit hyperactivity disorder (ADHD) experience lockdown during the COVID-19 outbreak?]. *L'Encephale*, *46*(3), 85–92. https://doi.org/10.1016/j.encep.2020.05.011

Bradshaw, L., & Kamal, M. (2013). Teacher knowledge, training and acceptance of students with ADHD in their classrooms: Qatar case study. *Near and Middle Eastern Journal of Research in Education, 2013*(1). https://doi.org/10.5339/nmejre.2013.5

Brinkmann, S. (2018). The interview. In Denzin, N. K. & Lincoln, Y. S. (Eds.), *The SAGE handbook of qualitative research (*5th ed., pp. 997-1038). SAGE.

Brophy, J. (1988). Educating teachers about managing classrooms and students. *Teaching and Teacher Education, 4*(1), 1-18. https://doi.org/10.1016/0742-051X(88)90020-0

Bruce, C. D., Esmonde, I., Ross, J., Dookie, L., & Beatty, R. (2010). The effects of sustained classroom-embedded teacher professional learning on teacher efficacy and related student achievement. *Teaching and Teacher Education, 26*(8), 1598–1608. https://doi.org/10.1016/j.tate.2010.06.011

Bussing, R., Gary, F. A., Leon, C. E., Garvan, C. W., & Reid, R. (2002). General classroom teachers' information and perceptions of attention deficit hyperactivity disorder. *Behavioral Disorders*, *27*(4), 327-339. https://doi.org/10.1177/019874290202700 40

Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology, 44*(6), 473–490. https://doi.org/10.1016/j.jsp.2006.09.001

Centers for Disease Control and Prevention. (2021). *Data and statistics about ADHD*. https://www.cdc.gov/ncbddd/adhd/data.html

Chacon, C. T. (2005) Teachers' perceived efficacy among English as a foreign language teacher in middle schools in Venezuela. *Teaching and Teacher Education, 21*(3), 257-272. https://doi.org/10.1016/j.tate.2005.01.001

Chafouleas, S. M., Riley-Tillman, T. C., & Sassu, K. A. (2006). Acceptability and reported use of daily behavior report cards among teachers. *Journal of Positive Behavior Interventions, 8*(3), 174–182. https://doi.org/10.1177/10983007060080030601

Chan, M., Sharkey, J. D., Lawrie, S. I., Arch, D. A. N., & Nylund-Gibson, K. (2021). Elementary school teacher well-being and supportive measures amid COVID-19: An exploratory study. *School Psychology, 36*(6), 533-545. https://doi.org/10.1037/spq0000441

Chaplain, R. P. (2008). Stress and psychological distress among trainee secondary teachers in England. *Educational Psychology, 28*(2), 195–209. https://doi.org/10.1080/01443410701491858.

Chesnut, S. R., & Burley, H. (2015). Self-efficacy as a predictor of commitment to the teaching profession: A meta-analysis. *Educational Research Review, 15*, 1–16. https://doi.org/10.1016/j.edurev.2015.02.001

Chhabildas, N., Pennington, B. F., & Willcutt, E. G. (2001). A comparison of the neuropsychological profiles of the DSM-IV subtypes of ADHD. *Journal of Abnormal Child Psychology, 29*(6), 529-540. https://doi.org/10.1023/a:1012281226028

Chunta, A. M., & DuPaul, G. J. (2022). Educational diagnostic label and teacher self-efficacy: Impact on classroom intervention choice. *School Psychology, 37*(4), 298- 308. https://doi.org/10.1037/spq0000509

Classi, P., Milton, D., Ward, S., Sarsour, K., & Johnston, J. (2012). Social and emotional difficulties in children with ADHD and the impact on school attendance and healthcare utilization. *Child and Adolescent Psychiatry and Mental Health, 6*(33). https://doi.org/10.1186/1753-2000-6-33

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.).,* SAGE Publications.

Dassa, L., & Nichols, B. (2019). Self-efficacy or overconfidence? Comparing preservice teacher self-perceptions of their content knowledge and teaching abilities to the perceptions of their supervisors. *The New Educator, 15*(2), 156-174. https://doi.org/10.1080/1547688X.2019.1578447

Denzin, N. K. (1978). Triangulation: A case for methodological evaluation and combination. *Sociological Methods*, 339-357.

Dicke, T., Parker, P. D., Marsh, H. W., Kunter, M., Schmeck, A., & Leutner, D. (2014). Self-efficacy in classroom management, classroom disturbances, and emotional exhaustion: A moderated mediation analysis of teacher candidates. *Journal of Educational Psychology, 106*(2), 569–583. https://doi.org/10.1037/a0035504

DuPaul, G. J., Gormley, M. J., & Laracy, S. D. (2012). Comorbidity of LD and ADHD: Implications of DSM-5 for assessment and treatment. *Journal of Learning Disabilities, 46*(1), 43-51. https://doi.org/10.1177/0022219412464351

DuPaul, G. J., & Stoner, G. (2014). *ADHD in the schools: Assessment and intervention strategies, (3rd ed.).* Guilford Press.

Dvorsky, M. R., Breaux, R., Cusick, C. N., Fredrick, J. W., Green, C., Steinberg, A., Langberg, J. M., Sciberras, E., & Becker, S. P. (2021). Coping with COVID-19: Longitudinal impact of the pandemic on adjustment and links with coping for adolescents with and without ADHD. *Research on Child and Adolescent Psychopathology*, *50*, 605-619. https://doi.org/10.1007/s10802-021-00857-2

Ewe, L. P. (2019). ADHD symptoms and the teacher–student relationship: A systematic literature review. *Emotional & Behavioural Difficulties, 24*(2), 136-155. https://doi.org/10.1080/13632752.2019.1597562

Fives, H. (2003). What is teacher efficacy and how does it relate to teachers' knowledge? A theoretical review. In: *American Educational Research Association Annual Conference* (pp. 1-59). https://msuweb.montclair.edu/~fivesh/Research_files/Fives_AERA_2003.pdf

Flower, A., McKenna, J. W., & Haring, C. D. (2017). Behavior and classroom management: Are teacher preparation programs really preparing our teachers? *Preventing School Failure: Alternative Education for Children and Youth*, *61*(2), 163–169. https://doi.org/10.1080/1045988X.2016.1231109

Frazier, T. W., Youngstrom, E. A., Glutting, J. J., & Watkins, M. W. (2007). ADHD and achievement: Meta-analysis of the child, adolescent, and adult literatures and a concomitant study with college students. *Journal of Learning Disabilities*, *40*(1), 49–65. https://doi.org/10.1177/00222194070400010401

Gale, J., Alemdar, M., Cappelli, C., & Morris, D. (2021). A mixed methods study of self-efficacy, the sources of self-efficacy, and teaching experience. *Frontiers of Education, 6*(750599), 1-16. https://doi.org/10.3389/feduc.2021.750599

Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*(4), 569–582. https://doi.org/10.1037/0022-0663.76.4.569

Glesne, C. (2011). *Becoming qualitative researchers: An introduction* (4th ed.). Pearson.

