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# Instructing Students with Pediatric and Mental Health Conditions: Predictors of Teachers' Self-efficacy

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Philadelphia College of Osteopathic Medicine

Department of Psychology

INSTRUCTING STUDENTS WITH PEDIATRIC AND MENTAL HEALTH  
CONDITIONS: PREDICTORS OF TEACHERS' SELF-EFFICACY

By Rachel Allen

Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Psychology

June 2018

**PHILADELPHIA COLLEGE OF OSTEOPATHIC MEDICINE  
DEPARTMENT OF PSYCHOLOGY**

**Dissertation Approval**

This is to certify that the thesis presented to us by Rachel Allen  
on the 23 day of June, 2018, in partial fulfillment of the  
requirements for the degree of Doctor of Psychology, has been examined and is  
acceptable in both scholarship and literary quality.

**Committee Members' Signatures:**

**Chairperson**

**Chair, Department of Psychology**

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## **Abstract**

Teachers face unique challenges when teaching children who have individualized education plans (IEPs) and/or 504 plans, including managing problematic behaviors and knowing about the symptoms and accommodations necessary when children present with health conditions. The factors that predict teachers' self-efficacy when working with these children have not been established. This was a quantitative retrospective design utilizing a survey of teachers' past experiences teaching children with IEP's and/or 504 plans. K-8 elementary school teachers were surveyed using the Teacher Self-Efficacy Scale for Children with IEP/504 Plans (2017), which was developed by the authors and was adapted from a previous measure, the Teachers' Sense of Efficacy Scale (Tshannen-Moran & Woolfolk Hoy, 2001). In total, 179 participants began and 134 completed the survey. Results of the study indicated that perceived knowledge of the condition, perceived ability to engage students in schoolwork and vary instructional methods, perceived ability to manage classroom behavior, and perceived ability to manage emotional responses significantly predicted teacher self-efficacy when working with children with IEPs and/or 504 plans. Years of teaching was not a significant predictor variable.

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## **Chapter 1: Introduction**

### **Statement of the Problem**

When thinking about acute and chronic pediatric conditions, one needs to think about both physical and mental health conditions (Torpy, 2010). These types of conditions are a prevalent concern in the United States (P. D. Williams, 1997). The prevalence rate of acute physical conditions in children is approximately 2.4 conditions per year (Centers for Disease Control and Prevention [CDC], 2014). Prevalence rates for chronic physical conditions in children in the United States range between 15% and 20% (Mescon & Honig, 1995; Phelps, 2006; Pinquart & Shen, 2011; van der Lee, Mokkink, Grootenhuis, Heymans, & Offringa, 2007). Although prevalence rates of mental health conditions vary depending on the type of condition, approximately 13% of children aged 8 to 15 are diagnosed with mental health conditions in any given year (CDC, 2013). At times, the dichotomy of labeling conditions as physical and mental health may be artificial, as individuals often experience both types of conditions concurrently. For instance, in the two most common physical conditions diagnosed in children—asthma and diabetes mellitus (DM)—the mental health morbidity is quantified as affecting 26% and 15.2% of these populations, respectively (Hood et al., 2011; Kewalramani, Bollinger, & Postolache, 2008).

Some of the most common chronic physical conditions in children include asthma, DM, cystic fibrosis (CF), epilepsy, and congenital heart disease (Boyse, Boujaoude, & Laundry, 2012; Torpy, 2010). It is important to separate mental health conditions into internalizing and externalizing conditions in order to discuss prevalence. The most common internalizing, or emotional, conditions in children include

mood and anxiety disorders (CDC, 2013). The most common externalizing, or behavioral, conditions in children are oppositional defiant disorder (ODD) and attention-deficit/hyperactivity disorder (ADHD; CDC, 2013).

In general, children spend more weekday hours in classrooms with their teachers than they do at their homes with their families (Myers-Clack & Christopher, 2001). Not only does school directly affect children's educational achievement and development, but it also affects children's social, cognitive, and emotional development (Sylva, 1994). When children are diagnosed with physical or mental health conditions, challenges arise that may have negative effects on their development. Some of the most common challenges children with acute and chronic conditions face in school are increased absenteeism, social issues including bullying, reduced school performance, and feelings of fear and embarrassment due to such conditions (Bussing, Mason, Bell, Porter, & Garvan, 2010; Chiang & Gau, 2014; Verlinden et al., 2015; Yi, Kim, Hong, & Akter, 2016). It is important to note that although many of the common challenges overlap with both physical and mental health conditions, each condition may present its own set of unique challenges for the affected child.

The school-based challenges of having a physical or mental health condition in childhood affect both the child and school personnel, specifically teachers. Teachers experience the arduous task of managing the challenges listed above related to the students with physical and mental health conditions, tending to the rest of the children, and attempting to foster healthy academic, social, and emotional development of all children in their classrooms. Taking into consideration the daily requirements of teachers with a healthy population of children, the additional considerations involved with

children with acute and chronic conditions may negatively impact their sense of self-efficacy to teach these children.

Self-efficacy, which refers to one's perceived ability to learn and/or perform actions, bore out of Albert Bandura's social cognitive theory, which emphasized that human functioning comes from the interaction between biological, behavioral, and environmental factors (Bandura, 1977, 1997). Many studies have shown that high self-efficacy influences one's achievement, motivation, and performance (Bandura, 1997; Multon, Brown, & Lent, 1991; Stajkovic & Luthans, 1998). In recent years, teacher self-efficacy (TSE) has been researched more thoroughly because of its presumed connection to persistence during difficult times in the classroom, effectiveness in instructing and providing support to students, positive learning outcomes for students, and managing and motivating "challenging" students (Almog & Shechtman, 2007; Justice, Mashburn, Hamre, & Pianta, 2008; Leroy, Bressoux, Sarrazin, & Trouilloud, 2007; Tschannen-Moran & A. W. Hoy, 2001). Variables most consistent with TSE with a healthy population of students include perceived ability to manage behavior, perceived ability to use various instructional methodologies to help with student engagement, perceived ability to provide emotional support, and years teaching (Klassen & Chiu, 2010; Zee, Koomen, Jellesma, Geerlings, & de Jong 2015). The challenges that arise when teaching children with acute and chronic conditions may negatively affect the factors associated with TSE; however, there is a problematic gap in the literature addressing what teachers perceive as impacting their self-efficacy when teaching children with acute and chronic conditions.

The studies that exist on TSE when teaching children with acute and chronic conditions address either physical conditions or mental health conditions, but not both. These same studies also only address one or two contributing factors that impact TSE. Studies that address TSE when teaching children with physical conditions focus on one factor: lack of knowledge about physical conditions. The authors of these studies found support that this factor negatively impacts TSE when teaching children with physical conditions (Bishop & Boag, 2006; Clay, Cortina, Harper, Cocco, & Drotar, 2004; Cohall et al., 2007; Lucas, Anderson, & Hill, 2012; Nabors, Little, Akin-Little, & Iobst, 2008; Oeseburg, Jansen, Reijneveld, Dijkstra, & Groothoff, 2010; Wodrich, Jarrar, Buchhalter, Levy, & Gay, 2011; Wyckoff, Hanchon, & Gregg, 2015). Literature on TSE when teaching children with mental health conditions also focuses on the factor of lack of knowledge, but also scrutinizes another factor: employing ineffective behavior management strategies. Again, the authors found support that these two factors negatively impact TSE when teaching students with mental health conditions (Woodcock & Vialle, 2011). Although these studies are helpful in identifying factors that may impact TSE with these unique populations, they are limited because the authors only focused on addressing TSE when teaching children with physical or mental health conditions, not both. Although there is overlap in the challenges that arise in the classroom with children with physical and mental health conditions, there are specific challenges that arise with each type of condition that makes preparing teachers to help children with all conditions challenging.

**Purpose of the Study**

The purpose of this study was to determine what factors predict TSE when teaching children with concurrent physical and mental health conditions. This study helped clarify what teachers perceive as helpful and not helpful with regard to their thoughts, emotions, or behaviors, in teaching children with these types of conditions. The aim of the study was to determine what aids and discourages teachers from managing classrooms of students with varied individual differences so that psychologists can offer suggestions and interventions to enhance the classroom experience for teachers and students alike.

## Chapter 2: Literature Review

### Acute and Chronic Conditions

Acute conditions are defined as “a type of illness or injury that ordinarily lasts less than 3 months, was first noticed less than 3 months before the reference date of the interview, and was serious enough to have had an impact on behavior” (CDC, 1999, p. 3). Chronic conditions are broadly defined as “physical medical conditions and problems such as substance use and addiction disorders, mental illnesses, dementia, and other cognitive impairment disorders, and developmental disabilities that last a year or more and require ongoing medical attention and/or limit activities of daily living” (U.S. Department of Health and Human Services, 2010, p. 12). Prevalence rates of acute physical illnesses for a given child are approximately 2.4 acute conditions per year (CDC 2014, whereas chronic physical conditions are found in 15% to 20% of children yearly (Mescon & Honig, 1995; Phelps, 2006; Pinquart & Shen, 2011; van der Lee et al., 2007) and mental health conditions are found in approximately 13% of children in any given year (CDC, 2013).

**Common physical conditions in children.** There are many physical conditions that are diagnosed in childhood; however, this review will focus on some of the more common pediatric conditions. Some of the most common acute pediatric physical conditions include cough, common colds, ear infections, croup, diarrhea and vomiting, and fever (Children’s Medical Institute, 2013). Some of the most prevalent physical conditions in childhood are asthma, DM, CF, and epilepsy (Boyse et al., 2012; Torpy, 2010). These chronic conditions are often seen in early childhood. Although some of the

chronic conditions are considered life-threatening, proper treatment and management of symptoms can reduce the likelihood of a fatality.

*Asthma.* Asthma is characterized by recurrent cough, wheezing, chest pain or tightness, and difficulty breathing. People diagnosed with asthma frequently have narrowed airways during asthmatic episodes, making it difficult to breathe (Sawicki & Haver, 2015). Asthma is the most prevalent pediatric chronic condition in the United States (CDC, 2014). In 2014, 8.6% of children in the United States were diagnosed with asthma, or approximately 6,292 children (CDC, 2014). Asthma is a chronic condition that often begins in childhood between the ages of 5 and 14 (10.3%) and continues throughout the lifespan (CDC, 2014).

*Asthma symptoms and diagnosis.* Asthma symptoms most often include wheezing and coughing when triggered by environmental factors such as cold weather and air, pollution, upper respiratory infections, exercise, and allergens including pollens, molds, and animals (Ben-Joseph, 2014; Sawicki & Haver, 2015). Asthma is diagnosed through a review of medical history, including family history, physical examination, and testing. The most common testing used to diagnose pediatric asthma is spirometry testing, which measures the volume and flow of air when it is blown out after taking a very deep inhale. Another common test is challenge testing, which is completed by purposefully narrowing the child's airways through exercise, cold weather, or inhaling an irritant. Occasionally, further testing is required, including chest X-rays, skin or blood tests, barium swallows, or a sweat chloride test, which is used to determine the presence of CF (Ben-Joseph, 2014; Sawicki & Haver, 2015).

*Asthma categories in children.* Asthma severity falls into one of four categories, which come with varying features and treatment indications (Ben-Joseph, 2014; Sawicki & Haver, 2015). The first category is intermittent asthma, which, as indicated by its name, is defined as brief episodes of coughing, wheezing or shortness of breath for a maximum of twice per week (Ben-Joseph, 2014; Sawicki & Haver, 2015). The second category is mild persistent asthma, which is defined by the frequency of symptoms (coughing, wheezing, shortness of breath) more than twice per week, but not daily (Ben-Joseph, 2014; Sawicki & Haver, 2015). The third category of pediatric asthma is moderate persistent asthma, which is characterized by daily asthmatic symptoms that require daily medication (Ben-Joseph, 2014; Sawicki & Haver, 2015). Finally, the most severe pediatric asthma category is severe persistent asthma, which may manifest in seemingly constant asthma symptoms, which may indicate that the child needs to receive hospitalization or emergency care. Children who fall into the severe persistent asthma can only handle minimal physical activity and, therefore, require constant monitoring (Ben-Joseph, 2014).

