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Understanding the History and Formation of MTSS

Learning Objectives

After reading this chapter, you should be able to:

- Explain the need for Multi-Tiered Systems of Support (MTSS).
- Compare the similarities and differences between MTSS and intervention service delivery models.
- Describe the steps to building the MTSS house.
- Discuss the foundations of MTSS how the framework was initially influenced by teaching and school psychology practice.
- State how Response to Intervention (RTI) and school-wide positive behavior support (SWPBS) integrate under MTSS.

The Need for MTSS

Throughout the history of the United States' education system, a long-standing battle has been waged in bringing lower-performing students with achievement gaps up to proficiency and improving teaching practices to do so. However, despite these ongoing efforts to remediate achievement gaps and place American children in the best position to become productive citizens, the United States continues to underperform compared to other developed nations (National Center for Education Statistics, 2018). In 2018, the United States Department of Education reported that fourth graders across the country were performing lower than 12 education systems in other developed nations in average reading literacy scores (National Center for Education Statistics, 2018). Similarly, at the eighth-grade level, seven education systems in developed countries had higher science scores than the United States, and eight education systems had higher average mathematics scores (National Center for Education Statistics, 2018).

In an increasingly globally competitive world, it is crucial for all children, regardless of race, ethnicity, disability, or learning status, to receive a sound education based on best evidence-based practice and teaching pedagogy. Therefore, under bipartisan support on December 10, 2015, the **Every Student Succeeds Act (ESSA)** was signed into law by President Obama renewing the United States' commitment to providing equal education to all learners (National Association of School Psychologists, 2016). The ESSA Act replaced its predecessor, the **No Child Left Behind (NCLB) Act** as the federal education law governing the United States' K-12 public education policy (National Association of School Psychologists, 2016). Going into effect at the beginning of the 2017–2018 school year, ESSA included a number of structural changes, most important being that it became the first bill since 1980 to narrow the federal government's role in education (National Association of School Psychologists, 2016). Therefore, state and local jurisdictions regained substantial control in designing their own program and accountability systems to determine the standards students are held to (National Association of School Psychologists, 2016). To improve outcomes for all learners, especially those who have been underserved, ESSA (2015) suggested that schools and districts implement **MTSS**.

Introduction to MTSS and Intervention Service Delivery Models

MTSS is a term used by schools to define their process of delivering evidence-based interventions to students to improve their learning, behavior, and social-emotional outcomes (Wexler, 2017). Two primary goals of MTSS are to improve teacher instruction through the utilization of evidence-based pedagogy and increase students' chances of succeeding socially, emotionally, behaviorally, and academically. MTSS is composed of two or more intervention service delivery models (Averill & Rinaldi, 2011; Schaffer, 2017). **Intervention service delivery models** are triangular three-tiered frameworks utilized to provide evidence-based interventions, programs, and supports to children in general education. As the child does not respond to the interventions or supports provided within an intervention service delivery model, they advance to the next tier and receive more intense interventions. To determine whether the child is responding to the interventions provided, data are frequently collected on their progress and analyzed (Gresham, 2005; Shapiro, 2013; Wexler, 2017).

Each intervention service delivery model focuses on an area to promote learning and remediate deficits. For example, RTI is a three-tiered intervention service delivery model that focuses on providing evidence-based and sound instruction to students to best assist them in meeting academic goals (Preston, Wood, & Stecker, 2016). Similarly, SWPBS is a three-tiered intervention service delivery model that focuses on supporting students in meeting behavioral expectations by creating a warm, caring, and welcoming school environment (Preston et al., 2016). Therefore, intervention service delivery models are designed to promote optimal learning, behavior, and social-emotional development for children in general education. For students presenting with academic, behavior, or social-emotional concerns, intervention service delivery models seek to remediate these deficits early on before they lead to disability placement or significant learning, behavior, or social-emotional problems. Intervention service delivery models have become to be viewed as "systems" under MTSS because they provide educators a "systemic" format for implementing interventions and evaluating student progress.