Greene, R. W., Beszterczey, S. K., Katzenstein, T., Park, K., & Goring, J. (2002). Are students with ADHD more stressful to teach? Patterns of teacher stress in an elementary school sample. *Journal of Emotional and Behavioral Disorders*, *10*(2), 79-89. https://doi.org/10.1177/10634266020100020201

Guerra, J. F. R., & Brown, M. S. (2012). Teacher knowledge of ADHD among middle school students in South Texas. *Research in Middle Level Education Online, 36*(3), 1-7 https://doi.org/10.1080/19404476.2012.11462096

Guo, Y., Piasta, S. B., Justice, L. M., & Kaderavek, J. N. (2010). Relations among preschool teachers' self-efficacy, classroom quality, and children's language and literacy gains. *Teaching and Teacher Education, 26*(4), 1094–1103. https://doi.org/10.1016/j.tate.2009.11.005

Guskey, T. R. (1988). Teacher self-efficacy, self-concept, and attitudes toward the implementation of instructional innovation. *Teaching and Teacher Education*, *4*(1), 63-69. https://doi.org/10.1016/0742-051X(88)90025-X

Guskey, T.R. (1995). Professional development in education: In search of the optimal mix. In T. Guskey and M. Huberman (Eds.), *Professional Development in Education: New Paradigms and Practices* (pp. 114-131). New York: Teachers College Press.

Hariton, E., & Locascio, J. J. (2018). Randomised controlled trials - the gold standard for effectiveness research: Study design: Randomised controlled trials. *BJOG: An International Journal of Obstetrics and Gynaecology*, *125*(13), 1716. https://doi.org/10.1111/1471-0528.15199

Hays, D. G., & Singh, A. A. (2012). *Qualitative inquiry in clinical and educational settings*. The Guilford Press.

He, S., Shuai, L., Wang, Z., Qiu, M., Wilson, A., Xia, W., Cao, X., Lu, L., & Zhang, J. (2021). Online learning performances of children and adolescents with attention deficit hyperactivity disorder during the COVID-19 pandemic. *The Journal of Health Care Organization, Provision, and Financing, 58*. https://doi.org/10.1177/00469580211049065

Heneman III, H. G., Kimball, S., & Milanowski, A. (2006). The teacher sense of efficacy scale: validation evidence and behavioral prediction. WCER Working Paper No. 2006-7. *Wisconsin Center for Education Research*. http://www.wcer.wisc.edu/publications/workingPapers/Working_Paper_No_2006_07.pdf

Hoy, A. W., & Spero, R. B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education, 21*(4), 343-356. https://doi.org/10.1016/j.tate.2005.01.007

Jones, H. A., & Chronis-Tuscano, A. (2008). Efficacy of teacher in-service training for attention-deficit/hyperactivity disorder. *Psychology in the Schools*, *45*(10), 918-929. https://doi.org/10.1002/pits.20342

Junod, R. E. V., DuPaul, G. J., Jitendra, A. K., Volpe, R. J., & Cleary, K. S. (2006). Classroom observations of students with and without ADHD: Differences across types of engagement. *Journal of School Psychology, 44*(2), 87-104. https://doi.org/10.1016/j.jsp.2005.12.004

Kourmousi, N., Darviri, C., Varvogli, L., & Alexopoulos, E. C. (2015). Teacher Stress Inventory: Validation of the Greek version and perceived stress levels among 3,447 educators. *Psychology Research and Behavior Management, 8*(81-88).

Kuriyan, A. B., Jr., Molina, B. S. G., Waschbusch, D. A., Gnagy, E. M., Sibley, M. H., Babinski, D. E., Walther, C., Cheong, J., Yu, J., & Kent, K. M. (2013). Young adult educational and vocational outcomes of children diagnosed with ADHD. *Journal of Abnormal Child Psychology, 41*, 27–41. https://doi.org/10.1007/s10802-012-9658-z

Kyriacou, C. (2015). Teacher stress and burnout: Methodological perspectives. *International Encyclopedia of the Social and Behavioral Sciences, 24,* 72-74. https://doi.org/10.1080/0013188870290207

Labone, E. (2004). Teacher efficacy: Maturing the construct through research in alternative paradigms. *Teaching and Teacher Education, 20*(4), 341-359. https://doi.org/10.1016/j.tate.2004.02.013

Latouche, A. P., & Gascoigne, M. (2019). In-service training for increasing teachers' ADHD knowledge and self-efficacy. *Journal of Attention Disorders, 23*(3), 270-281. https://doi.org/10.1177/1087054717707045

Langley, A. K., Nadeem, E., Kataoka, S. H., Stein, B. D., & Jaycox, L. H. (2010). Evidence-based mental health programs in schools: Barriers and facilitators of successful implementation. *School Mental Health*, *2*(3), 105–113. https://doi.org/10.1007/s12310-010-9038-1

LeFever, G. B., Villers, M. S., Morrow, A. L., & Vaughn, E. S. (2002). Parental perceptions of adverse educational outcomes among children diagnosed and treated for ADHD: A call for improved school/provider collaboration. *Psychology in the Schools, 39*(1), 63–71. https://doi.org/10 .1002/pits.10000

Legato, L. J. (2011). *Effects of teacher factors on expectations of students with ADHD* (College of Liberal Arts & Social Sciences Theses and Dissertations, Paper 66). Retrieved from http://via.library.depaul.edu/etd/66

Lieberman, A., & Pointer Mace, D. H. (2008). Teacher learning: The key to educational reform. *Journal of Teacher Education, 59*(3), 226-234. https://doi.org/10.1177/0022487108317020

Markant, D. B., Ruggeri, A., Gureckis, T. M., & Xu, F. (2016). Enhanced memory as a common effect of active learning. *Mind, Brain, and Education, 10*(3), 142-152. https://doi.org/10.1111/mbe.12117

Masi, A., Mendoza Diaz, A., Tully, L., Azim, S. I., Woolfenden, S., Efron, D., & Eapen, V. (2021). Impact of the COVID-19 pandemic on the well-being of children with neurodevelopmental disabilities and their parents. *Journal of Paediatrics and Child Health, 57*(5), 631–636. https://doi.org/10.1111/jpc.15285

Maxwell, J. A. (2013). Validity: How might you be wrong? In *Qualitative research design: An interactive approach*, 3rd ed. (pp. 121-138). SAGE.

Mayes, S. D., Waschbusch, D. A., Calhoun, S. L., & Mattison, R. E. (2020). Correlates of academic overachievement, nondiscrepant achievement, and learning disability in ADHD, autism, and general population samples. *Exceptionality, 28*(1), 60–75. https://doi.org/10.1080/09362835.2020.1727324

McDougal, E., Tai, C., Stewart, T.M., Booth, J. N., & Rhodes, S. M. (2022). Understanding and supporting attention deficit hyperactivity disorder (ADHD) in the primary school classroom: Perspectives of children with ADHD and their teachers. *Journal of Autism Developmental Disorders*. https://doi.org/10.1007/s10803-022-05639-3

Melnick, S. A., & Meister, D. G. (2008). A comparison of beginning and experienced teachers' concerns. *Educational Research Quarterly, 31*(3), 39-56.