*Treatment for pediatric asthma.* Treating pediatric asthma is based on the severity of symptoms. The first form of treatment is with an inhaler or nebulizer, which delivers bronchodilators, relieving asthmatic symptoms efficiently through relaxation of the child's airways (Sawicki & Haver, 2015). This type of treatment is not often used on a daily basis. As such, it is used most often with children who have intermittent asthma and only when asthma symptoms occur (Sawicki & Haver, 2015). Daily asthma treatment may be required for children whose asthma falls into one of the other three categories (mild persistent, moderate persistent, or severe persistent; Ben-Joseph, 2014).

This kind of long-term treatment is called “controller treatment” and there are four types of controller medication (Sawicki & Haver, 2015). The first is inhaled glucocorticoids, which are taken daily through nebulizer or inhaler and work to reduce the sensitivity of the bronchial airways in an attempt to prevent asthma symptoms from occurring (Sawicki & Haver, 2015). This type of treatment is the preferred and most effective method of treatment for any of the persistent asthmas (Sawicki & Haver, 2015). The second type of controller treatment are leukotriene modifiers, which are taken in pill form and can be used in addition to the inhaled glucocorticoids in severe cases of pediatric asthma (Sawicki & Haver, 2015). The third controller medication is long-acting bronchodilators, which are similar to the short-acting bronchodilators and are taken via inhaler or nebulizer. Long-acting bronchodilators are used in conjunction with inhaled glucocorticoids (Sawicki & Haver, 2015). The fourth and final type of controller treatment is a medication called omalizumab, which targets immunoglobulin E, a protein in the blood. This type of treatment is used when the above listed treatments are ineffective (Sawicki & Haver, 2015).

***Diabetes mellitus.*** DM is a condition resulting from blood glucose, or sugar, levels being too high. Type 1 (T1DM) and type 2 (T2DM) differ in their presentation, but, in total, approximately .25% of children have been diagnosed with DM. Children are more likely to develop T1DM than T2DM (World Health Organization [WHO], 1998).

*Types of diabetes mellitus.* As stated above, there are two types of DM. T1DM is characterized by excessive blood sugar in combination with the pancreas’ inability to produce insulin. Insulin is needed to control and transport glucose to cells in order to provide them with energy (WHO, 2017). T2DM is known as “insulin resistant” diabetes,

and similar to T1DM, the body does not produce or use insulin sufficiently (WHO, 2017). The major difference between T1DM and T2DM is that T1DM cannot currently be cured and requires lifelong medication, whereas T2DM can be reversed through physical exercise, healthy eating, and other health-related activities (WHO, 2017).

*Presentation and diagnosis of diabetes mellitus.* Most children who are diagnosed with T1DM present to their providers with weight loss, lethargy, and sometimes visual problems (Levitsky & Madhusmita, 2016). Children with T2DM may present due to similar symptoms, except for weight loss, although most children are asymptomatic prior to diagnosis (Laffel & Svoren, 2016). The American Diabetes Association (ADA) recommended testing a child for T2DM if the child is overweight or obese, defined by a body mass index equal to or above the 85th percentile, and has a first or second degree relative with the diagnosis, has maternal history of diabetes or gestational diabetes, is a member of a high-risk racial group including Native American, Latino, Asian American, Pacific Islander, or African American, or shows signs of insulin resistance (Laffel & Svoren, 2016). Screening for T1DM and T2DM is done through a blood test that assesses hemoglobin A1C or plasma glucose, or through an oral glucose tolerance test.

*Treatment of diabetes mellitus.* As stated previously, T1DM is unable to be cured at this time; therefore, it is managed. Management of pediatric T1DM includes routine blood glucose testing (frequency is dependent on the needs of the child), administration of insulin, recognition of hypoglycemia (which is a complication resulting from too much administered insulin and, if not monitored and treated, can result in comatose or death),

and blood or urine ketone measurement at the time when the child is ill (Levitsky & Madhusmita, 2016).

T2DM, on the other hand, can be reduced or reversed. Nonpharmacological treatment is often recommended for children and adolescents and includes nutrition therapy and weight loss through physical exercise (Laffel & Svoren, 2016). In combination with the nonpharmacological treatments, metformin—a medication indicated to increase the responsiveness of glucose uptake—is recommended as the frontline treatment for pediatric T2DM. Insulin therapy may also be used in cases of ketosis or severe hyperglycemia (Laffel & Svoren, 2016).

*Cystic fibrosis.* As explained by Katkin (2016), “cystic fibrosis (CF) is the most common life-shortening autosomal recessive disease among Caucasian populations” (p. 1). The average age of survival is 39.3 years (Katkin, 2016). CF is a congenital metabolic disorder that results in the production of abnormally thick mucus which affects breathing, digestion, and sweating (WHO, 2017).

*Types of cystic fibrosis.* There are two main types of CF: respiratory tract and gastrointestinal CF. Common symptoms of respiratory tract CF are chronic coughing, wheezing, shortness of breath, and recurring cold and sinus infections. Common symptoms of gastrointestinal CF are inability to gain weight, poor growth, excessive thirst, constipation, and recurrent pancreatitis (Katkin, 2016). Excessive sweating and “tasting salty” are some other symptoms for both categories of CF (Katkin, 2016).

*Treatment of cystic fibrosis.* Similar to T1DM, asthma, and other chronic conditions, CF is incurable. Medications are the first line of treatment for CF, including CF transmembrane conductance regulators (CFTR modulators), antibiotics, and

bronchodilators (Simon, 2016). Chest physiotherapy, including exercises, also is recommended for the treatment of CF (Simon, 2016). Supplemental oxygen should be used when necessary to help with breathing (Simon, 2016). Finally, lung transplantation is an option for some who have been diagnosed with CF (Simon, 2016).

*Epilepsy.* The incidence of epilepsy is higher in both children and older adults than in adolescents, young adults, and middle-aged adults (Shafer & Sirven, 2013). Epilepsy is a neurological disease that is linked to enduring derangement of regular brain function (Fisher et al., 2014).

*Diagnosis of epilepsy.* Epilepsy is a seizure disorder characterized by the following symptoms: one reflex seizure and the probability of future seizures occurring over the next 10 years or, at minimum, two reflex seizures that occur more than 24 hours apart (Devinsky, et al., 2016). Epilepsy is diagnosed through brain scans, including electroencephalograms (EEG), magnetic resonance imaging (MRI) tests, or computerized tomography (CAT) scans (Gupta, 2016).

*Types of seizures.* There are two categories of seizures associated with epilepsy. The first is focal or partial seizures, which only involve part of the brain, and which is associated with loss of consciousness (Gupta, 2016; Devinsky et al., 2016). The second category is generalized seizures, which are seizures that affect the entire brain (Gupta, 2016).

*Treatment of epilepsy.* The first type of treatment for managing epilepsy in children is anticonvulsant medication, including phenobarbital, valproic acid, phenytoin, carbamazepine, felbamate, lamotrigine, and topiramate (McBrien & Bonthius, 2015). Another type of treatment for epilepsy in children is the adoption of a ketogenic diet,

which is achieved by eating mostly fats versus carbohydrates. This diet was formulated after the observation that eliminating carbohydrates from one's diet can release ketones, which can be helpful in preventing seizures (McBrien & Bonthius, 2015). Occasionally, surgical procedures are utilized for very severe epilepsy (McBrien & Bonthius, 2015).

**Common mental health conditions in children.** Approximately 13% of children are diagnosed with a mental health condition in any given year (CDC, 2013). Although that number may not be as high as for physical conditions, underreporting and lack of formal diagnosing procedures may be to blame. Mental health conditions that affect children can be conceptualized as either internalizing conditions or externalizing conditions. Internalizing disorders are characterized as high levels of negative affect and, by definition, these feelings and thoughts are frequently internalized (Turygin, Matson, Adams, & Belva, 2013). Internalizing disorders encompass major depressive disorder, obsessive-compulsive and related disorders, anxiety disorders, trauma and stressor-related disorders, and dissociative disorders (Regeir, Kuhl, & Kupfer, 2013). Externalizing disorders are characterized by maladaptive behaviors, based on internal feelings and cognitions, directed toward one's environment (McMahon, 1994). Externalizing disorders encompass substance use disorders, addictive disorders, and disruptive, impulse control, and conduct disorders (Regeir et al., 2013). There are many mental health conditions that affect children; however, this review will focus on some of the more common pediatric mental health conditions. Two of the more common types of internalizing conditions in childhood are depressive and anxiety disorders (CDC, 2013). In regard to externalizing disorders, some of the most common disorders in childhood are and ODD (CDC, 2013).

*Depressive disorders.* Depressive disorders are classified as mood disorders in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association [APA], 2013). This classification of disorders includes major depressive disorder (MDD), persistent depressive disorder, disruptive mood dysregulation disorder (DMDD), unspecified depressive disorder, substance/medication-induced depressive disorder, and depressive disorder due to another medical condition (Castro & Gathright, 2013).

*Symptoms and diagnosis.* In order to be diagnosed with most of the depressive disorders, the child must report five of the nine following symptoms: depressed mood or irritability most of the day, decreased or diminished interest or pleasure in most activities every day, unintentional weight loss or gain, insomnia or hypersomnia, psychomotor agitation or retardation, decreased energy, feelings of guilt or worthlessness everyday, difficulty with concentrating or other thinking skills, and thoughts of suicide (APA, 2013). The symptoms above must be providing significant distress or impairment to his or her functioning (APA, 2013). The length of time required for diagnosis depends on the disorder with which the child is presenting. Psychologists and psychiatrists can diagnose depressive disorders through clinical interviewing, structured and semi-structured assessments, and self-report measures (National Institute of Mental Health [NIMH], 2015).

*Treatment of pediatric depressive disorders.* Pediatric depressive disorders can be managed and treated with psychopharmacological and non-psychopharmacological interventions. The psychopharmacological interventions are used to treat moderate to severe pediatric depressive disorders. Selective serotonin reuptake inhibitors (SSRIs) are

generally used as the first-line medication due to having mild to no side effects (Moreland & Bonin, 2018). Older order antidepressants (tricyclics and monoamine oxidase inhibitors) are used when SSRIs are not well-tolerated or effective in treating pediatric depressive disorders (Moreland & Bonin, 2018).

Non-psychopharmacological treatments for pediatric depressive disorders frequently include talk therapy, such as cognitive behavioral therapy (CBT) or interpersonal psychotherapy, as well as other therapeutic modalities (Moreland & Bonin, 2018). Both therapies have been shown consistently to be effective in treating pediatric and adult depressive disorders (Moreland & Bonin, 2018).

*Anxiety disorders.* Similar to depressive disorders, there are many kinds of anxiety disorders common in childhood, including generalized anxiety disorder (GAD), separation anxiety disorder, obsessive-compulsive disorder (OCD), panic disorder, and social anxiety disorder (Beesdo, Knappe, & Pine, 2009).

*Symptoms and diagnosis.* Symptoms of anxiety disorders often depend on the disorder itself; however, anxiety disorders overall are characterized by persistent, irrational, and overwhelming worry or fear that interfere with daily activities. Symptoms vary but they can include irritability, sleeplessness or physical symptoms such as headaches or stomachaches. Similar to depressive disorders, anxiety disorders are diagnosed by psychologists and psychiatrists through clinical interviewing, structured and semi-structured assessments, and self-report measures (NIMH, 2015).