The main difference between MTSS and intervention service delivery models is that MTSS "houses," integrates, and aligns commonalities across triangular, multi-tiered

intervention service delivery models (Wexler, 2017). Although RTI and SWPBS are the most common intervention service delivery models that fall under the MTSS, deviations from these original two models have been developed by districts to address social-emotional concerns (social-emotional RTI) and suicide (suicide prevention and intervention). Each of these intervention service delivery models helps to promote uniformity across schools, provides early intervention to students, abides by state guidelines, and recognizes that academic, behavioral, and social-emotional difficulties tend to be interconnected and often do not operate independently of one another (Eagle, Dowd-Eagle, Snyder, & Holtzman, 2015; Harn, Basaraba, Chard, & Fritz, 2015; Schaffer, 2017). As can be inferred from this discussion, both MTSS and the intervention service delivery models that comprise it, like RTI, are not part of a special education referral process (Preston et al., 2016). Rather MTSS and intervention service delivery models are general education initiatives to prevent future learning delays and behavioral difficulties.

To prevent future learning delays and behavioral difficulties, MTSS is built on six foundational principles. First, MTSS purports that all children have the capability of meeting grade-level expectations, regardless of individual factors, such as disability or socioeconomic status (Wexler, 2017). Second, MTSS employs a preventative model to proactively determine which children need increasing supports based on their academic, behavioral, or social-emotional needs (National Association of School Psychologists, 2016; Wexler, 2017). Third, MTSS places emphasis on implementing empirically validated instruction and interventions (Wexler, 2017; Sugai & Horner, 2009). Fourth, MTSS utilizes data to make decisions about instruction, intervention planning, allocation of resources, and the overall effectiveness of school practices (Shapiro, 2013; Wexler, 2017). Fifth, under MTSS, instruction must meet the child's unique needs (Wexler, 2017). Finally, along with promoting learning for all students, MTSS is an opportunity for districts to adopt reform efforts to their school culture (Sugai & Horner, 2009; Wexler, 2017).

Although ESSA does not require districts and schools to utilize MTSS to help bring students to proficiency, it does offer substantial access to funding streams for states and districts who wish to implement the framework (Grant et al., 2017; National Association of School Psychologists, 2016). Part of the reason ESSA provides access to funding streams for schools and districts implementing MTSS is that the framework is increasingly being found effective in reforming curricula to meet student needs, turning around underperforming schools, and improving outcomes for all learners (National Association of School Psychologists, 2016).

Despite ESSA prioritizing the need for expanded access to comprehensive and integrated intervention service delivery models under MTSS, many school districts experience considerable difficulty conceptualizing, outlining, and executing the framework. This difficulty in implementing MTSS could be due to educators being resistant to change, not receiving adequate training in MTSS, or lacking appropriate guidance from policymakers (Arden & Pentimonti, 2017). Either way, it has become clear that educators trying to implement MTSS often find it challenging, confusing to navigate, and even frustrating.

Steps to Building the MTSS House

To truly understand what MTSS is and make it less daunting, educators need to relate implementing MTSS to a task that is familiar to them, such as building a house. Therefore, this book seeks to take educators through building the "house of multi-tiered

systems of support." As everyone knows, building a house contains four basic steps of which include: (1) laying the foundation, (2) raising the framework, (3) putting up walls, and (4) covering the house with a roof.

The remainder of this chapter focuses on the first step to building a house and involves laying the foundation for the house to sit on. To lay the foundation of MTSS, educators must understand the history of it. After developing a sound understanding of the history of MTSS, the next step involves raising a framework for the house walls to rest on. Four pillars create the framework for MTSS and link all intervention service delivery models under the model. These four pillars are varying levels of evidence-based interventions and supports, universal screening, progress monitoring, and data-based decision-making. After raising a solid framework, the next step in constructing the MTSS "house" involves putting up the four walls. The four walls that make up the MTSS house include the intervention service delivery models of RTI, SWPBS, social-emotional RTI, and suicide prevention and intervention. The final step to building the MTSS house involves putting a roof over all the components that comprise it. MTSS, as a whole, acts as the roof to the house as it covers all the aforementioned components that comprise the model.