Moayeri, M, & Rahimiy, R. (2019). The significance of promoting teacher reflection: A review article. *Latin American Journal of Content & Language Integrated Learning, 12*(1), 128-143. https://doi.org/10.5294/laclil.2019.12.1.6

Mojavezi, A., & Tamiz, M. P. (2012). The impact of teacher self-efficacy on the students' motivation and achievement. *Theory and Practice in Language Studies, 2*(3), 483-491. https://doi.org/10.4304/tpls.2.3.483-491

Nichols, J., Schutte, N. S., Brown, R. F., Dennis, C. L., & Price, I. (2009). The impact of a self-efficacy intervention on short-term breast-feeding outcomes. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, *36*(2), 250-258. https://doi.org/10.1177/1090198107303362

Ohan, J. L., Cormier, N., Hepp, S. L., Visser, T. A. W., & Strain, M. C. (2008). Does knowledge about attention-deficit/hyperactivity disorder impact teachers' reported behaviors and perceptions?. *School Psychology Quarterly, 23*(3), 436–449. https://doi.org/10.1037/1045-3830.23.3.436

O'Neill, S. C., & Stephenson, J. (2011). The measurement of classroom management self-efficacy: A review of measurement instrument development and influences. *Educational Psychology, 31*(3), 261–299. https://doi.org/10.1080/01443410.2010.545344

Palmer, D. (2011), Sources of efficacy information in an in-service program for elementary teachers. *Science Education, 95*(4), 577-600. https://doi.org/10.1002/sce.20434

Pas, E. T., Bradshaw, C. P., & Hershfeldt, P. A. (2012). Teacher- and school-level predictors of teacher efficacy and burnout: Identifying potential areas for support. *Journal of School Psychology, 50*(1), 129-145. https://doi.org/10.1016/j.jsp.2011.07.003

Porter, A. C., Garet, M. S., Desimone, L., & Birman, B. F. (2003). Providing effective professional development: Lessons from the Eisenhower program. *Science Educator, 12*(1), 23-40.

Poznanski, B., Hart, K.C. & Cramer, E. (2018) Are teachers ready? Preservice teacher knowledge of classroom management and ADHD. *School Mental Health, 10*, 301–313. https://doi.org/10.1007/s12310-018-9259-2

Pressley, T. (2021). Factors contributing to teacher burnout during COVID-19. *Educational Research, 50*(5), 325-327. https://doi.org/10.3102/0013189X211004138

Pressley, T., Ha, C., & Learn, E. (2021). Teacher stress and anxiety during COVID-19: An empirical study. *School Psychology, 36*(5), 367–376. https://doi.org/10.1037/spq0000468

Raudenbush, S. W., Rowan, B., & Cheong, Y. F. (1992). Contextual effects on the self-perceived efficacy of high school teachers. *Sociology of Education*, *65*(2), 150-167. https://doi.org/10.2307/2112680

Reid, R., Vasa, S. F., Maag, J. W., & Wright, G. (1994). An analysis of teachers' perceptions of attention deficit-hyperactivity disorder. *Journal of Research and Development in Education*, *27*(3), 195-202.

Roeser, R., Arbreton, A., & Anderman, E. (1993). *Teacher characteristics and their effects on student motivation across the school year*. Paper presented at the annual meeting of the American Educational Research Association, Atlanta.

Ross, J. A. (1992). Teacher efficacy and the effect of coaching on student achievement. *Canadian Journal of Education, 17*(1), 51–65. https://doi.org/10.2307/1495395

Ross, J. A., Hogaboam-Gray, A., & Hannay, L. (2001). Effects of teacher efficacy on computer skills and computer cognitions of K-3 students. *Elementary School Journal, 102*(2), 141−156.

Saldana, J. M. (2021). *The coding manual for qualitative researchers* (3rd ed.). SAGE Publications.

Sciberras, E., Patel, P., Stokes, M. A., Coghill, D., Middeldorp, C. M., Bellgrove, M. A., Becker, S. P., Efron, D., Stringaris, A., Faraone, S. V., Bellows, S. T., Quach, J., Banaschewski, T., McGillivray, J., Hutchinson, D., Silk, T. J., Melvin, G., Wood, A. G., Jackson, A., … Westrupp, E. (2022). Physical health, media use, and mental health in children and

adolescents with ADHD during the COVID-19 pandemic in Australia. *Journal of Attention Disorders, 26*(4), 549-562. https://doi.org/10.1177/1087054720978549

Sciutto, M. J., Terjesen, M. D., & Bender Frank, A. S. (2000a). *Knowledge of Attention Deficit Disorders Scale*. APA PsycTests. https://doi.org/10.1037/t80420-000

Sciutto, M. J., Terjesen, M. D., & Bender Frank, A. S. (2000b). Teachers' knowledge and misperceptions of Attention-Deficit/Hyperactivity Disorder. *Psychology in the Schools, 37*(2), 115–122. https://doi.org/10.1002/(SICI)1520-6807(200003)37:2<115::AID-PITS3>3.0.CO;2-5

Shah, R., Raju, V. V., Sharma, A., & Grover, S. (2021). Impact of COVID-19 and lockdown on children with ADHD and their families – An online survey and a continuity care model. *Journal of Neurosciences in Rural Practice, 12*(1), 71–79. https://doi.org/10.1055/s-0040-1718645

Statistics Canada. (2015). *Section C – Childhood conditions*. https://www150.statcan.gc.ca/n1/pub/82-619-m/2012004/sections/sectionc-eng.htm

Stein, M. K., & Wang, M. C. (1988). Teacher development and school improvement: The process of teacher change. *Teaching and Teacher Education, 4*(2), 171-187. https://doi.org/10.1016/0742-051X(88)90016-9

Sugai, G., & Horner, R. H. (2020). Sustaining and scaling positive behavioral interventions and supports: Implementation drivers, outcomes, and considerations. *Exceptional Children, 86*(2), 120–136. https://doi.org/10.1177/0014402919855331

Swackhamer, L. E., Koellner, K., Basile, C., & Kimbrough, D. (2009). Increasing the self-efficacy of inservice teachers through content knowledge. *Teacher Education Quarterly*, *36*(2), 63–78.

Swansburg, R., Hai, T., MacMaster, F. P., & Lemay, J. F. (2021). Impact of COVID-19 on lifestyle habits and mental health symptoms in children with attention-deficit/hyperactivity disorder in Canada. *Paediatrics & Child Health, 26*(5), 199–207. https://doi.org/10.1093/pch/pxab030

Syed, E. U., & Hussein, S. A. (2009). Increase in teachers' knowledge about ADHD after a week-long training program: A pilot study. *Journal of Attention Disorders*, *13*(4), 420-423. https://doi.org/10.1177/1087054708329972

Tamm, L., Loren, R. E. A., Peugh, J., & Ciesielski, H. A. (2021). The association of executive functioning with academic, behavior, and social performance ratings in children with ADHD. *Journal of Learning Disabilities*, *54*(2), 124-138. https://doi.org/10.1177/0022219420961338

Termine, C., Dui, L. G., Borzaga, L., Galli, V., Lipari, R., Vergani, M., Berlusconi, V., Agosti, M., Lunardini, F., & Ferrante, S. (2021). Investigating the effects of COVID-19 lockdown on Italian children and adolescents with and without neurodevelopmental disorders: A cross-sectional study. *Current Psychology, 40*(12), 1-17. https://doi.org/10.1007/s12144-021-02321-2

Thoma, V. K., Schulz-Zhecheva, Y., Oser, C., Fleischhaker, C., Biscaldi, M., & Klein, C. (2020). Media use, sleep quality, and ADHD symptoms in a community sample and a sample of ADHD patients aged 8 to 18 years. *Journal of Attention Disorders, 24*(4), 576–589. https://doi.org/10.1177/1087054718802014

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education, 17*(7), 783-805. https://doi.org/10.1016/S0742-051X(01)00036-1

Tschannen-Moran, M., & Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education, 23*(6), 944-956. https://doi.org/10.1016/j.tate.2006.05.003

Tschannen-Moran, M., Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, *68*(2), 202–248. https://doi.org/10.3102/00346543068002202