*Treatment for anxiety disorders in children.* Also similar to depressive disorders, anxiety disorders can be treated with psychopharmacological and non-psychopharmacological interventions. SSRIs, serotonin-norepinephrine reuptake

inhibitors (SNRIs), and tricyclic antidepressants all have shown efficacy in the treatment of pediatric anxiety disorders (Anxiety Disorders Association of America, n.d.; Glazier, Puliafico, Na, & Rynn, 2015). Evidence-based non-psychopharmacological interventions for anxiety disorders include CBT and other types of exposure therapies (Alvarez, Puliafico, Glazier, & Albano, 2016).

***Attention-deficit/hyperactivity disorder.*** ADHD is one of the most common neuropsychiatric disorders in childhood (Fayyad et al., 2007). The symptoms of ADHD can affect the child's academic, behavioral, cognitive, emotional, and social functioning (APA, 2013).

***Symptoms and diagnosis.*** Symptoms of ADHD include a pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development (APA, 2013). For the inattention subtype of ADHD, six or more of the following symptoms are required for at least 6 months:

[The individual] often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities (e.g., overlooks or misses details, work is inaccurate); often has difficulty sustaining attention in tasks or play activities (e.g., has difficulty remaining focused during lectures, conversations, or lengthy reading); often does not seem to listen when spoken to directly (e.g., mind seems elsewhere, even in the absence of any obvious distraction); often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., starts tasks but quickly loses focus and is easily sidetracked); often has difficulty organizing tasks and activities (e.g., difficulty managing sequential tasks; difficulty keeping materials and

belongings in order; messy, disorganized work; has poor time management; fails to meet deadlines); often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (e.g., schoolwork or homework; for older adolescents and adults, preparing reports, completing forms, reviewing lengthy papers); often loses things necessary for tasks or activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones); is often easily distracted by extraneous stimuli (for older adolescents and adults; may include unrelated thoughts; is often forgetful in daily activities (e.g., doing chores, running errands; for older adolescents and adults, returning calls, paying bills, keeping appointments. (APA, 2013, p. 66

For the hyperactivity/impulsivity subtype of ADHD, six or more of the following symptoms are also needed for 6 or more months (six symptoms from each category [above and below] are required for a combined-type subtype diagnosis):

[The individual] often fidgets with or taps hands or feet or squirms in seat; often leaves seat in situations when remaining seated is expected (e.g., leaves his or her place in the classroom, in the office or other workplace, or in other situations that require remaining in place); often runs about or climbs in situations where it is inappropriate; often unable to play or engage in leisure activities quietly; is often “on the go,” acting as if “driven by a motor” (e.g., is unable to be or uncomfortable being still for extended time, as in restaurants, meetings; may be experienced by others as being restless or difficult to keep up with); often talks excessively; often blurts out an answer before a question has been completed (e.g., completes people’s sentences; cannot wait for turn in conversation); often

has difficulty waiting his or her turn (e.g., while waiting in line); often interrupts or intrudes on others (e.g., butts into conversations, games, or activities; may start using other people's things without asking or receiving permission; for adolescents and adults, may intrude into or take over what others are doing).

(APA, 2013, p. 58)

These symptoms must occur prior to age 12, must appear in two or more areas (e.g., school and home), must interfere with functioning, and do not occur during a psychotic episode (APA, 2013). ADHD is not diagnosed by any single test, but similar to depressive and anxiety disorders, a psychologist or psychiatrist can diagnose ADHD with the use of clinical interviews, collateral interviews and measures, and structured assessments (CDC, 2016).

*Treatment of ADHD.* There are multiple types of treatment for ADHD, both psychopharmacological and non-psychopharmacological. The psychopharmacological treatment of choice for ADHD is stimulants, such as methylphenidate (Ritalin), combination amphetamine and dextroamphetamine (Adderall), and atomoxetine (Strattera; Krull, 2016).

Non-psychopharmacological interventions for ADHD include behavior therapy, which involves modifications to the physical and social environments designed to change behavior based on reinforcers (Krull, 2016). Combination therapy, which is the use of both behavioral and psychopharmacological intervention, has shown to produce greater efficacy than either intervention alone (Brown et al., 2005). School-based interventions are also an option for treating ADHD. School-based interventions include modifying the classroom environment, behavioral interventions, and accommodations (Brown et al.,

2005). Finally, social skills training may be recommended due to the high frequency of social and peer relational issues for children with ADHD (Hoza, 2007).

***Oppositional Defiant Disorder.*** ODD is a common mental health diagnosis in children; however, prevalence rates range from 1% to 16% (Loeber, Burke, Lahey, Winters, & Zera, 2000). ODD is marked by behaviors such as defiance, negativity, spitefulness, and hostile verbal aggression (American Academy of Child and Adolescent Psychiatry [AACAP], 2009).

*Symptoms of ODD.* Symptoms of ODD include the following:

A pattern of angry/irritable mood, argumentative/defiant behavior, or vindictiveness lasting at least 6 months as evidenced by at least four symptoms from any of the following categories, and exhibited during interaction with at least one individual who is not a sibling: Often loses temper; is often touchy or easily annoyed; is often angry and resentful; often argues with authority figures or, for children and adolescents, with adults; often actively defies or refuses to comply with requests from authority figures or rules; often deliberately annoys others; often blames others; for his or her mistakes or misbehavior; has been spiteful or vindictive at least twice within the past 6 months. The disturbance in behavior is associated with distress in the individual or others in his or her immediate social context (e.g., family, peer group, work colleagues), or it negatively impacts social, educational, occupational, or other important areas of functioning. The behaviors do not occur exclusively during the course of a psychotic, substance use, depressive, or bipolar disorder. Also, the criteria are not met for disruptive mood dysregulation disorder.” (APA, 2013, p. 340

Severity of ODD is specified with either mild (symptoms occur in one setting), moderate (symptoms are present in two settings), or severe (symptoms occur in three or more settings; APA, 2013). ODD is not diagnosed by any single test, but similar to depressive and anxiety disorders, a psychologist or psychiatrist can diagnose ODD with the use of clinical interviews, collateral interviews and measures, and structured assessments (AACAP, 2009; CDC, 2016).

*Treatment of ODD.* As with most other conditions, there is no one-size-fits-all treatment for ODD. Effective treatment often consists of a combination of treatment modalities (AACAP, 2009). Some of the treatment modalities used to treat pediatric ODD include cognitive problem-solving skills, parent-management training, family therapy, medication, and social-skills/school-based programs (AACAP, 2009).

Cognitive problem-solving skills training encompasses teaching children how to problem-solve appropriately in stressful situations through teaching them about how perception influences our thoughts, feelings, and behaviors (AACAP, 2009). Parent-management training and family therapy utilize teaching the parent positive and efficacious parenting practices including immediate reinforcement and punishment (AACAP, 2009). Interventions focused on parent/caregiver training have been found to be an effective way of treating pediatric ODD (Brestan & Eyberg, 1998). Medication is occasionally needed when the child has a co-occurring condition, such as an anxiety disorder, mood disorder, or ADHD, all which are common comorbid disorders. Medication is not used to treat ODD alone (AACAP, 2009). Finally, social-skills and school-based programs are utilized primarily in school or social settings in order to teach

children and their peers how to interact and communicate positively and effectively with their peers in natural settings (AACAP, 2009).

There are many physical and mental health conditions that impact children in a variety of ways. From identification to diagnosis to treatment, children with acute and chronic conditions are required to make changes in their lives to ensure their health. These changes often affect the various systems that they interact with, including school.

**Impact of acute and chronic conditions on children in school.** Physical conditions can have a significant impact on children's overall functioning and quality of life (Meijer, Sinnema, Bijstra, Mellenbergh, & Wolters, 2000). Children with physical conditions may be restricted from physical activities, may report concerns about physical appearance due to chronic conditions, may have persistent interruptions of their daily activities, and may experience overall lifestyle changes due to their treatment or symptom management procedures (La Greca, 1990). Children spend 7 or more hours, 5 days per week at school (U.S. Department of Education, 2008). Although acute and chronic conditions can have an effect on all aspects of a child's life, the amount of time a child spends at school makes school functioning an especially important topic to consider.

***Asthma.*** Asthma is the most common chronic pediatric disorder (CDC, 2014) and, as discussed above, comes with its own set of challenges and necessary accommodations for managing the condition. Within the classroom, asthma presents specific challenges to the student, teacher, and school community as a whole. Asthma is associated with increased absenteeism (Neuharth-Pritchett & Getch, 2006). Naturally, absenteeism is associated with decreased academic achievement. One study found that children who were considered chronically absent (missing 10% or more of school) did

worse academically in both kindergarten and first grade (Chang & Romero, 2008). Further, chronic absenteeism during the early years of schooling (first through third grade) in children who are impoverished predicted the lowest levels of educational achievement by the end of fifth grade (Chang & Romero, 2008). Asthma is also associated with social problems in school, including greater likelihood of being the victim of bullying, reduced school performance, increased levels of disruptions in the classroom, and limitations in activities in which the children are able to participate (Collins et al., 2008; Van Den Bemt et al., 2010; S. G. Williams, Schmidt, Redd, & Storms, 2003).

*Diabetes mellitus.* Similar to asthma, pediatric DM requires modifications to manage the disorder appropriately. Also similar to asthma, pediatric DM is associated with increased absenteeism, social problems, and reduced school performance (EdMedKids, 2014). DM impacts school differently from asthma in that children with DM may need different meal preparation and may need to be pulled routinely from the classroom in order to receive medication or check blood sugars (National Center for Chronic Disease Prevention and Health Promotion, 2016; F. J. Smith, Taylor, Newbould, & Keady, 2008). A student having DM in the classroom may also have emotional consequences. Different meal preparation and routine medication deliverance may mean that other students in the classroom are aware of the child's condition. This may be associated with feelings of embarrassment, anxiety, and feeling overwhelmed by DM-related tasks that need to be completed each day (Diabetes Australia Victoria, 1996/2016).

***Cystic fibrosis.*** CF may contribute to similar challenges as asthma and DM, including increased absenteeism, increased time outside of the classroom, social problems, and reduced school performance. Very similar to DM, students with CF are more likely to report self-esteem problems due to their conditions (Ernst, Johnson, & Stark, 2010; Research Incorporated, 2014). Often, because of the seriousness of CF, students must take breaks from both their academic and physical activities, which may result in feeling isolated (Research Incorporated, 2014).

***Epilepsy.*** Epilepsy is also associated with increased absenteeism, social issues, and reduced school performance (Epilepsy Canada, 2004; Shafer & Sirven, 2013). In contrast to the other aforementioned conditions, epilepsy is somewhat different in regard to how it affects children in the classroom. Because epilepsy is a neurological disorder, it is associated with processing and concentration difficulties and increased emotional and behavioral concerns (Epilepsy Canada, 2004; Shafer & Sirven, 2013). The processing and concentration difficulties can make daily activities in the classroom challenging. Additionally, children with epilepsy often feel anxious about having a seizure while at school, which could lead to subsequent embarrassment and isolation (Shafer & Sirven, 2013).

***Anxiety and depression.*** In both anxiety and depressive disorders, children are more likely to refuse school, leading to higher frequencies of absenteeism (Wimmer, 2010). Anxiety and depressive disorders are also both associated with social problems within school, including social anxiety and isolation due to the conditions' symptoms (Child Mind Institute, 2016). Finally, pediatric anxiety and depressive disorders are associated with problems with attention and concentration, which can lead to reduced

school performance (Child Mind Institute, 2016). The symptoms of these conditions can make school challenging for students and teachers.