Notice that there is a rule of four in developing and implementing MTSS. To elaborate, there are four basic steps to building a house. Additionally, there are four "pillars" that create the framework to MTSS and link all intervention service delivery models under it. Finally, there are four intervention service delivery models that make up the "walls" to the house. By remembering the construction of the MTSS house as consisting of a rule of four, educators can easily recall the essential components of building the model. Figure 1.1 provides a diagram of how to conceptualize MTSS and the intervention service delivery models of RTI, SWPBS, social-emotional RTI, and suicide prevention and intervention.

FIGURE 1.1 ● Multi-Tiered Systems of Support and Intervention Services Delivery Models Within an MTSS Framework
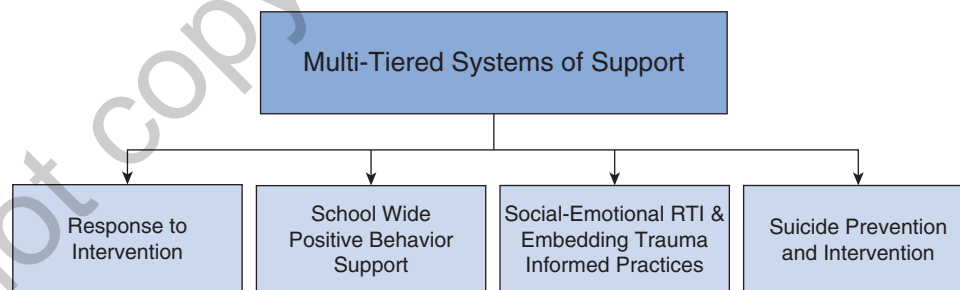
Foundations of MTSS

The building blocks that form the foundations of MTSS and intervention service delivery models are not new. Educators may be surprised to learn that several features of intervention service delivery models that integrate well under MTSS are over a century old. For educators to truly understand and appreciate the future of MTSS, they must understand how faulty reactionary past practices came to be and why such methods

have fallen out of favor. Central to this understanding is the birth of **psycho-educational testing** and the origins of school psychology practice. Understanding the history of MTSS and how it came to be forming a solid foundation to implement the model.

School psychology is a branch of professional psychology that focuses on helping children, families, and learners of all ages succeed academically, socially, behaviorally, and emotionally (American Psychological Association, n.d.; National Association of School Psychologists, 2014). The "school" in school psychology represents the type psychology these professionals engage in as opposed to the place in which they practice. Therefore, although many school psychologists practice inside the four walls of the school, many others are self-employed or work in agency, hospital, or university settings (National Association of School Psychologists, 2014). To improve school and agency-wide practices, school psychologists often consult with teachers, families, and other professionals, such as school counselors (National Association of School Psychologists, 2014). Compared to other practices of psychology, school psychologists are uniquely trained in the areas of data collection and analysis, collaboration, counseling, research and program evaluation, prevention and intervention services, and crisis response (National Association of School Psychologists, 2014). Arguably, the most traditional role for school psychologists to engage in is that of psycho-educational testing. In brief, psycho-educational testing or psycho-educational assessment entails the evaluation of a child to determine if there is the presence or absence of a disability that may interfere with learning, behavior, or social-emotional functioning (American Psychological Association, n.d.; National Association of School Psychologists, 2014).