Tschannen-Moran, M., & McMaster, P. (2009). Sources of self-efficacy: Four professional development formats and their relationship to self-efficacy and implementation of a new teaching strategy. *The Elementary School Journal, 110*(2), 228-245. https://doi.org/10.1086/605771

Tournaki, N., & Podell, D. M. (2005). The impact of student characteristics and teacher efficacy on teachers' predictions of student success. *Teaching and Teacher Education, 21*(3), 299–314 https://doi.org/10.1016/j.tate.2005.01.003

Vereb, R., & DiPerna, J. (2004). Teachers' knowledge of ADHD, treatments for ADHD, & treatment acceptability: An initial investigation. *School Psychology Review, 33*(3), 421-428. https://doi.org/10.1080/02796015.2004.12086259

Vlah, N., Tena Velkl, T., & Kovačić, E. (2021). Teachers' self-efficacy based on symptoms of attention deficit hyperactivity disorder in primary school pupils. *The Contexts and Processes of Shaping Teacher Identity, 11*(3), 141-161. https://doi.org/10.26529/cepsj.746

Volpe, R. J., DuPaul, G. J., Jitendra, A. K., & Tresco, K. E. (2009). Consultation-based academic interventions for children with attention deficit hyperactivity disorder: Effects on reading and mathematics outcomes at 1-year follow-up. *School Psychology Review, 38*(1), 5–13. https://doi.org/10.1080/02796015.2009.12087845

Weyandt, L. L., Fulton, K. M., Schepman, S. B., Verdi, G. R., & Wilson, K. G. (2009). Assessment of teacher and school psychologist knowledge of attention-deficit/hyperactivity disorder. *Psychology in the Schools*, *46*(10), 951-961. https://doi.org/10.1002/pits.20436

Wolters, C. A., & Daugherty, S. G. (2007). Goal structures and teachers' sense of efficacy: Their relation and association to teaching experience and academic level. *Journal of Educational Psychology*, *99*(1), 181-193. https://doi.org/10.1037/0022-0663.99.1.181

Wyatt, M. (2014). Towards a reconceptualization of teachers' self-efficacy beliefs: tackling enduring problems with the quantitative research and moving on. *International Journal of Research and Method in Education 37*(2), 166-189. http://www.tandfonline.com/doi/abs/10.1080/1743727X.2012.742050

Youssef, M. K., Hutchinson, G., & Youssef, F. F. (2015). Knowledge of and attitudes toward ADHD among teachers: Insights from a Caribbean nation. *SAGE Open*, *5*(1). https://doi.org/10.1177/2158244014566761

Zendarski, N., Haebich, K., Bhide, S., Quek, J., Nicholson, J. M., Jacobs, K. E., Efron, D., & Sciberras, E. (2020). Student–teacher relationship quality in children with and without ADHD: A cross-sectional community-based study. *Early Childhood Research Quarterly, 51*, 275-284. https://doi.org/10.1016/j.ecresq.2019.12.006

Appendix A

Recruitment Poster

Concordia University

Looking for New Teachers for Research Study

1. Are you a new teacher with experience teaching and managing students with ADHD in your classroom?
2. We want to hear about your experiences!
3. As part of the study, you will receive a workshop on ADHD.

Please message me if you have any questions and/or if you are interested in participating.

514-603-7229 or sabrina.musacchio@mail.mcgill.ca

The findings from this project will be used for my Master's thesis.

Appendix B

Teacher Demographic Questionnaire

https://www.surveymonkey.com/r/2CQRSZJ

Appendix C

KADDS Items

Please answer the following questions regarding Attention-Deficit/Hyperactivity Disorders (ADHD). If you are unsure of an answer, respond Don't Know (DK), DO NOT GUESS.

True (T), False (F), or Don't Know (DK) (circle one):

1.	T	F	DK	Most estimates suggest that ADHD occurs in approximately 15% of school age children.
2.	T	F	DK	Current research suggests that ADHD is largely the result of ineffective parenting skills.
3.	T	F	DK	ADHD children are frequently distracted by extraneous stimuli.
4.	T	F	DK	ADHD children are typically more compliant with their fathers than with their mothers.
5.	T	F	DK	In order to be diagnosed with ADHD, the child's symptoms must have been present before age 12.
6.	T	F	DK	ADHD is more common in the 1st degree biological relatives (i.e. mother, father) of children with ADHD than in the general population.
7.	T	F	DK	One symptom of ADHD children is that they have been physically cruel to other people.
8.	T	F	DK	Antidepressant drugs have been effective in reducing symptoms for many ADHD children.
9.	T	F	DK	ADHD children often fidget or squirm in their seats.
10.	T	F	DK	Parent and teacher training in managing an ADHD child are generally effective when combined with medication treatment.
11.	T	F	DK	It is common for ADHD children to have an inflated sense of self-esteem or grandiosity.
12.	T	F	DK	When treatment of an ADHD child is terminated, it is rare for the child's symptoms to return.
13.	T	F	DK	It is possible for an adult to be diagnosed with ADHD.
14.	T	F	DK	ADHD children often have a history of stealing or destroying other people's things .
15.	T	F	DK	Side effects of stimulant drugs used for treatment of ADHD may include mild insomnia and appetite reduction.
16.	T	F	DK	Current wisdom about ADHD suggests two clusters of symptoms: One of inattention and another consisting of hyperactivity/impulsivity.
17.	T	F	DK	Symptoms of depression are found more frequently in ADHD children than in non-ADHD children.
18.	T	F	DK	Individual psychotherapy is usually sufficient for the treatment of most ADHD children.
19.	T	F	DK	Most ADHD children "outgrow" their symptoms by the onset of puberty and subsequently function normally in adulthood.
20.	T	F	DK	In severe cases of ADHD, medication is often used before other behavior modification techniques are attempted.

21.	T	F	DK	In order to be diagnosed as ADHD, a child must exhibit relevant symptoms in two or more settings (e.g., home, school).
22.	T	F	DK	If an ADHD child is able to demonstrate sustained attention to video games or TV for over an hour, that child is also able to sustain attention for at least an hour of class or homework.
23.	T	F	DK	Reducing dietary intake of sugar or food additives is generally effective in reducing the symptoms of ADHD.
24.	T	F	DK	A diagnosis of ADHD by itself makes a child eligible for placement in special education.
25.	T	F	DK	Stimulant drugs are the most common type of drug used to treat children with ADHD
26.	T	F	DK	ADHD children often have difficulties organizing tasks and activities.
27.	T	F	DK	ADHD children generally experience more problems in novel situations than in familiar situations.
28.	T	F	DK	There are specific physical features which can be identified by medical doctors (e.g. pediatrician) in making a definitive diagnosis of ADHD.
29.	T	F	DK	In school age children, the prevalence of ADHD in males and females is equivalent.
30.	T	F	DK	In very young children (less than 4 years old), the problem behaviors of ADHD children (e.g. hyperactivity, inattention) are distinctly different from age-appropriate behaviors of non-ADHD children.
31.	T	F	DK	Children with ADHD are more distinguishable from normal children in a classroom setting than in a free play situation.
32.	T	F	DK	The majority of ADHD children evidence some degree of poor school performance in the elementary school years.
33.	T	F	DK	Symptoms of ADHD are often seen in non-ADHD children who come from inadequate and chaotic home environments.
34.	T	F	DK	Behavioral/Psychological interventions for children with ADHD focus primarily on the child's problems with inattention.
35.	T	F	DK	Electroconvulsive Therapy (i.e. shock treatment) has been found to be an effective treatment for severe cases of ADHD.
36.	T	F	DK	Treatments for ADHD which focus primarily on punishment have been found to be the most effective in reducing the symptoms of ADHD.