*Attention-deficient/hyperactivity disorder.* ADHD is one of the most commonly diagnosed pediatric mental health conditions. As discussed above, in order to receive the diagnosis, the child must be struggling with the same or similar types of symptoms in at least two different settings. Most often, those two settings are home and school. The school-related challenges faced by these children include increased absenteeism and trouble with concentration and, consequently, reduced school performance (Bussing et al., 2010; Climie & Mastoras, 2015; DuPaul, Weyandt, & Janusis, 2011). Children with ADHD are also more likely to have social problems in school (Chew, Jensen, & Rosen, 2009). The social problems extend to peers and teachers, as many of the symptoms of ADHD can be disruptive, distracting, and a nuisance within the classroom. Often, accommodations need to be made within the classroom to ensure the least amount of disruption, while still giving the child with ADHD the best chance at school success.

*Oppositional defiant disorder.* Similar to ADHD, ODD can result in disruptive and problematic behaviors within the classroom. This can lead to frustration and anger among other students, teachers, and administration. Children who have been diagnosed with ODD are at an increased risk of perpetrating as well as being the victim of bullying (Verlinden et al., 2015).

Children diagnosed with acute and chronic conditions have individual problems and challenges in the classroom. Many of these challenges overlap with other conditions. Accommodations, services, and modifications often need to be made for children with these conditions in order to give them a fair chance of educational success.

**School accommodations for pediatric acute and chronic conditions.** As described above, children with physical and mental health conditions endure numerous challenges within schools and classrooms. Therefore, many of these children require accommodations or remediation in order to help them to stay on track within school while managing their conditions. Individual education plans (IEPs) and Section 504 plans are often put in place for children with physical and mental health conditions.

***Individualized education plans.*** The Individuals with Disabilities Education Act (IDEA) is a federal law that requires public schools create IEPs for every child that receives special education or related services (U.S. Department of Education, 2000). Free appropriate public education (FAPE) is an educational right of all children, including children with disabilities, and is defined under IDEA as an educational program that is individualized, designed to meet the needs of individual children, provides access to general curriculum requirements and state-established grade-level standards, and offers academic and educational benefits to children (U.S. Department of Education, 2010). Developing an IEP can be time-consuming, as a multi-step process must take place prior to the rendering of modifications, accommodations, or special education services.

***IEP process.*** The first step in developing an IEP for a child in a public school is to identify the child who potentially needs services. Once a child is identified, the child must be evaluated in all areas related to the potential disability. The next step may include having a meeting with the early intervention team and/or the child study team to determine appropriate research-based evaluations. After evaluation, eligibility for services and accommodations is decided by a group of individuals, including the child's parents, teachers, and other professionals. When a child is found eligible, they are

considered to be a “child with a disability” and the formal writing of the IEP must take place within 30 days after eligibility determination. The next steps are to schedule the IEP meeting and develop the IEP. Once the IEP is written and agreed upon formally by all members of the group, services and accommodations are provided. The process, however, does not stop there. Progress, as determined in the IEP, is evaluated annually and the IEP is reviewed and altered when necessary. Finally, the child is re-evaluated every 3 years at minimum to update the IEP and to determine whether eligibility still applies (U.S. Department of Education, 2000).

*Parts of the IEP.* The educational plan designed for the child must entail current levels of educational performance (U.S. Department of Education, 2000). In order to know how to set goals, the team must know how the child is performing academically prior to any services or accommodations being put into place. The plan must also address reasonable annual goals that the child should be able to accomplish, including the special education and accommodations that will be provided to the child in order to achieve his or her annual goals. Participation with nondisabled children, participation in state and district-wide tests, dates and places of IEP services provided, and how progress will be measured must all be included in IEP document (U.S. Department of Education, 2000).

*Conditions eligible for IEP.* There are 13 conditions covered under IDEA. Specific learning disabilities are the first condition covered under IDEA, which include dyslexia, dysgraphia, dyscalculia, auditory processing disorder, and nonverbal learning disability. The broad category of other health impairments is the second condition covered under IDEA, which is defined by any condition that limits a child’s strength, energy, or alertness; ADHD falls into this category. Autism spectrum disorder is the

third condition covered by IDEA. Emotional disturbance, the fourth condition, are mental health conditions that negatively impact school functioning; anxiety and mood disorders fall within this category. Speech and language impairment is the fifth condition and is defined as communication problems such as stuttering, impaired articulation, language, and voice development. Visual impairment is the sixth condition; however, if eyewear (glasses or lenses) corrects the impairment, this will not qualify for warranting an IEP. Deafness, hearing impairment, and deaf-blindness are the seventh, eighth, and ninth conditions. Orthopedic impairment is the tenth condition, including cerebral palsy, and is defined as any deficiency in a child's body, no matter the cause. The category of intellectual disabilities, traumatic brain injuries, and multiple disabilities is utilized when a child has more than one condition listed above (U.S. Department of Education, 2000).

*Section 504 plans.* Section 504 is a federal civil rights law under the Rehabilitation Act of 1973 (U.S. Department of Education, 2010). Different from IEPs, 504 plans are not designed to improve students' academic performance, but to provide fair access and accommodations to their education within public schools (U.S. Department of Education, 2010). A child who is eligible for a 504 plan has a "mental or physical impairment that substantially limits one or more major life activities" (U.S. Department of Education, 2010, p 15). Section 504, under the Rehabilitation Act of 1973, requires that school districts provide free appropriate public education (FAPE), as is true within IDEA as well. Section 504 defines FAPE as individualized education, pairing disabled students with nondisabled students, evaluation and reevaluation to ensure that children with disabilities are not misplaced or misclassified in school, and providing

parents and guardians with timely notices and changes with regard to their children (U.S. Department of Education, 2010).

*Section 504 process.* The Section 504 process is similar to the IEP process. The first step is to identify a child who may be eligible for section 504 services. The second step is to set a meeting with the early intervention team and/or the child study team to determine appropriate research-based interventions, including evaluation. The third step is the evaluation, which determines the needs of the student in question. Once a child is evaluated and determined eligible for a 504 plan, the accommodation plan of services is written and implemented. The student must be reevaluated in order to determine whether changes need to be made to 504 plan accommodations (U.S. Department of Education, 2010).

*Conditions eligible for Section 504.* A child is eligible for a 504 plan when he or she has a “mental or physical impairment that substantially limits one or more of such person’s major life activities” (U.S. Department of Education, 2010, p. 6. Major life activities include “caring for oneself, walking, seeing, speaking, learning, breathing, sleeping, standing, lifting, reading, concentrating, thinking, communicating, working, helping, eating, bending, operation of a bodily function, or other” (U.S. Department of Education, 2010, p. 10).

*Individualized education plans and 504 plans.* IEPs and 504 plans are federally-regulated programs that safeguard children with various medical and mental health conditions and ensure that these children have access to appropriate services and accommodations in order to give them the best chance of success in the classroom.

### **Teachers' Impact on Child Development**

Evans (1999) argued that “schools are second only to families in contributing to children’s development” (p. 165). As stated, the vast amount of a child’s day is spent in the classroom. Learning in school is not only based on academic components; it is a combination of academic, social, and emotional factors (Zins, Weissberg, Wang, & Walberg, 2004). Social and emotional processes affect how children learn (Elias et al., 1997); therefore, schools’ and teachers’ impact on children’s academic, social, and emotional development is important to address.

**Academic development.** Academic development can be defined based on the developmental stage or age of the child. For example, in first grade, when children are 6 or 7 years old, academic skill development consists of basic reading and writing skills, counting change, telling time to the hour and half hour, and simple addition and subtraction (Myers, 2016). While in eighth grade, when children are 12 or 13 years old, academic skill development is focused on comprehension, developing age-appropriate writing and vocabulary skills, and understanding algebra and geometry (Armstrong, 2006). Regardless of the developmental stage or age of the child, schools and teachers play a major role in the academic development of children.

The teacher-student relationship is vital to positive academic outcomes for students. Positive relationships with teachers, as perceived by students, are associated with academic achievement, positive academic skill development, reading achievement, and student engagement (Baker, 2006; Ladd & Burgess, 2001; McCormick & O’Connor, 2014; Pianta & Steinberg, 1992). Other research shows that children who perceive the classroom environment, including the teachers, as supportive and themselves as

belonging within the classroom are more likely to show higher student self-efficacy, higher academic achievement, and intrinsic motivation for both school and reading (Battistich, Solomon, Watson, & Schaps, 1997; Roeser, Midgley, & Urdan, 1996).

Academic development is not solely the result of natural intelligence; the student-teacher relationship is a necessary ingredient to the success of a child's academic development and achievement. Nevertheless, academic development is only one piece of learning.

**Social development.** Social development is defined as the learning of skills, knowledge, and values that allow children to relate to other people and contribute successfully to their familial, school, and community structures (Kids Matter, 2013). Social development is key for the developing child, as human beings are naturally social beings (Aronson, 2008). As Goleman (2006) stated, "we are wired to connect" (p. 43).

Often, emotional support is related to social development. For example, when children perceived their current and past teachers as emotionally supportive, future positive social skills with peers and adults were predicted (Malecki & Demaray, 2003; Pianta, 1999; Pianta & Steinberg, 1992). Therefore, it should come as no surprise that the opposite is true: when children experience insecurity in their teacher-student relationships, they are more likely to display ineffective or inadequate social skills with peers and adults (Howes, 1988).

**Emotional development.** Emotional development is defined as the beginning of a child's experience, expression, comprehension, and regulation of feelings, which helps the child successfully navigate his or her inner and outer world (Odle, 2013). As stated previously, emotional and social development often work in tandem, as children learn much about their emotions and the emotions of others within a social context (e.g.,

family, school, community). In elementary education, teachers are vital socializers of their students' socio-emotional development (Denham, Bassett, & Zinsler, 2012). Teachers can be viewed as guiders of the development of emotional competence in children. When teachers encouraged emotion-related discussions in a preschool classroom, children were better able to identify their negative emotions and express them in helpful ways (Ahn, 2005). Teachers who have a supportive reaction to their students' negative emotions instead of a punitive reaction encourage their students to develop emotionally and, consequently, these students have been found to be more likely to develop and maintain positive relationships with their peers (Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002). Children who have positive relationships with their teachers, including teachers who respond to their emotional needs, are more likely to have better frustration tolerance and to have a better understanding of their own and others' emotions (Morris, Denham, Bassett, & Curby, 2013; Pianta & Sternberg, 1992). Teachers play a major role in the lives of the students they teach, not only due to their encouragement of academic development, but also of social and emotional development. As Ahn and Stifter (2006) stated, "Teaching is an intensive mental health process" (p. 60).

### **Teacher Workload**

Teachers serve a variety of functions in their day-to-day activities. Teachers serve as educators not only for their students' academic development, but also their social and emotional development. Although teachers' workloads may vary dependent on the district, state, and region, teachers in the United States traditionally work more than 40 hours per week due to the excessive preparation required to successfully teach in the classroom. In 2012, teachers reported working closer to 54 hours per week (Scholastic,

Inc., 2012). Likewise, the expectations of teachers may vary from district to district, or even school to school. Taken from the job description of teachers at an elementary school in Tennessee, some tasks required of teachers include administer assessments; advise parents/guardians on issues; provide feedback to students and parents; collaborate with other school personnel; assess student progress; counsel students for the purposes of improving performance, health status, appropriate behavior, problem-solving techniques, and personal issues; differentiate methods to address individual student requirements; directs student teachers; instruct students; manage student behavior; and participate in a variety of meetings and professional development activities (Williamson County School District Teacher Job Description, n.d.).