Psycho-educational testing has been both the hallmark and Achilles' heel of school psychology practice for well over a century. Despite changes in education under ESSA, both teachers and administrators have continued to view the school psychologist's primary role as one that involves using IQ and achievement tests to determine special education eligibility (McGill, Dombrowski, & Canivez, 2018; Farrell, 2010). The anticipation, practice, and re-emerging role of school psychologists being limited to a testing-based profession is steeped in both educational history and legislation (Fagan & Wise, 2007; Farrell, 2010). However, without psycho-educational testing, the field of school psychology may be a practice that never obtained the prominence that it has reached in the twenty-first century. In a sense, the psycho-educational testing "key" that let school psychology out of the cage and into a highly valued profession also shackled the occupation to a wall of endless assessments. Perhaps no other profession has struggled more than school psychology to evolve past only one of the many duties that the occupation could entail.

Connection Between School Psychology, Teaching, and MTSS

School psychology's link to psycho-educational testing dates back to 1905 when Alfred Binet was asked by the Ministry of Public Instruction in France to assess problems exhibited by children who were unable to follow the general school curriculum (Farrell, 2010; Routh, 2019). Binet went on to develop the Binet-Simon Intelligence Test which was utilized to detect intellectually disabled children who were viewed as incapable of learning in a mainstream school and who should be placed in separate classes or special schools (Farrell, 2010; Routh, 2019). However, the essential components of school psychology practice were delineated nearly a decade earlier by Lightner Witmer who, as an English and history teacher at Rugby Academy in Philadelphia, was intrigued that although some of his students appeared capable and motivated remained unable to learn course content (D'Amato et al., 2011; Routh, 2019; Thomas, 2009). In 1896, Witmer outlined a plan for a role within applied psychology entitled "The Clinical

Method in Psychology and the Diagnostic Method of Teaching" (D'Amato et al., 2011; Fagan, 1996; Fagan & Wise, 2007; Routh, 2019).

Witmer's plan involved investigating mental development in children by statistical and clinical methods, developing a hospital training school for the treatment of children with defects interfering in their school progress, and the training of students for a new profession known as "the expert" who would work with the school in treating intellectually disabled children (D'Amato et al., 2011; Routh, 2019; Thomas, 2009). Taken altogether, Witmer's experience as a teacher and his proposal of having an "expert" in the schools delineated the specialty of school psychology. In addition, Witmer stressed both clinical and empirical methods for the understanding and treatment of children who exhibited psychological and developmental deficits along with focusing on a multidisciplinary problem-solving team approach (D'Amato et al., 2011; Witmer, 1996).

Ultimately, Witmer proposed a **problem-solving process** that involved evidence-based interventions to effectively teach children with learning deficits (D'Amato et al., 2011). These evidence-based interventions would consist of treatments or supports that demonstrated empirical support for effectiveness in remediating learning and behavioral deficits (D'Amato et al., 2011; King & Coughlin, 2016). Ultimately, Witmer's problem-solving process called for the assessment of the disorder, development of hypotheses concerning appropriate intervention, and the provision and evaluation of the intervention (D'Amato et al., 2011; Fagan & Wise, 2007; Routh, 2019). In essence, Witmer's problem-solving process involved the careful monitoring of a student's response to intervention. Such a proposal introduced two early cornerstones that link intervention service delivery models, such as RTI and PBS, under MTSS: utilization of evidence-based interventions and progress monitoring.

Emphasis on Psycho-Educational Testing

Despite Witmer stressing the importance of formulating and utilizing evidence-based interventions and progress monitoring, his ideas were not viewed as groundbreaking when he presented them at the annual American Psychological Association meeting (D'Amato et al., 2011). Moreover, as time progressed, school psychology's emphasis on testing remained a central component of the field. In fact, in the 1920s, Cyril Burt, the UK's first school psychologist believed that the occupation's primary focus was that of "testing children to see if they needed to be educated in a special school" (Farrell, 2010, p. 583). Equal emphasis was not placed on the school psychologist's role as both assessor and proposer of evidence-based intervention but rather one of assessor. Instead, the profession of school psychology took on the role of the "judge, jury, and executer" of sorting children into educational placements and determining whether a child with significant learning deficits could attend education (Farrell, 2010; Maliphant, Frederickson, & Cline, 2013).