Appendix D

TSES Items

Teachers' Sense of Efficacy Scale[1] (long form)

Teacher Beliefs	How much can you do?								
Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.	Nothing		Very Little		Some Influence		Quite A Bit		A Great Deal
1. How much can you do to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2. How much can you do to help your students think critically?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3. How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5. To what extent can you make your expectations clear about student behavior?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7. How well can you respond to difficult questions from your students ?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9. How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10. How much can you gauge student comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12. How much can you do to foster student creativity?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
13. How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
14. How much can you do to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
16. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17. How much can you do to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19. How well can you keep a few problem students form ruining an entire lesson?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
20. To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
21. How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
22. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
23. How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
24. How well can you provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Appendix E

Pre- and Post-Interview Questions

Pre-workshop Interview

1. What is your current teaching placement (grade level, subject)?
2. Why did you get into teaching?
3. What are your future plans/goals? In 5 years? 10 years?

ADHD Knowledge

Background

4. Approximately how many students have you taught with an ADHD diagnosis over the years you have worked full time?
5. How many students have you taught that you suspect have undiagnosed ADHD?
6. Would you say your experience of teaching students with ADHD is small, moderate, or significant?
7. Are you currently teaching students with ADHD and approximately how many are you teaching this year?
    - If yes, do you feel competent/comfortable/equipped teaching students with ADHD?
    - If no, how competent/comfortable/equipped would you feel to teach students with ADHD?

Psychoeducation

8. What is your understanding of ADHD? Can you describe a typical child with ADHD?
    - Probe behavior knowledge
    - Probe cognition knowledge
    - Probe impacts of behaviour/cognition difficulties
    - Probe knowledge that children with ADHD differ from each other
    - Probe knowledge that children with ADHD have co-occurring difficulties/comorbidities as the norm
9. (If they do have some knowledge) Where did you learn about ADHD?
    - E.g., specific training, professional experience, personal experience, research/personal interest

Cognitive skills and strategies

10. Can you tell me about the strengths of students with ADHD that you have taught?
11. Can you tell me about the biggest challenges for students with ADHD and with what they need the most support?
12. When you are supporting these students with their learning, are there any specific things you do to help them? (i.e., strategies)
    - In your experience, which of these you have mentioned are the *most* useful for the pupils with ADHD?
    - Which of these you have mentioned are the *least* useful for pupils with ADHD?
13. What would you like to be able to support for students with ADHD that you don't already do?
    - Probe why they can't access this currently (e.g., lack of training, resources, knowledge, time)
14. Is there anything you would like to understand better about ADHD?
    - Probe behavior

- Probe cognition

Teacher Self-efficacy

15. If I asked you to rate your overall confidence in your teaching ability on a scale from 1 to 10, what number would you select?
    - Can you tell me the reasons that you selected this number?
16. If I asked you to rate your overall confidence in your teaching and managing abilities for students with ADHD on a scale from 1 to 10, what number would you select?
    - Can you tell me the reasons that you selected this number?
17. Which of the things you mentioned do you believe had the most important influence on your confidence? Why?
18. What experiences in your professional life as a teacher have increased and decreased your confidence in your teaching ability for students with ADHD?
    - You said that _____ increased your confidence. Tell me more about that.
    - You said that _____ decreased your confidence. Tell me more about that.
19. How do you know that a particular lesson *has gone well* for a student with ADHD?
    - Does that influence your confidence as a teacher? How so?
20. How do you know that a particular lesson *has not gone well* for a student with ADHD?
    - Does that influence your confidence as a teacher? How so?
21. According to the theory I am exploring in this study, there are many experiences that you may have observed or learned through media, other teachers, or workshops that have an effect on the confidence you have in your teaching. Can you pinpoint some powerful experiences that have had an influence on your teaching confidence when teaching and managing a student with ADHD? These experiences can be positive or negative.
22. Tell me some of the things other people have said about your teaching that you particularly recall.
    - Of the things that people have said, which ones stand out for you as positive comments that boosted your confidence?
        - Why did they boost your confidence?
    - Of the things that people have said, which ones stand out for you as negative comments that decreased your confidence?
        - Why did they decrease your confidence?
23. Identify for me some of the most prominent feelings and emotions that you experience when you are teaching and when you are preparing to teach.
    - Which of these feelings or emotions would you say have raised your confidence in teaching students with ADHD?
    - Which of these feelings or emotions would you say have decreased your confidence teaching students with ADHD?
    - Which feelings or emotions have most profoundly influenced your confidence teaching students with ADHD?
24. Even highly recognized teachers run into teaching challenges and setbacks. Tell me about some of the setbacks you have faced in your teaching, specifically when teaching a student with ADHD.
    - How do you deal with these sorts of setbacks?
    - Do they influence your teaching confidence? Please explain.
25. For the time that you have been teaching, do you feel that you are feeling more and more confident in your teaching, in general?

- If yes, what do you attribute this to?
- If not, why do you feel this way?

26. We may have already touched on this but I would like to revisit this if you don't mind. What is the most negative teaching-related experience that you've had with a student with ADHD?
    - How did you respond?
    - Did it affect your confidence? Explain.
    - Did this negative experience affect your subsequent teaching performances?
27. Are there other things we have not addressed that you feel influenced your confidence as a teacher of ADHD students?
28. I would like to close our chat by asking you to think broadly about your confidence as a teacher of students with ADHD and give me what you believe have been the three most powerful influences on your teaching confidence in order of the power you believe each of their influences has exercised. Begin with the most powerful influence on your confidence.

Post-workshop Interview

ADHD Knowledge

29. Approximately how many students have you taught with an ADHD diagnosis over the years you have worked full time?
30. How many students have you taught that you suspect have undiagnosed ADHD?
31. At this point, do you feel competent/comfortable/equipped teaching students with ADHD?
32. What is your understanding of ADHD? Can you describe a typical child with ADHD?

Feedback on ADHD workshop

33. In your opinion, was the ADHD presentation useful in gaining a better understanding of what ADHD is?
    - Why or why not?
34. Did anything surprise you from the ADHD presentation?
35. Do you feel more or less or the same in terms of your ADHD knowledge?
36. Have you noticed what you learnt in the workshop in any of your students?

Teacher Self-efficacy for ADHD students

37. If I asked you to rate your overall confidence in your teaching and managing abilities for students with ADHD on a scale from 1 to 10, what number would you select?
    - Can you tell me the reasons that you selected this number?

Feedback on Workbook

38. In your opinion, following the completion of the workbook, do you feel a greater confidence in teaching and managing students with ADHD?
39. Did anything surprise you while completing and reflecting on the workbook?
40. Do you feel more or less or same in terms of your confidence in teaching and managing students with ADHD in your classroom?
41. Have you noticed any changes in your teaching and managing of students with ADHD?
42. Will you approach your teaching differently as a result of the workshop/workbook?

Appendix F

Consent Form

INFORMATION AND CONSENT FORM

Study Title: Early-career Elementary Teachers' Perceptions of Self-efficacy in Teaching School-aged Children with ADHD
Researcher: Sabrina Musacchio
Researcher's Contact Information: sabrina.musacchio@mail.mcgill.ca
Faculty Supervisor: Harriet Petrakos
Faculty Supervisor's Contact Information: hariclia.petrakos@concordia.ca
Source of funding for the study: N/A

You are being invited to participate in the research study mentioned above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not. If there is anything you do not understand, or if you want more information, please ask the researcher.