Teachers are expected to meet varying requirements throughout their days to ensure that students', parents', and administrators' goals and needs are being met. This level of workload has been associated with excessive stress, burnout, and turnover (M. Smith & Bourke, 1992; Torres, 2016; Van Droogenbroeck, Spruyt, & Vanroelen, 2014). The workload of teachers is included in general regulations; these requirements do not take into account the individual needs of children, including those with physical and mental health conditions who, as discussed previously, may have additional challenges inside the classroom. Teachers are expected to encourage the development of the students they teach. In an ideal world, this would be all that teachers would be required to do. Unfortunately, teachers are expected to do much more than assist with the development of their students, and often the additional requirements can affect teachers' sense of self-efficacy negatively.

### **Social Cognitive Theory and Self-Efficacy**

Social cognitive theory is the brainchild of Albert Bandura. It is a theory of human motivation and behavior (Bandura, 1986). Bandura (1986) believed that humans are social beings. Much of our motivation, learning, and behavior influences and is influenced by our social world, known as reciprocal determination (Bandura, 1986). Specifically, Bandura (1977) believed that most learning takes place through observing others' behaviors. Observing others' behaviors, attitudes, and consequences of their behaviors is called modeling (Bandura, 1977).

Bandura (1977) attested that in order to learn effectively from observing a model's behavior, one must be attending to the model, one must remember what one paid attention to, one must be able to reproduce the model's behavior, and one must have the motivation to imitate the behavior. The last necessary condition is especially important for learning, as this is where reinforcement plays a role (Bandura, 1977).

Self-efficacy refers to perceived abilities for learning and/or performing actions (Bandura, 1989). Self-efficacy can enhance or deter human accomplishment, dependent on how a person perceives his or her capabilities and how he or she perceives challenges (Bandura, 1994). Self-efficacy is influenced by four main sources. The first and most important influences on self-efficacy are mastery experiences. Bandura (1994) defined mastery experiences as successful experiences that were challenging in some way. Easy successes are not considered mastery experiences as they do not produce the same level of discomfort that more arduous tasks do. The second influence on self-efficacy is through vicarious learning or modeling (Bandura, 1994). For modeling to be effective, one needs to perceive the model as similar to oneself. When one observes a model who

is successful despite challenges, one's self-efficacy is increased. Conversely, when one observes a model fail, one's own self-efficacy can be affected negatively (Bandura, 1977, 1994). A third influence on self-efficacy is social persuasion. When one is persuaded that one has the ability to face a challenge, one is more likely to give greater effort. Similar to modeling, verbal persuasion can also be used to demoralize an individual, which can have detrimental consequences on his or her self-efficacy (Bandura, 1977, 1994, 1997). Finally, the fourth influence on self-efficacy is one's emotional, physical, and cognitive states. When one interprets a physical reaction to poor performance, one's self-efficacy can be implicated negatively (Bandura, 1977, 1994, 1997). Self-efficacy is the direct result of Bandura's (1977) social cognitive theory, as much of self-efficacy requires observational or vicarious learning and appears to follow reciprocal determinism.

**Teacher self-efficacy.** TSE is a concept based on social cognitive theory (Bandura, 1977). TSE is as a teacher's beliefs regarding his or her ability to successfully engage, instruct, and manage children in the classroom (Tschannen-Moran & A. W. Hoy, 2001; Tschannen-Moran, A. W. Hoy, & W. K. Hoy, 1998). TSE is assessed through observation and assessments that examine classroom management, instructional approaches, and student motivation. TSE in classroom management involves beliefs regarding one's ability to manage and regulate the behavior of students. TSE in instructional approaches include beliefs concerning one's ability to use varied teaching strategies effectively. Finally, TSE related to student motivation includes beliefs surrounding one's ability to engage students to be active participants in the process of learning (Tschannen-Moran et al., 1998).

*Teacher self-efficacy and classroom outcomes.* TSE is an important concept because high self-efficacy is associated with a number of positive characteristics and outcomes, for teachers as well as students. Generally, TSE is implicated in instructional quality and student achievement (Abernathy-Dyer, Ortlieb, & Cheek, 2013; Klassen & Tze, 2014). Instructional quality is important for all students, but it is especially important when teaching children with physical and mental health conditions, as many of these conditions are associated with reduced academic performance (Cystic Fibrosis Research Incorporated, 2014; DuPaul et al., 2011; S. G. Williams et al., 2003). High TSE is also associated with encouraging student collaboration (Woolfolk, Rosoff, & W. K. Hoy, 1990). This encouragement of collaboration is important when teaching children with physical and mental health conditions due to the association between these conditions and deficits in social skills (Child Mind Institute, 2016; Collins et al., 2008; Van den Bemt et al., 2010). High TSE is also correlated with increased persistence with struggling students and increased likelihood of showing support to students (Allinder, 1995; Ashton & Webb, 1986). Again, this correlation is implicated when teaching children with physical and mental health conditions, as many children with these conditions struggle with attention, concentration, anxiety, and processing difficulties (Child Mind Institute, 2016; Climie & Mastoras, 2015; Elliot & Mulligan, 2010; Shafer & Sirven, 2013). TSE is also implicated in the reduction of bullying (Gregus et al., 2017). This is important to note because many children with pediatric and mental health conditions are frequently the victims and perpetrators of bullying (Verlinden et al., 2015; S. G. Williams et al., 2003). The literature highlighting the importance of TSE has influenced major international teacher surveys. The Teaching and Learning International

Study (TALIS) and the Teacher Education and Development Study in Mathematics (TEDS-M) are now including questions specifically about TSE because of the association between TSE, positive teacher well-being, and student achievement (Tatto et al., 2008).

***Teacher self-efficacy and teacher well-being.*** TSE has a positive effect on classroom outcomes as well as teacher well-being. TSE is linked with feelings of personal accomplishment related to one's job, job satisfaction, and commitment (Aloe, Amo, & Shanahan, 2014; Goddard, W. K. Hoy, & A. E. Hoy, 2004). All of these factors are associated with reduced burnout, reduced tension, reduced attrition, and increased retention (Briones, Tabernerero, & Arenas, 2010; Bruinsma & Jansen, 2010; Helms-Lorenz, Slof, Vermue, & Canrinus, 2012).

***Factors contributing to teacher self-efficacy.*** Factors affecting TSE are difficult to identify due to the variety of personalities and backgrounds from which teachers come. It is also difficult because the majority of the literature has focused on TSE with healthy populations of students. Nevertheless, variables most consistent with TSE in one study were one's perceived ability to manage behavior, perceived ability to use various instructional methodologies to help with student engagement, and perceived ability to provide emotional support (Zee et al., 2015). Years of teaching experience has also been established as a factor predicting TSE in healthy populations; however, after 23 years of teaching experience, TSE was found to decrease (Klassen & Chiu, 2010)

***Teacher self-efficacy and students with physical and mental health conditions.*** The literature on TSE and students with physical and mental health conditions gives a glimpse into the factors that may contribute to or reduce TSE; however, the literature available on TSE and physical and mental health conditions is limited to only physical

conditions or only mental health conditions. With regard to physical conditions, a common thread present in the literature is that teachers consistently report having little information about the conditions that children presented with, including the symptoms or treatment, which affects their self-efficacy negatively (Bishop & Boag, 2006; Clay et al., 2004; Lucas et al., 2012; Wodrich et al., 2011). With regard to mental health conditions, a theme observed in multiple studies was that children who exhibited hyperactivity, impulsivity, and distractibility, all considered “classroom misbehaviors,” were associated negatively with TSE for instructional strategies, student engagement, emotional support, and behavior management (Lambert, McCarthy, O’Donnell, Wang, 2009; Tsouloupas, Carson, Matthews, Grawitch, & Barber, 2010; Zee, de Jong, & Koomen, 2016). Teachers with students with internalizing behaviors were predicted to have lower levels of TSE for emotional support and instructional strategies. (Zee et al., 2016).

These studies provide some insight into the potential contributing and reducing factors of TSE when working with children with acute and chronic conditions. Nevertheless, because of the limited amount of literature available and the lack of generalizability, more research is needed to determine the themes that contribute to TSE when working with children with comorbid physical and mental health conditions.

### **Summary**

Both physical and mental health conditions are a prevalent issue that many children face. Some of the most common pediatric physical conditions are asthma, DM, CF, and epilepsy. Some of the most common childhood mental health conditions include mood disorders, anxiety disorders, ADHD, and ODD. These conditions affect children’s daily functioning, often due to monitoring and treatment requirements. Children spend

the majority of their time with their teachers and, therefore, there are often major challenges within the classroom attributable to the pediatric conditions. Teachers are in the position of facilitating the development of children academically, socially, and emotionally. Teachers' interactions with their students are associated with both positive and negative developmental outcomes. Much of the interactions teachers have with their students are influenced by their sense of self-efficacy. Self-efficacy in teachers is associated with positive academic, social, and emotional developmental outcomes. The concern and purpose of this current study was to assess what contributes to TSE when teaching children with acute and chronic conditions.

### **Chapter 3: Research Question and Hypothesis**

#### **Research Question**

Does perceived knowledge of pediatric and mental health conditions, perceived ability to engage students in schoolwork, perceived ability to vary instructional methods, perceived ability to manage classroom behaviors, perceived ability to provide emotional support, and years in teaching contribute to teachers' sense of self-efficacy when teaching children with IEPs and/or 504 plans? This research question was answered through the use of a survey.

#### **Hypothesis**

It was hypothesized that, for teachers working with children with IEPs and/or 504 plans with alternative learning needs, perceived knowledge about the medical or mental health condition, perceived ability to engage students in schoolwork, perceived ability to vary instructional methods, perceived ability to manage classroom behavior, perceived ability to provide emotional support, and number of years teaching would predict greater TSE with teachers in a public school setting.

## **Chapter 4: Method**

### **Design and Justification**

The study utilized a quantitative, retrospective, cross-sectional design, as the participants were surveyed on past experiences with children in their classrooms with physical and mental health conditions.

### **Participants**

Participants were elementary public school teachers, which was defined operationally as teachers who worked with students from kindergarten through eighth grade. All participants were prescreened for study eligibility and a person was able to take the survey if he or she was at least 21 years old, fluent in English, had a minimum of 2 years teaching full-time in a regular elementary public or non-lottery charter school classroom, was considered a classroom teacher, and reported having a minimum of one child in his or her classroom with an IEP and/or 504 plan within the last 3 years. Any interested party who did not fit this inclusion criteria was excluded from participating.

One hundred seventy-nine participants began the survey and, of those, 136 participants completed the study successfully. The information received from the other 43 participants was included in data analysis.

### **Measures**

This measure was developed by the authors and was adapted from a previous measure, the Teachers' Sense of Efficacy Scale (Tshannen-Moran & A. W. Hoy, 2001). The Teacher Self-Efficacy Scale for Children with IEPs/504 Plans is a 60-item measure with 33 items measured on a Likert scale, two open-ended questions assessing teachers' beliefs regarding their ability to effectively engage, instruct, and manage children in their

classrooms with IEPs/504 plans, and 25 personal information questions assessing age, gender, race, years in teaching, years at current school and district, number of students in school, number of students in grade, number of students in current classroom, number of students in classroom with an IEP and/or 504 plan, grades taught, highest level of education, type of school (Title 1), among other demographic variables.

Although there were TSE measures already available, a new measure was created due to the lack of psychometric validation, confusing wording, and the concern that the questions in the existing measures would not assess the idiosyncrasies that come with teaching children with IEPs and/or 504 plans.

Items 1 through 10, 12 through 18, 27 through 29, and 38 through 41 were scored using a Likert scale ranging from 1 (*not at all*) to 6 (*definitely*). Items 11, 30, and 31 were scored using a Likert scale ranging from 1 (*not at all*) to 6 (*a great deal*). Item 19 was scored using a Likert scale ranging from 1 (*none of the time*) to 6 (*all of the time*). Items 20 through 26 were scored using a Likert scale ranging from 1 (*none*) to 6 (*a great deal*). Items 34 and 35 were scored using a Likert scale ranging from 1 (*not at all confident*) to 10 (*extremely confident*). Items 36 and 37 were open-ended questions. Finally, items 42 through 59 were demographic and assessed current and past employment.