Farrell (2010) argues that IQ tests played a critical and definitive role in the rise of school psychology in that if these assessments determined a child's educational placement, there was "a need to employ professionals to use them" (p. 583). Oakland (2000) bolsters Farrell's claims by noting that the rise in the number of school psychologists worldwide was closely linked to the extent that countries have viewed IQ tests as an indispensable tool for the identification of children with special needs. Ultimately, school psychologist's rise to prominence is largely based on the concept that IQ testing was a distinctive task that no other professional could perform (Fagan & Wise, 2007; Farrell, 2010). Despite intelligence testing continuing to grow in popularity in the 1920s, Witmer remained skeptical of utilizing them as the sole assessment of an individual's ability going as far to write a letter to the Editor of the *New York Times*

encouraging more holistic methods for determining an individual's competency (Thomas, 2009; Witmer, 1922). For example, in deciding whether children had an intellectual disability, Witmer encouraged the use of lengthy observations and attempts to determine whether the condition was responsive to remedial efforts before making an official diagnosis (Routh, 2019; Thomas, 2009). Therefore, even with IQ tests rising in popularity, Witmer's approach to diagnosing intellectual disability and learning deficits was in line with the methods he initially proposed of attempting an intervention and determining whether a child is responsive to the intervention proposed. Such practices, as mentioned earlier, were the foundations for the intervention service delivery models that comprise MTSS. To understand the contextual timeframe in which two basic components of MTSS arose in and the year school psychology was founded, see Figure 1.2.

Introduction to the Severe Discrepancy Model

By the 1940s and into the 1970s, there was a growing emphasis in education to provide quality instruction to all children (D'Amato et al., 2011; Fagan & Wise, 2007). The concept that all children should be provided quality instruction combined with the advent of the civil rights movement and increased advocacy from parents lead to attention being placed on the idea that children with disabilities should be educated with their nondisabled peers (Heward, Alber-Morgan, & Konrad, 2017; Spaulding & Pratt, 2015). Still, before 1975, few districts provided education for students with disabilities or segregated them into residential schools in the United States (Katsiyannis, Yell, & Bradley, 2001). Although many students with disabilities were denied educational services before 1975, there continued to be an increased need for psychological services in the school setting that focused both on psycho-educational assessment along with the delivery of mental health services (D'Amato et al., 2011). Consequently, the number of school psychologists increased from about 500 in 1940 to about 5,000 in 1970 (D'Amato et al., 2011; Fagan & Wise, 2007).

As advocacy efforts for children with disabilities continued, high profile court cases like Hobson versus Hanson (1967), Mills versus The Board of Education of the District of Columbia (1972), and the Pennsylvania Association for Retarded Citizens versus the Commonwealth of Pennsylvania (1972) eventually led to the passage of the **Education for All Handicapped Children Act (EHCA)** (Heward et al., 2017). EHCA required that all schools that received federal funding provide children with disabilities equal access to education and mandated educating these students in the least restrictive educational environment possible (Heward et al., 2017). As a consequence of ECHA, children suspected of having a disability or who had a disability were entitled to a nondiscriminatory evaluation completed by the school district (Heward et al., 2017). Moreover, the act required IQ testing to determine special education eligibility for the identification of both learning disabilities and intellectual disability. One of the most controversial disability categories under EHCA was that of Specific Learning Disability (SLD), which was defined as:

(a) A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or do mathematical calculations. (b) Includes such conditions as perceptual disabilities, minimal brain dysfunction, dyslexia and aphasia. (c) Does not include learning problems which are primarily the result of visual hearing, motor or emotional disabilities, or mental retardation, or of environmental, cultural or economic disadvantage. (Individuals with Disabilities Act, 2004)