A. PURPOSE

The purpose of the research is to examine and describe the experiences of early-career elementary TSE beliefs. This study will explore how teachers perceive and respond to a workshop that allows them to express their self-efficacy beliefs when teaching elementary with ADHD.

B. PROCEDURES

If you participate, you will be asked to participate in two interviews, fill out two scales twice, participate in a 2-hour workshop, and complete a workbook.

In total, participating in this study will take 8-10 hours.

C. RISKS AND BENEFITS

Potential benefits include: learning more about ADHD, and/or increasing your confidence in teaching.

D. CONFIDENTIALITY

We will gather the following information as part of this research: your name, contact information, answers to the surveys, and recordings of the interviews.

We will not allow anyone to access the information, except people directly involved in conducting the research. We will only use the information for the purposes of the research described in this form.

The information gathered will be anonymous. That means that it will not be possible to make a link between you and the information you provide.

We will protect the information by using a pseudonym.

We intend to publish the results of the research. However, it will not be possible to identify you in the published results.

We will destroy the information five years after the end of the study.

F. CONDITIONS OF PARTICIPATION

You do not have to participate in this research. It is purely your decision. If you do participate, you can stop at any time. You can also ask that the information you provided not be used, and your choice will be respected. If you decide that you don't want us to use your information, you must tell the researcher before May 1, 2023.

There are no negative consequences for not participating, stopping in the middle, or asking us not to use your information.

G. PARTICIPANT'S DECLARATION

I have read and understood this form. I have had the chance to ask questions and any questions have been answered. I agree to participate in this research under the conditions described.

NAME (please print) _____

SIGNATURE _____

DATE _____

If you have questions about the scientific or scholarly aspects of this research, please contact the researcher. Their contact information is on page 1. You may also contact their faculty supervisor.

If you have concerns about ethical issues in this research, please contact the Manager, Research Ethics, Concordia University, 514.848.2424 ex. 7481 or oor.ethics@concordia.ca.

Appendix G

Workshop Schedule

[10 minutes] ADHD Definition and Diagnosis
[30 minutes] Lecture on ADHD etiology and symptoms presentation at school
[10 minutes] Presentation of clinical vignettes dealing with ADHD symptoms presentations
[5 minutes] Group discussion of clinical vignettes dealing with ADHD symptoms presentations
[BREAK]
[30 minutes] Lecture on effective teaching strategies and classroom management
[5 minutes] Brief explanation of the workbook

Appendix H

Workbook

Exploring Aspects of Confidence Related to Teaching and Managing Students with ADHD

About This Workbook

Teaching and managing students with ADHD is a task that can be learnt and improved. There are several factors that contribute to whether, or how long, a teacher tries to teach and manage a student with ADHD. One factor is a teacher's confidence in their ability to manage and teach a student with ADHD. The following material can help you explore some aspects related to this confidence, as well as give you an opportunity to learn some new skills and help you make choices and changes in your classroom.

Take as much time as you need to think carefully about each question. There are no right or wrong answers, and your answers are for your own unique benefit.

This workbook will be scanned and emailed to the researcher to ensure this stage of the study has been completed; however, we encourage you to keep the workbook to be able to look back over your answers on a regular basis.

While you are completing this workbook during your personal time, it is a good time to prepare yourself for teaching and managing students with ADHD. Your answers in this workbook will be of most benefit to you when you are actually teaching and managing students with ADHD or students with symptoms of ADHD. Keep it handy and refer back to it especially if you encounter difficulties.

Part 1: Mastery

When we become good at something we say we have mastered that task. Mastery can relate to anything we can consistently do with confidence. Our past experiences can guide and influence the way we approach future challenges.

Exercise: Think of a practical task or skill (the more recent, the better) that you have found challenging while teaching, but have persevered with and eventually mastered.
Examples: Helping a student solve a math problem or resolving a case of bullying.

What was the task?

.....
.....

What thoughts did you have about being able to accomplish this task when you were first learning it?

I thought.....
.....
.....

How did these thoughts help, or hinder your first attempts?

.....
.....

.....
How did you feel about being able to accomplish this task when you were first learning it?

 I felt.....
.....
.....
How did these feelings help or hinder your first attempts?

 .....
.....
.....
What were some other things that helped you master this task?
For example, being interested, having support...

 .....
.....
.....

Look over your responses to the above questions, and think about how you could incorporate some of the things that have helped you accomplish a task in the past. Write a list of the things that you know will help you with the task of managing and teaching students with ADHD.
1.....

2.....

3.....

4.....

Part 2: Building Confidence by Learning from Others

Below are some experiences written by other teachers who have taught and managed students with ADHD. In these testimonials, they explain how it was for them. We included this in the workbook as it may help you to read about the experiences other teachers have had and how they have overcome them. We also included two testimonials from parents of a child with ADHD who have expressed gratitude towards their child's teacher and how they managed their child in the classroom.

Testimonial 1

"Take a deep breath. I know the unknown seems overwhelming and scary- happens to me at the beginning of each school year. To be honest, the kids that have ADHD have always been my favorite they keep things entertaining. I know the first year you feel like you have to be firm and strict but if you let lose a little I think you'll have a lot of fun. :)" -passenger place on Reddit

Testimonial 2

"Having ADHD gives me an understanding of my students, especially of students taking medication. I understand the side effects, since I deal with them, too: having such a bad case of

dry mouth that your tongue sticks to the inside your mouth causing you to fumble over words; needing some time to sneak in snacks during the day because eating a full meal sometimes makes you feel like you want to vomit. I acknowledge their needs. I make sure that the room is quiet when they take tests. I don't even work on the computer because I know that some students will notice the clicking on the keyboard, the hand ticking on the clock, the shuffling of shoes, or other little things that other people tune out. I accept that there will be moments when they get off track and take a little detour for a couple minutes. I allow students to work in different areas of the classroom instead of having to sit in their chair and work at a table. I balance high academic expectations with letting them be themselves. When I make mistakes, I show students how to handle that without getting down on themselves. I let them know that I am not perfect, and that mistakes help me to learn and grow. I am honest with my students. I don't give them "fluffy" comment, but I'm not rude or degrading to them. We talk about the "elephant in the room" because we should not feel shame if our brains function differently than others, even when other people try to make us feel that way. My students tell me what works and doesn't work for them. They know how they feel, and if they can't articulate their feelings, I ask them questions so they can describe their emotions. I make sure that my students learn self-advocacy skills, no matter how old they are. I remember overhearing someone say, "Those students get up every morning and think of ways to annoy teachers!" I know that my students absolutely don't do that. We don't enjoy being "different." I did not choose to have ADHD, and neither did my students. What we need is to be accepted as we are and for whom we are. After all, each one of us has a lot to offer the world." – Jill Dahl from Additude

Testimonial 3

"No two children experience and learn the same way. Not every child can sit 'crisscross applesauce' on the carpet and follow along. Before we can teach a child, we must learn about them. Each child is different and unique and should be treated as such. When I was in high school, I sat in front of a student who cracked and popped her gum all through class every day. I couldn't focus on what the teacher was saying because this 'background' sound was all I could hear. In order to study, I had to have absolute quiet. In contrast, I have known others who could not function in silence, and needed background noise to help them focus. As a teacher, I think it's crucial for children's learning styles and environmental needs to be considered. Everyone's 'normal' is different. Some students need space, sound, and movement. Think of everything a baby learns in the first few years of life — they are not sitting still in a chair!" – Anonymous, Additude