### **Procedure**

The study was approved by the institutional review board of Philadelphia College of Osteopathic Medicine (PCOM). A number of recruitment methods were utilized to attempt to reach as many interested potential participants as possible. Information about the study and survey was disseminated on social media (Facebook and LinkedIn), on

ResearchMatch, a nonprofit website aimed at matching research participants with research studies for which they qualify, and through word of mouth. Data collection took place from December 2017 through March 2018.

Interested participants were asked to utilize the survey link, which took them to the survey on SurveyMonkey. Participants were taken to a page displaying the participant agreement. The inclusion and exclusion criteria were reviewed through the qualification questions. Participants who did not qualify for the survey were redirected to a page thanking them for their time, telling them that they did not qualify for study participation, and providing them with links to websites aimed at increasing awareness and understanding of children with physical and mental health conditions (Understood.org and KidsHealth.org). Participants who qualified were taken directly to the survey, which took approximately 25 minutes to complete. All participants who successfully completed the survey were offered the option of participating in a raffle by providing their e-mail addresses, which were not linked to their survey information. At the end of recruitment, five participants were randomly selected and each received a \$50 gift card to a nationwide retailer.

## Chapter 5: Results

Initial analysis began with the examination of participants' personal and demographic characteristics, their personal experiences (outside of the classroom) with children who have physical, emotional, or behavioral conditions, as well as their current and past teaching experiences. These questions were taken from the Teacher Self-Efficacy Scale for Children with IEPs/504 Plans. Personal and demographic information was followed by descriptive statistics taken from the six variables (perceived knowledge about the condition, perceived ability to engage students in schoolwork, perceived ability to vary instructional methods, perceived ability to manage classroom behavior, perceived ability to provide emotional support, and years in teaching). The descriptive review is followed by testing of the hypothesis through regression analysis. Finally, qualitative data are described, taken from two questions within the survey (1. What are your biggest challenges in meeting the needs of children with IEPs and/or 504 plans? and 2. What are the factors that you believe contribute to your ability to teach children with IEPs and/or 504 plans?)

### Initial Analysis

**Personal and demographic information.** Demographic information was obtained from 139 participants, with the exception of ethnicity (n = 138). A total of 179 participants began the survey, but only 134 completed the entire survey. The demographic information obtained from 139 participants included age, gender, ethnicity, and level of education (Table 1).

Table 1

*Demographic Variables*


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| <b>Variable</b>            | <b>Number of Responses</b> | <b>Percent of Participants</b> |
|----------------------------|----------------------------|--------------------------------|
| <u>Age (n = 139)</u>       |                            |                                |
| 25-35                      | 53                         | 38.1%                          |
| 36-45                      | 37                         | 26.6%                          |
| 46-55                      | 29                         | 20.9%                          |
| 56-65                      | 17                         | 12.2%                          |
| 66+                        | 3                          | 2.2%                           |
| <u>Gender (n = 139)</u>    |                            |                                |
| Female                     | 124                        | 89.2%                          |
| Male                       | 13                         | 9.4%                           |
| Rather Not Answer          | 2                          | 1.4%                           |
| <u>Ethnicity (n = 138)</u> |                            |                                |
| White                      | 124                        | 89.9%                          |
| Hispanic                   | 5                          | 3.6%                           |
| Black                      | 4                          | 2.9%                           |
| Asian                      | 1                          | 0.7%                           |
| Mixed                      | 1                          | 0.7%                           |
| Rather Not Answer          | 3                          | 2.2%                           |

Level of Education (n = 139)

|                     |    |       |
|---------------------|----|-------|
| Bachelor's degree   | 42 | 30.2% |
| Bachelor's degree + | 4  | 2.9%  |
| Master's degree     | 69 | 49.6% |
| Master's degree +   | 14 | 10.1% |
| Doctoral degree     | 10 | 7.2%  |

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**Personal experience with physical, emotional, and behavioral conditions.**

Information regarding participants' personal experiences (outside of the classroom) was gathered from 139 participants. The information obtained included their personal experiences with physical, emotional, and/or behavioral conditions and their personal experience with children outside the classroom with physical, emotional, and/or behavioral conditions. Seventy-four participants reported personal experiences with physical, emotional, or behavioral conditions (53.2%) and 121 participants indicated that they had personal experiences with children outside of the classroom with physical, emotional, or behavioral conditions (69.5%).

**Teaching and school experience.** Participants were assessed about their current and past teaching experiences, including how many years they have been teaching (Table 2). Participants also reported if their schools are Title 1 Schools—which are schools that receive financial assistance from the government due to high numbers or high percentages of children from low-income families, to help ensure that all children meet challenging state academic standards—and if they have worked in secondary education. Eighty-six out of 136 participants indicated that they taught at Title 1 Schools (63.2%)

and 31 out of 136 participants reported that they have worked in secondary education (22.1%). Participants were also asked how many years they have been teaching at their current schools, how many years they have been teaching at their current school districts, how many students are enrolled in their current schools, how many students are enrolled in the current grades they teach, how many teachers teach in the current grades they teach, how many children in their classrooms have had an IEPs and/or 504 plan in the 2017-2018 school year, what their average class sizes have been in the 2017-2018 school year, and how many children have been classified as English as a second language (ESL) in their classes in the 2017-2018 school year (Table 3).

Table 2

*Teaching and School Experience*

| <b>Variable</b>                          | <b>Number of Responses</b> | <b>Percent of Participants</b> |
|--|----------------------------|--------------------------------|
| <u>Total Years in Teaching (n = 139)</u> |                            |                                |
| 1-2                                      | 9                          | 6.5%                           |
| 3-4                                      | 14                         | 10.0%                          |
| 5-6                                      | 20                         | 14.4%                          |
| 7-8                                      | 14                         | 10.0%                          |
| 9-10                                     | 4                          | 2.9%                           |
| 11+                                      | 78                         | 56.1%                          |

Table 3

*Teaching and School Experience (Continued)*

| <b>Variable</b>   | <b>Mean</b> | <b>Median</b> | <b>SD</b> |
|---|-------------|---------------|-----------|
| Years at Current School (n = 138)   | 8.36        | 5             | 7.59      |
| Years in Current SD (n = 138)   | 10.02       | 7             | 8.33      |
| # of Students at Current school (n = 136)                                       | 669.15      | 500           | 675.68    |
| # of Students Taught in Grade (n = 136)   | 134.30      | 85            | 176.16    |
| # of Teachers in Current Grade (n = 139)  | 5.99        | 4             | 7.30      |
| # of Children in Each Classroom (n = 136)*                                      | 22.1        | 22            | 6.55      |
| # of Children with IEPs/504 Plans in Each Classroom (n = 136)*                  | 8.80        | 6.5           | 8.00      |
| # of Children Who are English as a Second Language in Each Classroom (n = 136)* | 3.06        | 1             | 4.76      |

*Note.* "SD" is abbreviated for "school district"

\*Data were gathered from the 2017-2018 school year

**Level of engagement in IEP/504 plan meetings.** Participants were assessed for whether they have had the opportunity to meet with families of children with IEP/504 plans and whether they have attended IEPs/504 plan meetings. One hundred forty-five out of 158 participants indicated that they have had the opportunity to meet with the families of children with IEP/504 plans to discuss their conditions (91.8%) and 151 out of 158 reported that they have attended IEP/504 plan meetings regarding children in their classrooms (95.6%).

### **Descriptive Statistics**

Descriptive statistics were used to analyze perceived knowledge about chronic conditions, perceived ability to engage students in schoolwork and vary instructional methods, perceived ability to manage classroom behavior, perceived ability to provide emotional support, whether they have instructional aids, and whether extra time is required to instruct children with IEPs and/or 504 plans confidently. Perceived knowledge about conditions was captured through the use of seven questions and was measured using a 5-point Likert scale. When combining all seven questions for analysis, the percentage of participants who chose each rating varied from no knowledge (0.9%), a little knowledge (5.7%), some knowledge (32.2%), more than some knowledge (34.3%), to a great deal of knowledge (27.0%). In total, 154 participants answered the seven questions addressing perceived knowledge. Perceived ability to engage students in classwork and vary instructional methods was assessed using nine questions. This variable also was assessed using a 5-point Likert scale. The percentage of participants who chose each rating ranged from not at all (0.8%), a little (8.7%), somewhat (32.7%), more than somewhat (35.4%), to definitely (22.4%). In total, 168 participants answered the nine questions addressing perceived ability to engage students in classwork and vary instructional methods. Perceived ability to manage classroom behavior was assessed using seven questions and was measured using a 5-point Likert scale. The percentage of participants who chose each rating varied from not at all (2.6%), a little (10.7%), somewhat (35.1%), more than somewhat (34.0%), to definitely (17.6%). In total, 162 participants answered the seven questions addressing perceived ability to manage classroom behavior. Perceived ability to provide emotional support was assessed through

the use of three questions. This variable was assessed using a 5-point Likert scale. The percentage of participants who chose each rating ranged from not at all (0.6%), a little (8.3%), somewhat (43.2%), more than somewhat (34.8%), to definitely (13.0%). In total, 156 participants answered the three questions assessing for perceived ability to provide emotional support (Table 4).

One question assessed whether teachers had instructional aids in their classrooms. This variable was assessed using a 5-point Likert scale. The percentage of participants who chose each rating ranged from none of the time (44.1%), occasionally (16.8%), some of the time (23.6%), more than some of the time (5.6%), to all of the time (9.9%). In total, 161 participants answered this question (Table 5). Finally, how much extra time it takes to instruct children with IEPs and/or 504 plans confidently was assessed using one question measured on a 5-point Likert scale. The percentage of participants who chose each rating varied from a no extra time (0), a little extra time (0.6%), some extra time (26.3%), some more extra time (40.1%), to a great deal of extra time (32.9%). In total, 167 participants answered this question assessing for how much extra time it takes to instruct children with IEPs and/or 504 plans confidently (Table 6).

Table 4

*Descriptive Statistics on Hypothesis Variables*

| <b>Variable</b>  | <b>Mean</b> | <b>Median</b> | <b>SD</b> |
|--|-------------|---------------|-----------|
| Perceived Knowledge about the Condition<br><b>1 = No Knowledge; 5 = A Great Deal of Knowledge</b>                            | 3.80        | 3.0           | 0.91      |
| Perceived Ability to Engage Students in Schoolwork and Vary Instructional Practices<br><b>1 = Not at All; 5 = Definitely</b> | 3.69        | 3.0           | 0.94      |
| Perceived Ability to Manage Classroom Behavior<br><b>1 = Not at All; 5 = Definitely</b>                                      | 3.54        | 3.0           | 0.97      |
| Perceived Ability to Provide Emotional Support<br><b>1 = Not at All; 5 = Definitely</b>                                      | 3.51        | 3.0           | 0.84      |

Note. "SD" is abbreviated for "standard deviation"

Table 5

*Instructional Aid in Classroom (1 = None of the Time; 5 = All of the Time)*

| <b>Variable</b>                                     | <b>Mean</b> | <b>Median</b> | <b>SD</b> |
|---|-------------|---------------|-----------|
| Do you have an instructional aid in your classroom? | 2.20        | 2.0           | 1.32      |

Note. "SD" is abbreviated for "standard deviation"

Table 6

*Extra Time Needed to Instruct Children with IEP and/or 504 Plans (1 = No Extra Time; 5 = A Great Deal of Extra Time)*

| <b>Variable</b>   | <b>Mean</b> | <b>Median</b> | <b>SD</b> |
|---|-------------|---------------|-----------|
| How much extra time does it take to confidently instruct a child with an IEP and/or 504 plan? | 4.05        | 4.0           | 0.78      |

Note. "SD" is abbreviated for "standard deviation"

### **Analysis of Hypothesis**

This study's hypothesis was evaluated using a stepwise multiple regression. Multiple regression analysis is used to determine whether predictor variables predict the criterion variable of interest. Assumptions of multicollinearity, homoscedasticity, and linearity were tested prior to conducting the analysis. Multicollinearity among two variables was found to be greater than 0.7 (perceived ability to engage students in schoolwork and perceived ability to vary instructional methods); therefore, those two variables were combined into one variable, reducing the number of predictor variables from six to five. The predictor variables met homoscedasticity and linearity prior to analysis.