Due to EHCA defining a SLD in vague terms, critics and teachers at the time, and even today, have touted the definition as "too vague," citing that it delineates what a SLD isn't rather than what it is (Alfonso & Flanagan, 2018; Beaujean, Benson, McGill, & Dombrowski, 2018; Fletcher et al., 2002; Maki, Floyd, & Roberson, 2015). Therefore, the definition of SLD was, and continues to be, frequently discredited for being exclusionary and convoluted rather than inclusionary and specific (Fletcher et al., 2002). However, despite criticisms, the definition of SLD has remained unchanged since 1975 (Fletcher et al., 2002). Not surprisingly, after the passage of the EHCA, states needed assistance with identifying SLD as there were no agreed-upon diagnostic criteria for determining the presence or absence of the disorder (Alfonso & Flanagan, 2018; Beaujean et al., 2018; Maki et al., 2015).

As a result, the Federal Register published the Procedures for Evaluating Specific Learning Disabilities in 1977 which defined SLD as a severe discrepancy between achievement and intellectual ability in one or more of the following seven areas: oral expression, listening comprehension, written expression, basic reading, reading comprehension, mathematics calculation, or mathematics reasoning (U. S. Office of Education, 1977). Moreover, an individual could not meet eligibility criteria for a SLD if the discrepancy between ability and achievement was not primarily the result of a visual, hearing, or motor handicap, mental retardation, emotional disturbance, or environmental, cultural, or economic disadvantage (U. S. Office of Education, 1977). The inclusion of a **severe discrepancy** between a youth's ability and achievement, as recommended in the Federal Register, propelled school psychology and psycho-educational testing to new heights and helped to solidify school psychologist's role as "gatekeeper" of special education. As a result, school psychologists continued to be in demand profession throughout the 1970s and 1980s that was tasked with endlessly administering intelligence and achievement tests and subsequently determining if a severe discrepancy between the two measures was significant enough to determine the presence of a SLD (see Table 1.1) (Alfonso & Flanagan, 2018; Beaujean et al., 2018). Such a process further de-emphasized the problem-solving process and preventative practices that Witmer originally proposed.

TABLE 1.1 ● Example of Severe Discrepancy Model			
Student	**IQ Test Score**	**Achievement Test Score**	**Qualifies as Learning Disabled**
Danny	90	96	No
Stephanie	120	97	Yes
Kristen	77	69	No

Note. District A: Severe discrepancy criteria: 22 point discrepancy = Severe Discrepancy.
Average IQ/Achievement Score = 90–109.

Controversy Surrounding the Severe Discrepancy Model

Ironically, when Samuel Kirk coined the term of learning disability (LD) in 1962, he did not incorporate a "severe discrepancy between achievement and intellectual ability" into his definition (Hallahan & Mock, 2003; McDonough, Flanagan, & Alfonso, 2017). However, the concept of an ability–achievement discrepancy was later included when a student of Kirk's, by the name of Barbara Bateman, redefined LD in 1965 (Hallahan & Mock, 2003; McDonough et al., 2017). The idea of an IQ–achievement discrepancy being

the hallmark of a child with a LD further gained notoriety in 1975 when the results of the "Isle of Wight" study, conducted by Michael Rutter and William Yule, found that some children performed much lower in reading than was expected given their roughly average intelligence (Rutter & Yule, 1975). The "Isle of Wight" study appeared to confirm the general belief that school psychologists could engage in a "cognitive profile analysis" to assess "unorganized functioning" in children (Beaujean et al., 2018, p. 2).

By school psychologists completing a **cognitive profile analysis,** it was thought that they could determine the underlying presence or absence of a LD and provide a reason or "cognitive dysfunction" for underachievement on academic testing (Beaujean et al., 2018). However, research has consistently drawn into question the reliability and validity of school psychologists engaging in a cognitive profile analysis, finding it to be of little value in the diagnosis and treatment of SLD (Beaujean et al., 2018; Farrell, 2010; McGill et al., 2018). Still, the combination of Bateman's definition for LD, Rutter and Yule's "Isle of Wight" study, and an overall need for more definitive criteria for identifying LD lead to increasing demands for school psychologists to conduct IQ tests. Farrell (2010) writes that "one of the consequences of the Rutter and Yule article is that it encouraged, if not directed, school psychologists to carry out IQ tests when assessing children who were thought to have specific learning disabilities, thus reinforcing their unique and distinctive role" (p. 584).