Testimonial 4

"My child was very proud that her 3rd grade teacher periodically chose her to deliver notes to the vice principal. I found out that the notes were just an excuse to let my daughter move around when she got disruptive. Teachers who can turn a negative into a positive make all the difference." – Elizabeth, Additude

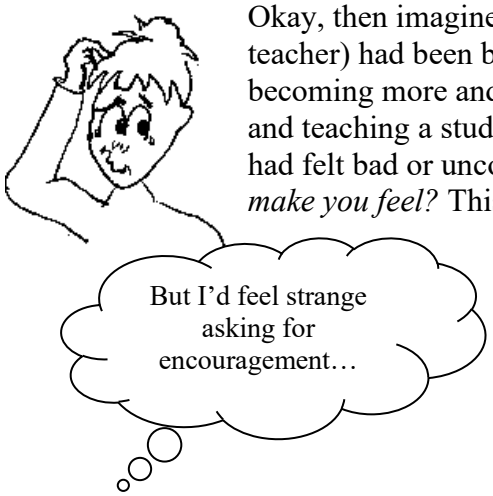
Testimonial 5

"My son's 4th grade teacher has been so helpful; we are getting a book to record the accommodations she has been providing so that future teachers can help in the same ways. My son respects her and doesn't dread going to school anymore. She helps him be more successful in class by emailing me copies of the assignments he forgets or loses, offering multiple-choice

spelling tests, and allowing him to type out written assignments. He has been flourishing and enjoying school, all because of his thoughtful and patient teacher." – Karle

Part 3: Utilizing Encouragement

Sometimes all we need is a little encouragement to get us through challenging circumstances. Supportive words such as "you've done so well, keep it up", and "I know you can do it", can give us the support we need. Unfortunately, others don't often know when we need it most, unless we tell them. Now, while you struggle to teach and manage students with ADHD, it is a great opportunity to talk to your colleagues and administration about how they can support you, and even ask them for their support. **The easiest way someone can support you in teaching and managing students with ADHD is to give you verbal encouragement.** However, some feel as though asking for encouragement may be out of their comfort zone.



Okay, then imagine if your colleague or friend (who is an elementary school teacher) had been battling through a problem for a few weeks now and were becoming more and more upset and distant due to their struggles managing and teaching a student with ADHD. Then, eventually you find out that they had felt bad or uncomfortable about asking for your support. *How would this make you feel?* This may be how others feel toward helping you.

We tend to underestimate how good it can allow others to feel by allowing them to support us. In other words, not allowing them to help is like refusing a gift. By telling those closest to us what we do and don't need, we can also foster better communication towards everyone's needs being met. Also, if those closest to us know what we really want and need, they can support us accordingly.

Exercise: Write down the sort of things that your colleague or teacher friend might say that would ***not*** be helpful to you when you are trying to manage and teach students with ADHD?

1.....

2.....

3.....

Write down the sort of things that your colleague or teacher friend could say to you to encourage you in managing and teaching students with ADHD?

1.....

2.....

3.....

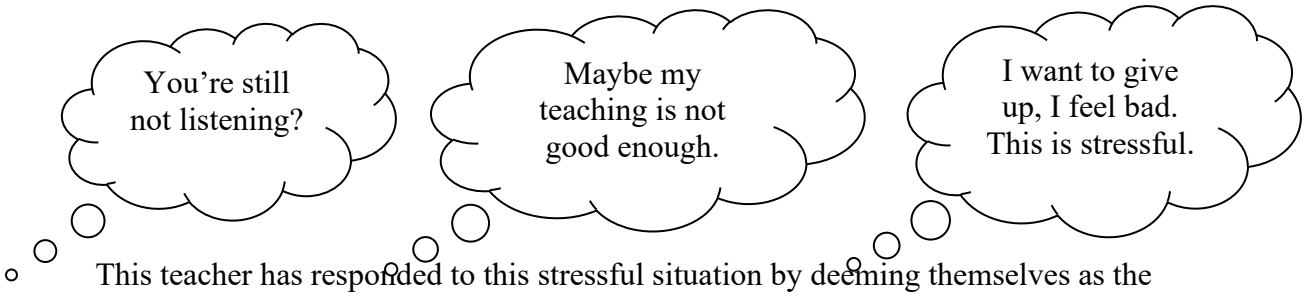
Maybe you could brainstorm some verbal encouragement with a colleague or teacher friend.
Remember, you can also give yourself verbal encouragement!

Part 4: Exploring How We Respond to Stress

Managing and teaching students with ADHD, like other tasks that teachers learn and do, will not always be easy. In general, teaching can be stressful, and the added challenges of teaching and managing students with ADHD can be very demanding as it can take some additional time, effort, and, most of all, perseverance. Difficulties that can occur during teaching can play havoc with our emotions, and may just add to other stress in our lives at the time. This can leave us feeling stressed, frustrated, and, sometimes, tearful. Worst of all, it can lead to self-doubt. These are times when our confidence in our ability to teach and manage students with ADHD will be challenged the most. Even though we might not have control over the events that happen to us, we do have control over how we perceive what happens to us. In other words, we might not be able to change the situation, but we can change how we think and feel toward the situation. This can also have a powerful effect on the situation in turn.

The following is an example of inner thoughts teachers may have…

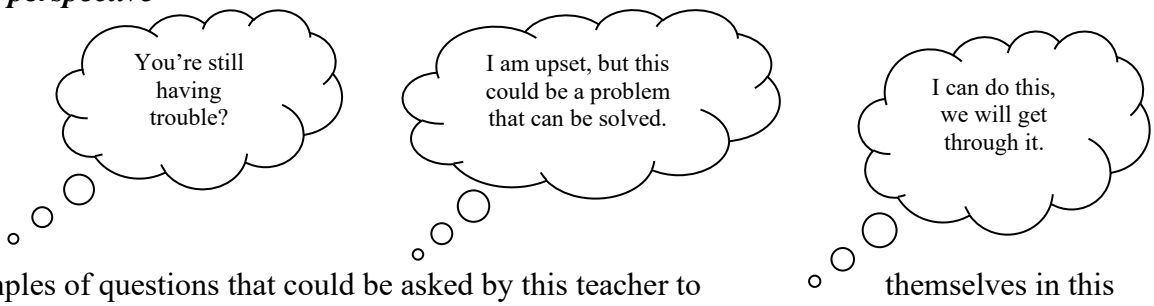
***Negative* perspective while teaching and managing a student with ADHD**



This teacher has responded to this stressful situation by deeming themselves as the problem. These self-doubts can leave them feeling powerless and prevent them from noticing the real issue (such as, the symptoms, the environment, etc.). Unfortunately, this negative mindset can induce a negative spiral and trigger stress and anxiety. It is important to know that **self-talk** can be convincing.

This new teacher begins to challenge these self-doubts:

Open perspective



Examples of questions that could be asked by this teacher to themselves in this situation:

1. Are the students with ADHD learning in my class?
2. How do I know the students with ADHD are learning?
3. What are some behaviors that show me that I am supporting their learning?
4. How are my confidence levels?
5. What do I need to solve this problem?
6. Do I need some help? Information? A hug? Some encouraging self-talk?