A stepwise multiple regression was calculated to predict TSE (defined as perceived ability to engage, instruct, and manage children in the classroom) with children with IEP/504 plans based on perceived knowledge about the physical, emotional, or behavioral condition (variable 1), perceived ability to engage students in schoolwork and vary instructional methods (variable 2), perceived ability to manage classroom behavior (variable 3), perceived ability to provide emotional support (variable 4), and how long participants have been teaching (variable 5). These variables were assessed through use of the the Teacher Self-Efficacy Scale for Children with IEPs/504 plans. All predictors other than years in teaching were entered into the equation. Perceived knowledge about the condition, perceived ability to engage students in schoolwork and vary instructional methods, perceived ability to manage classroom behavior, and perceived ability to provide emotional support significantly predicted perceived TSE when teaching children with IEPs and/or 504 plans ( $F(4,134) = 53.773, p = .000$ ). The adjusted  $R^2$  value equaled

.616, indicating that about 62% of the variance in perceived TSE when teaching children with IEPs and/or 504 plans was explained by the model (Table 7). A correlation was conducted to identify which variables contributed most to the model (Table 8).

Table 7

*Regression Analysis*

| <b>Model</b> | <b>SS</b> | <b>df</b> | <b>MS</b> | <b>F</b> | <b>P</b> |
|--------------|-----------|-----------|-----------|----------|----------|
| Regression   | 58.335    | 4         | 14.584    | 53.773   | .000     |
| Residual     | 36.342    | 134       | .271      |          |          |
| Total        | 94.676    | 138       |           |          |          |

Table 8

*Correlation*

| <b>Variable</b> |                     | <b>V1</b> | <b>V2</b> | <b>V3</b> | <b>V4</b> | <b>V5</b> |
|-----------------|---------------------|-----------|-----------|-----------|-----------|-----------|
| V1              | Pearson Correlation | 1         | .465      | .565      | .207      | .446      |
|                 | Sig. (2-tailed)     | .000      | .000      | .012      | .000      |           |
|                 | N                   | 172       | 172       | 169       | 147       | 172       |
| V2              | Pearson Correlation | .446      | .660      | .570      | .250      | 1         |
|                 | Sig. (2-tailed)     | .000      | .000      | .000      | .002      | .000      |
|                 | N                   | 172       | 181       | 169       | 147       | 189       |
| V3              | Pearson Correlation | .465      | 1         | .663      | .131      | .660      |
|                 | Sig. (2-tailed)     | .000      |           | .000      | .115      | .000      |
|                 | N                   | 172       | 181       | 169       | 147       | 181       |
| V4              | Pearson Correlation | .565      | .663      | 1         | .082      | .570      |
|                 | Sig. (2-tailed)     | .000      | .000      |           | .325      | .000      |
|                 | N                   | 169       | 169       | 169       | 147       | 169       |
| V5              | Pearson Correlation | .207      | .131      | .082      | 1         | .250      |
|                 | Sig. (2-tailed)     | .012      | .115      | .325      |           | .002      |
|                 | N                   | 147       | 147       | 147       | 147       | 147       |

*Note.* V1 = Perceived knowledge of condition; V2 = Perceived ability to engage students in schoolwork and vary instructional methods; V3 = Perceived ability to manage classroom behavior; V4 = Perceived ability to provide emotional support; V5 = Years in teaching

### Additional Analysis

A paired samples t-test was conducted to compare TSE when teaching children with and without IEPs/504 plans. There was a significant difference in the scores for self-efficacy when teaching children with IEPs/504 plans ( $M = 3.72$ ,  $SD = .831$ ) and without IEPs/504 plans ( $M = 4.22$ ,  $SD = .816$ );  $t(155) = 55.949$ ,  $p = .000$ . These results suggest that there is a significant difference between TSE when teaching children with IEPs/504 plans and TSE when teaching children without IEPs/504 plans. Specifically, teachers reported higher self-efficacy when teaching children without IEPs/504 plans (Table 9).

Table 9

#### *Paired Samples t-test*

| <b>Variable</b>  | <b>N</b> | <b>Mean</b> | <b>SD</b> | <b>Std. Err. Mean</b> |
|--|----------|-------------|-----------|-----------------------|
| Please rate your belief in your ability to engage, instruct, and manage children who have an IEP/504 plan. | 156      | 3.7244      | .83143    | .06657                |
| Please rate your belief in your ability to engage, instruct, and manage children without an IEP/504 plan.  | 156      | 4.2244      | .81576    | .06531                |

  

| <b>Variable</b>  | <b>t</b> | <b>df</b> | <b>Sig. (2-tailed)</b> | <b>Mean Difference</b> |
|--|----------|-----------|------------------------|------------------------|
| Please rate your belief in your ability to engage, instruct, and manage children who have an IEP/504 plan. | 55.949   | 155       | .000                   | 3.72436                |
| Please rate your belief in your ability to engage, instruct, and manage children without an IEP/504 plan.  | 64.678   | 155       | .000                   | 4.22436                |

*Note.* "SD" is abbreviated for "standard deviation"

### Qualitative Analysis

The participants were asked two open-ended questions within the survey: (a) What are your biggest challenges in meeting the needs of children with IEPs and/or 504 plans? and (b) What are the factors that you believe contribute to your ability to teach children with IEPs and/or 504 plans? The questions were asked to assess for personal beliefs about one's self-efficacy with regard to teaching children with IEPs and/or 504 plans, as well as to assess for consistency among the teachers' perceptions and the six identified variables that were hypothesized to predict TSE (perceived knowledge about the condition, perceived ability to engage students in schoolwork and vary instructional methods, perceived ability to manage classroom behavior, perceived ability to provide emotional support, and number of years of teaching experience).

One hundred fifty-five participants answered the first open-ended question; however, many of them wrote in multiple challenges in one answer. Therefore, 171 answers were gleaned from the data. With regard to the first question, the three most frequently reported challenges regarding meeting the needs of children with IEPs and/or 504 plans were lack of time ( $n = 36$ ; 21.1%), lack of support from administration, other teachers/aides, and parents ( $n = 30$ ; 17.5%), and difficulty meeting the needs of all children within the classroom ( $n = 28$ ; 16.4%). Of note, teachers noted difficulty managing behavioral and emotional needs ( $n = 15$ ; 8.8%), lack of knowledge about the conditions ( $n = 8$ ; 4.7%), and difficulty varying instruction ( $n = 8$ ; 4.7%) as challenges, all which are consistent with the quantitative variables (Table 10).

Similar to the first open-ended question, 146 participants answered the second open-ended question, and many of the participants wrote in multiple factors contributing

to their ability to teach children with IEPs and/or 504 plans. Therefore, 174 answers are reported below (Table 11). The three most frequently noted factors contributing to teachers' perceived ability to teach children with IEPs and/or 504 plans were additional support, including teachers' aides and special education teachers (n = 51; 29.3%); knowledge about the condition, educational background, and additional professional development training on the subject (n = 40; 23.0%); and personal characteristics, such as patience, empathy, and dedication (n = 31; 17.8%). The fourth most frequently reported variable was experience (n = 26; 14.9%), which did not significantly predict TSE in the quantitative data.

Table 10

*Open-Ended Question 1: What are your biggest challenges in meeting the needs of the children with IEPs and/or 504 plans?*

| <b>Variable</b>  | <b>Frequency (N = 171)</b> | <b>Relative Frequency</b> |
|--|----------------------------|---------------------------|
| Lack of time   | 36                         | 21.05%                    |
| Lack of support (parents, admin., teachers)              | 30                         | 17.54%                    |
| Difficulty meeting needs of all children                 | 28                         | 16.37%                    |
| Difficulty managing behavioral/emotional needs           | 15                         | 8.77%                     |
| Lack of resources  | 15                         | 8.77%                     |
| Class size (too large)                                   | 11                         | 6.43%                     |
| Lack of knowledge about condition                        | 8                          | 4.68%                     |
| Difficulty varying instruction                           | 8                          | 4.68%                     |
| Pressure from administrators (meet grade level, testing) | 6                          | 3.50%                     |
| Parent/teacher conflict                                  | 5                          | 2.92%                     |
| Multiple children with IEPs/504s in one classroom        | 4                          | 2.33%                     |
| Documentation  | 3                          | 1.76%                     |
| Meeting IEP/504 plan goals                               | 2                          | 1.17%                     |

Table 11

*Open-Ended Question 2: What are the factors that you believe contribute to your ability to teach children with IEPs and/or 504 plans?*

| <b>Variable</b>  | <b>Frequency (N = 174)</b> | <b>Relative Frequency</b> |
|--|----------------------------|---------------------------|
| Support (from admin., teachers, parents)                 | 51                         | 29.31%                    |
| Knowledge/addtl. training/education background           | 40                         | 22.99%                    |
| Personal characteristics (patience, empathy, dedication) | 31                         | 17.81%                    |
| Experience   | 26                         | 14.94%                    |
| Developing relationships with students                   | 10                         | 5.75%                     |
| Smaller class size                                       | 8                          | 4.60%                     |
| Additional time to prepare                               | 8                          | 4.60%                     |

## **Chapter 6: Discussion**

The results of this study generally supported the hypothesis. As hypothesized, the variables in question significantly predicted TSE when teaching children with IEPs and/or 504 plans, with the exception of years in teaching. Furthermore, teachers reported significantly higher sense of self-efficacy when teaching children without IEPs/504 plans than when teaching children with IEPs/504 plans.

### **Teacher Self-Efficacy Factors**

Previous research examining factors affecting TSE has focused on teachers working with healthy populations of students (Zee et al., 2015). When research focused on teachers working with children with acute and chronic conditions, it explored teachers working children with strictly physical conditions (Bishop & Boag, 2006; Clay et al., 2004; Lucas et al., 2012; Wodrich et al., 2011) or strictly mental health conditions (Lambert et al., 2009; Tsouloupas et al., 2010; Zee et al., 2016). Zee, Koomen, Jellesma, Geerlings, and de Jong (2015) found that for teachers working with healthy populations of students, the factors most significantly associated with TSE were perceived ability to manage classroom behavior, use various instructional methods, and provide emotional support. Years in teaching has also been found to be associated with TSE when teaching healthy students (Klassen & Chiu, 2010). Moreover, perceived ability to manage classroom behavior has been found to be associated significantly with TSE when working with children with mental health concerns (Lambert et al., 2009; Tsouloupas et al., 2010; Zee et al., 2016). Similarly, in the present study, the variables (perceived ability to manage classroom behavior, vary instructional methods, and provide emotional support) were applied to teachers working with the IEPs/504 plans, with a change to one variable

(using various instructional methods was changed to perceived ability to engage students in classwork and vary instructional methods), and were all found to significantly predict TSE with this population. It should be noted that the majority of participants reported having personal experiences with physical, emotional, or behavioral conditions (53.2%) and reported having experiences with children with physical, emotional, or behavioral conditions outside of the classroom (87.1%); therefore, it is unclear whether their personal experiences impacted the way they answered the survey questions.