Although the assessment mandates of the EHCA was the first time that districts were required to provide school psychology services, the federal mandate forced the profession to spend most of, if not all, its time completing IQ and achievement tests (Abramowitz, 1981; Benson, Floyd, Kranzler, Eckert, & Fefer, 2018; Brown, Holcombe, Bolen, & Thompson, 2006; Heiser, Garruto, & Faustino, 2018; Stoiber & Vanderwood, 2008). In years following the EHCA, school psychologists largely advocated that the responsibility of assessor was forced upon the field by the federal government and that the profession would not have imposed such a limited role on themselves (Abramowitz, 1981).

Subsequently, the National Association of School Psychologist's Standards for the Provision of School Psychological Services reflected that school psychologists wanted to reduce the amount of time they spent on assessments (Abramowitz, 1981). Instead, the field advocated for an increase in the amount of time they spent on mental health consultations and the prevention of student learning problems (Abramowitz, 1981). Such advocacy for the prevention of student learning problems was more in line with what Witmer originally proposed for the profession and involved several cornerstones of MTSS. Despite efforts by school psychologists to distance themselves from the roles of assessor and gatekeeper of special education, the field's primary duty continued to involve completing psycho-educational assessments and determining whether a severe discrepancy existed between a student's intellectual ability and achievement.

By school psychologists analyzing and determining whether a severe discrepancy existed between a student's intellectual ability and achievement, their practices began to mirror the traditional **medical model** of training as opposed to a preventative one. The traditional medical model suggested that in order for a child to receive help with their deficits, they must first wait to be diagnosed with a "disability" or "illness" (Remley & Herlihy, 2016). The medical model is in contrast to the preventative model of practice which suggests that many children's deficits can be remediated before a diagnosis is needed (Remley & Herlihy, 2016). The practice of children with learning deficits having to wait to academically fall substantially behind their peers in order to be classified as a child with a disability became known as the **"wait-to-fail"** model. Taken altogether, the history, legislation, and demand to curb SLD numbers using a rigid ability–achievement discrepancy formula made the field of school psychology synonymous with psycho-educational testing rather than placing equal emphasis, if not more

emphasis on Witmer's original concepts of prevention using evidence-based interventions within a problem-solving model.

Adoption of the Public Health Model

Ironically, at the time when the educational field was moving toward reactionary practices to identify SLD, it appears that the medical field began to mirror some of Witmer's early concepts with the creation of the public health model in the 1960s (Bruns et al., 2016). The **public health model** emphasized the overall health of the public through epidemiologic methodology, better known as the study, determination, control, and prevention of health problems (Merrill, 2017). More specifically, activities in epidemiology that align with Witmer's early problem-solving process and MTSS include the study of what causes a disease and strategies to prevent illness and the development of a hypothesis to control the illness (Merrill, 2017). Additionally, the practice of epidemiology called for the utilization of evidence-based interventions, and monitoring and evaluating the effectiveness of interventions in preventing and treating the disease (Centers of Disease Control and Prevention, 2018; Dean, 2012; Merrill, 2017) (see Table 1.2). It is not surprising that Witmer's initial ideas may have been inadvertently incorporated into the public health model as Witmer viewed his practice of psychology as "closely related to medicine" (Witmer, 1996, p. 7). Consequently, it was arguably Witmer's past experience as a teacher combined with his view that the practice of psychology was "closely related to medicine" that were influential to preventative practices in education.