Exercise: How is your self-talk?

Think of a recent event while teaching that you had a negative emotion toward (frustration, anger, confusion etc.). Try to recall how you were thinking and your individual thoughts.

Did this thinking help or hinder how you felt?

 .....

Did this thinking help how you handled, or dealt with the situation? (Circle one)
Yes / No
Can you think of an alternative thought, one that might have helped change how you looked at the situation, and made it easier to cope?

 .....
.....

It's okay and normal for you go toward a negative perspective, but <u>be careful not to stay there</u>.

Negative thoughts and feelings, such as disappointment, frustration, and anger, can take us to a place where we sometimes need to go. It's important not to deny ourselves these feelings, they need acknowledgement (e.g., "Yes, I'm frustrated") before we can truly move on. Going there is okay; however, sometimes we get stuck there for longer than we need to be, bringing self-defeating consequences to our initial aims. This is where **positive encouraging self-talk** can be used purposely to bring us back on track (e.g., "I can do this", "I'm not a superhero, but I am a good teacher", "I'm human and I'm doing my best", "I really am doing okay!").

 Write your own encouraging and positive self-talk in sentences/phrases that you can use when you catch yourself using negative/unhelpful self-talk. Try to make these phrases relevant to when you are in difficult situations when teaching and managing students with ADHD.
1……
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2……
……..
3……..
……
4..……
……

Over the next few days listen to your self-talk, even try keeping a diary of what thoughts go with your emotions and how this affects your confidence and your ability to stay rational and solve problems.

<u>Part 5: Keeping Motivated</u>

Exercise: Write a list of all the reasons you choose to help students with ADHD. You can include academic benefits for your students with ADHD. You can also include any other benefits you can think of or know about, for example: "I want to feel like I made a difference in a student's life", "By helping a student with ADHD, it will help my other students as well".
1.....

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16.....

If you experience difficulties, or just feel your motivation is low, and feel like giving up teaching, the list you have made above is a valuable resource to return to and read.
Thank you again for participating in this study.

I hope you have enjoyed the material. It is now vital to the study that this workbook is scanned and sent back to the researcher, within 7 days of receiving it.

Appendix I

Resource Sheet

Additional Resources

LDRFA: Effective Strategies for Teaching Students with ADHD

- I would suggest browsing this website. Here are two direct links to some important and relevant pages on the website.

https://www.ldrfa.org/learning-disability-adhd-facts/
https://www.ldrfa.org/tips-and-strategies-to-help-students-with-adhd-succeed/

CHADD: https://chadd.org/understanding-adhd/

- The following link is the page specific to educators. You can find classroom accommodations, and more information and suggestions to think about.

https://chadd.org/for-educators/overview/

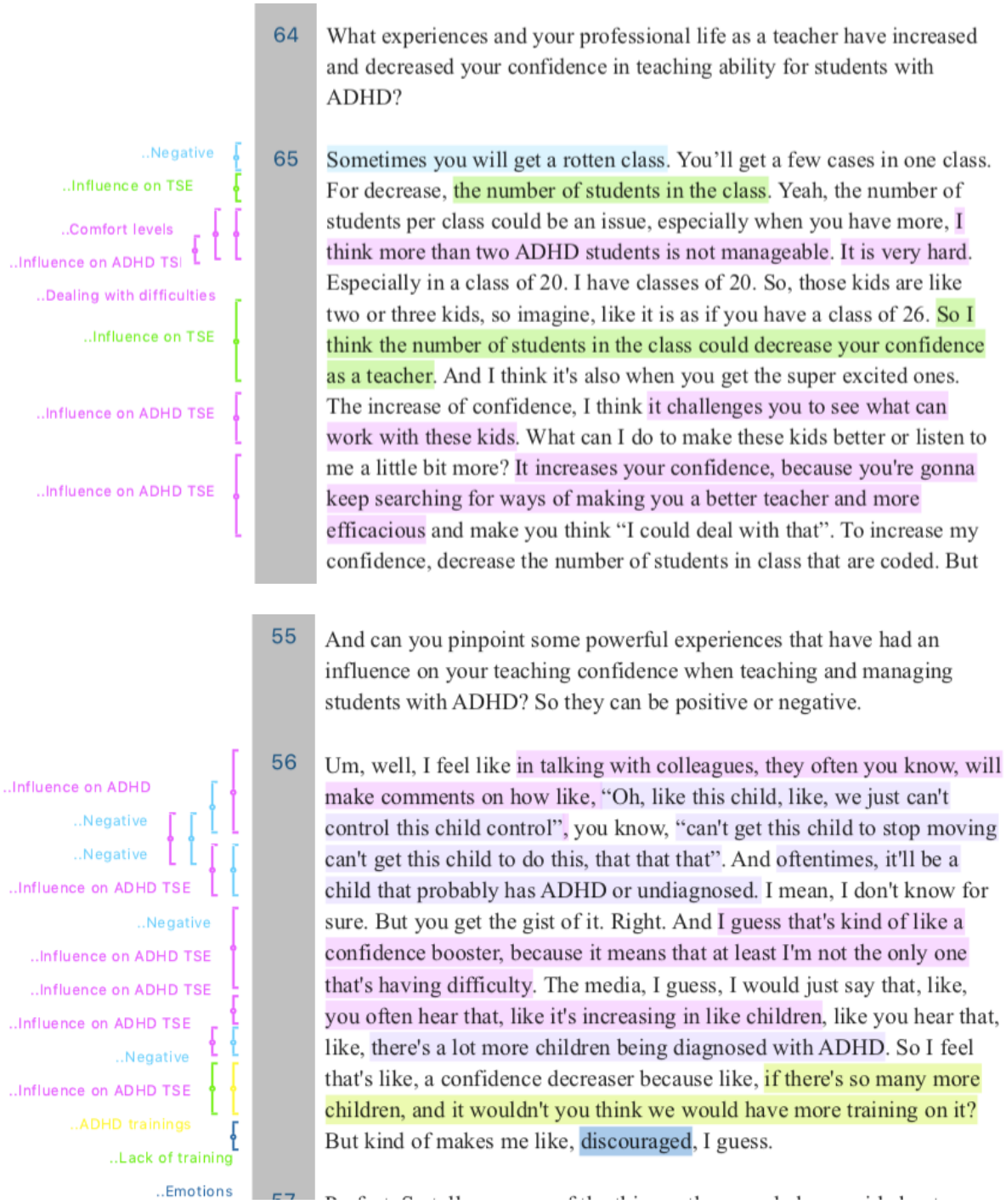
NCPMI: https://challengingbehavior.org/

- This website addresses and explains Positive Behavior Support (PBS)
- They supply resources and PDFs that I suggest browsing, if you are interested.
- The following link is specific to the model, and it describes some teaching tools. Scroll down and click the 10 different drop-down menus to browse the teaching tools.

https://challengingbehavior.org/pyramid-model/behavior-intervention/teaching-tools/

Appendix J

Sample Coding Sheet



1) How do elementary school teachers describe their **knowledge and understanding** of students with ADHD? **(ADHD Knowledge)**

PRE-Categories

Accurate Description/Symptoms

- Stereotypical & basic

Misconceptions

ADHD Trainings

Lack of knowledge

Experience with ADHD

Prevalence Rates

POST-Categories

Increase in knowledge

Well-rounded definitions

Ability to recognize new symptoms

Diagnostic criteria/procedure

Feedback on workshop

Types of ADHD