Lack of knowledge and understanding of the physical health conditions was associated with decreased TSE in the literature that focused strictly on TSE when teaching children with physical health conditions. The present study also applied this variable (knowledge of the condition) to teachers working with students who have IEPs and/or 504 plans, and it was also found to significantly predict TSE. These findings suggest that the factors that affect TSE, with the exception of knowledge of the condition, are the same when teaching healthy students as when teaching students with physical and mental health conditions.

**Perceived knowledge about conditions.** The results of the study suggest that increasing teachers' perceived knowledge about various pediatric and mental health conditions would lead to greater self-efficacy. Health literacy (HL) is defined as "the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand, and use information in ways which promote and maintain good health" (WHO, 1998, p. 9). Mental health literacy (MHL), which was born out of HL research, is defined as "knowledge of how to prevent a mental disorder; recognition of disorders when developing, knowledge of effective self-help strategies for mild-to-

moderate problems; and first aid skills to help others” (Kutcher, Wei, & Coniglio, 2016, p. 155). The current study, as well as a number previous studies, highlights the disparity of both HL and MHL in teachers (Brackenreed & Frost, 2002; Rothi, Leavey, & Best, 2008; Walter, Gouze, & Lim, 2006). When applied appropriately, MHL intervention is associated with improved knowledge about mental health, reduced stigma, and increased help-seeking behaviors (Kutcher & Wei, 2014).

*Mental health literacy intervention programs.* Much of the MHL intervention research comes from outside the United States, most specifically in Australia and Canada (Bajus, Buchanan, & Hobbs, 2012; Jorm, 2000; Jorm, Kitchener, Sawyer, Scales, & Cvetkovski, 2010; Kutcher, Wei, & Hashish, 2016). The Youth Mental Health First Aid course was developed to teach educators how to intervene when students are experiencing psychological distress or crises (Jorm, 2000). The Mental Health and High School Curriculum Guide is a web-based teachers’ guide aimed at addressing stigma, certain mental illnesses, differences between mental health and mental illness, the experience of mental illness, the importance of positive mental health, and ways to seek help and find support (Kutcher, Wei, & Hashish, 2016). The Mental Health and High School Curriculum Guide has significant support in improving teacher knowledge and reducing stigma; however, it is not sufficiently maintained (Han & Weiss, 2005). There are some interventions aimed at incorporating MHL into the educational curriculum of pre-service teachers studying to receive their bachelor of education degrees, which has resulted in effective shaping of of pre-service teachers’ beliefs and practices around mental health (Brownlee et al., 2013; Stacey, Brownlee, Thorpe, & Reeves, 2005).

Although there are some effective programs in place to increase teacher MHL, it is limited in both amount and effectiveness. Psychologists and other mental health care providers are in a unique position to implement strategies to increase MHL in teachers, which also includes discussion of the school-relevant psychological sequelae that accompany pediatric conditions as described in the literature review.

**Perceived ability to manage classroom behavior.** Similarly, the results indicate that perceived ability to manage classroom behavior is predictive of TSE. Managing behavior in the classroom is notoriously difficult, especially when children present with diagnoses that include “misbehavior” as a symptom; i.e., impulsivity, hyperactivity, and inattention in ADHD (APA, 2013). Again, psychologists and mental health professionals can provide helpful assistance and intervention to improve classroom behavior management based on behavioral and social cognitive theories.

***Interventions to help teachers manage classroom behavior.*** A relatively novel model aimed at increasing teachers’ ability to manage classroom behavior is the “mental health consultation in schools” model. This model emphasizes the relationship between the teacher as a consultee and a mental health professional as the consultant. This model also incorporates observation of the classroom, modeling of effective responses to problematic behaviors, and individual “meets” with children who have emotional or behavioral concerns. Didactic groups are also an important component of this model, aimed at increasing the teacher’s knowledge of ways to facilitate a helpful learning environment for all students, but especially focused on students with mental health conditions. Family involvement is an important component to the mental health

consultation model. This model has only been used in special education and child care centers (Heller et al., 2011).

Another model of instructing teachers how to manage classroom behavior is through the use of the “Good Behavior Game” (GBG). This game is based on behavioral theory and involves training teachers to implement positive behavior support strategies such as contingency management to reduce problematic behaviors and increase desired behaviors (Nolan et al., 2013). This game has significant psychometric validation and generalizability across different cultures, languages, socioeconomic statuses, and type and level of student disabilities (Gu, Lai, & Ye, 2011; Thuen & Bru, 2009; Tingstrom, Sterling-Turner, & Wilczynski, 2006). There are two versions of the game; the original involves having the classroom split into two teams and whenever the teacher observes an undesired behavior, the entire team loses a point (Tingstrom et al., 2006). In an updated version, teams receive points when the teacher observes desired behaviors (Tanol, Johnson, McComas, & Cote, 2010). The GBG may be more effective in combination with the above mental health consultation model in order to increase generalizability.

Teacher-child interaction therapy (TCIT), based on the principles of parent-child interaction therapy (PCIT), has some preliminary positive results for helping teachers better manage their students’ behaviors in the classroom. TCIT is also based on behavioral and social cognitive theories, but it differs slightly from the GBG. In-vivo coaching with mental health professionals is a major component aimed at teaching educators how to shape student behavior through modeling and attention (e.g., increased praise, reduced criticism; Fernandez et al., 2015). In a pilot study using random assignment, the authors found that after teachers were trained in TCIT, they reported less

distress related to disruptive behaviors, increased rates of positive attention to students' desired behaviors, and decreased rates of negative attention to undesired behaviors (Fernandez et al., 2015). Although this intervention is still in its early stages, it may be beneficial for psychologists and other mental health professionals to implement this model to help teachers perceive their classroom management abilities as effective.

**Perceived ability to provide emotional support.** The results of the current study suggest that teachers' perceived ability to provide emotional support to their students is predictive of TSE. On average, participants in this study described their perceived ability to provide emotional support as the lowest of all of the variables. There is a disparity in the literature addressing how to instruct teachers on providing emotional support to their students. A few of the interventions described above may be of use in this area. Specifically, Youth Mental Health First Aid and the mental health consultation model may be helpful in teaching educators how to provide emotional support to their students (Heller et al., 2011; Jorm, 2000). Again, psychologists and other mental health professionals can teach teachers the necessary tools, through these interventions or interventions to be determined, to provide emotional support to their students.

**Support in the classroom.** Through open-ended questions, teachers indicated that the single factor that they find most helpful in teaching students with IEPs and/or 504 plans is support from other teachers, administrators, and parents. Other studies have also found that engaging in online social support between teachers predicted increased TSE (Chung & Chen, 2017).

**Other qualitative data.** Although support from administrators, parents, and teachers was the single most helpful factor and one of the most common challenges (lack

of support) according to teachers in this study, some other common reported challenges included lack of resources and class sizes being too large. It is important to note that public schools, especially Title 1 schools, need major reform to amend these problems. Having fewer resources due to budget cuts results in lower academic achievement overall and, consequently, decreased ability to meet the needs of every child. Class size is equally as important. Authors of one study found that classes of 15 to 17 students in kindergarten through third grade provided long- and short-term benefits to both teachers and students. The long-term effects included students being more likely to graduate high school (approximately 80% likely), more likely to take advanced coursework in high school, and more likely to take the Scholastic Aptitude Test (SAT) and/or the American College Testing (ACT) exams. Short-term effects included improved school engagement, reduced grade retention, and improved test outcomes (National Council of Professors of Educational Administration, 2012). Interestingly, changes in some of these areas may have a direct effect on the factors predictive of TSE as determined in the present study.

### **Limitations**

One limitation of this study is the use of a measure written by the author. The measure that was used was constructed by the author due to lack of reliability and validation of other measures, confusing wording of some measures, and concern that these previously-developed measures would not assess for what the author intended to assess. The potential limitations of using a measure written by the author include the lack of norms and validation prior to utilization within the study, as well as the possibility that the measure does not assess what the author intended it to assess.

Another limitation to the study was the inclusion and exclusion criteria. Only teachers who teach children with current IEPs and/or 504 plans were included in the study. This decision was made to ensure that the children who the teachers answered the survey questions about were homogenous in that they went through the same federally-regulated process of receiving an IEP and/or 504 plan. Nevertheless, this excluded children who were recently identified for IEPs and/or 504 plans, or who were actively in the process of being evaluated for IEPs and/or 504 plans. It is possible that teachers may have had more factors to discuss if they were not bound by the inclusion and exclusion criteria, potentially limiting the data.

Another potential limitation to the study was the homogenous nature of participants. The overwhelming majority of participants were White, female, and had a master's degree or higher. Approximately one third of participants were from the general Philadelphia area. This may limit the generalizability of the current study.

There may have been selection bias for those who volunteered to complete the survey. Teachers who participated in the study may have differed from teachers who chose not to participate.

Another limitation of this study is the limited amount (two) of open-ended questions on the survey. This was to expedite the amount of time the survey takes the teachers to complete; however, it may not have given teachers the opportunity to express their views on what contributes to TSE in an open-ended format, which may have provided more individualized factors contributing to TSE.

### **Future Research**

In the future, research should focus on what would be helpful in increasing TSE when teaching children with physical and mental health conditions. As discussed in the literature review, increased sense of TSE is associated with better academic, social, and emotional outcomes for students, as well as decreased burnout and stress for teachers (Abernathy-Dyer et al., 2013; Allinder, 1995; Collins et al., 2008). Many of the interventions and strategies referenced above (MHL interventions such as Youth Mental Health First Aid; behavioral strategies such as GBG, mental health consultation, and TCIT) could be researched further both within a public school population such as in this study as well as other school populations.

It would be helpful to replicate this study with other populations of teachers. For example, it may be of interest to examine the variables of interest with teachers from private, lottery charter, and parochial schools to determine whether there are any significant differences from the findings of the present study. It may also be helpful to replicate the study and allow teachers to participate who may not have students with IEPs and/or 504 plans at the time of the study, but have students who have been identified and/or are in the process of being evaluated for IEPs and/or 504 plans. This study should be replicated with a more heterogeneous group of teachers to evaluate any differences in the variables when the demographic makeup of participants varies. This can be done by requiring participants to be of racial and ethnic minority status, male, and having fewer years of formal education. Conducting this study with pre-service teachers may also be of interest in the future. This study can also be replicated with non-homeroom teachers, including “prep teachers” (e.g., art, music, computer), as well as those with special

education degrees in order to determine the presence (if any) of differences among the variables with these differing populations.

Future research should also focus on other factors that may predict self-efficacy, which may be done using the qualitative research gleaned in the two open-ended questions on the survey (1. What are your biggest challenges in meeting the needs of children with IEPs and/or 504 plans? 2. What are the factors that you believe contribute to your ability to teach children with IEPs and/or 504 plans?). Finally, advocacy efforts are needed to encourage public school reform in order to meet the basic needs of teachers and students which, as discussed previously, may have a direct effect on increasing TSE when teaching children with IEPs and/or 504 plans.

### **Conclusion**

Despite the limitations, perceived knowledge about the condition, perceived ability to engage student in school work and vary instructional methods, perceived ability to manage behavior, and perceived ability to provide emotional support significantly predicted TSE when teaching children with acute and chronic physical, emotional, and behavioral conditions who also have IEPs and/or 504 plans. In past research, these factors, with the exception of knowledge of the condition, significantly predicted TSE when teaching healthy populations of students, suggesting that the factors that predict TSE may be relevant to working with all students.

Colleges, school districts, and individual schools and administrators should be aware of these factors and work to implement them pragmatically in the training, curriculum, and working conditions of teachers. It is likely that increasing TSE would have a positive outcome on students academically, socially, and emotionally, as well as

on teachers, including reduced stress and burnout, as seen in previous research (Abernathy-Dyer et al., 2013; Allinder, 1995; Collins et al., 2008).

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