FIGURE 1.2 ● Timeline
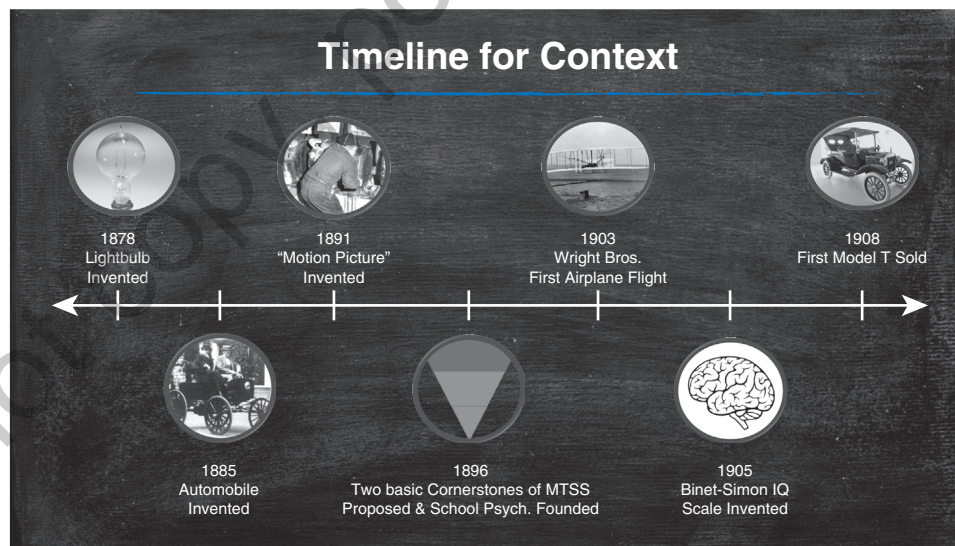
With the central components to epidemiological practices and the public health model involving the study and prevention of disease and illness, Leavell and Clark (1965) outlined primary, secondary, and tertiary levels needed to avoid the contraction and advancement ailments. Primary prevention was designed to promote health and keep medical problems from occurring in the first place through resiliency and protective factors (Ali & Katz, 2016; Schoon, Porta, & Schaffer, 2019). Secondary prevention was

TABLE 1.2 ● Witmer's Clinical Method in Psychology Versus Epidemiology Practices (D'Amato et al., 2011; Merrill, 2017; Witmer, 1907/1996)

Witmer's Proposal	Epidemiology Practices
Investigating the mental development of children, as manifested by mental and moral concerns by means of statistical methods	Investigating and making a judgment on the causes of disease through valid statistical association
Development of hypotheses concerning an appropriate intervention to remediate the child's deficits before a diagnosis is placed on the child. The focus is on prevention.	Development of a hypothesis as to how to best prevent, treat, or control an illness
Development and utilization of evidence-based interventions	Development and utilization of evidence-based interventions
Monitoring and evaluating the effectiveness of interventions at remediating learning and behavioral deficits.	Monitoring and evaluating the effectiveness of interventions at preventing and treating illness.

designed to detect and treat health problems in their early stages before they become too severe and have long-term effects (Ali & Katz, 2016; Schoon et al., 2019). Finally, tertiary prevention was developed to limit further adverse effects of a health problem in its later and more advanced stages (Ali & Katz, 2016; Schoon et al., 2019).

Eventually, Leavell and Clark's different levels of prevention were adopted into a three-tiered triangle, which closely resembled three-tier intervention service delivery models such as RTI and SWBPS (see Figure 1.3). With the medical field adopting a preventative stance toward illness and disease in the 1960s and throughout the 1970s, the field of community-based mental health and psychiatry began to adapt the three-tiered model of prevention into their practices (Ali & Katz, 2016; Schoon et al., 2019). Therefore, while medical and community-based mental health fields appeared to welcome, adopt, and revise preventative models of practice that were similar to what Witmer originally proposed, the field of education increasingly moved toward the reactionary and traditional medical model of practice under "wait-to-fail."

FIGURE 1.3 ● Public Health Model
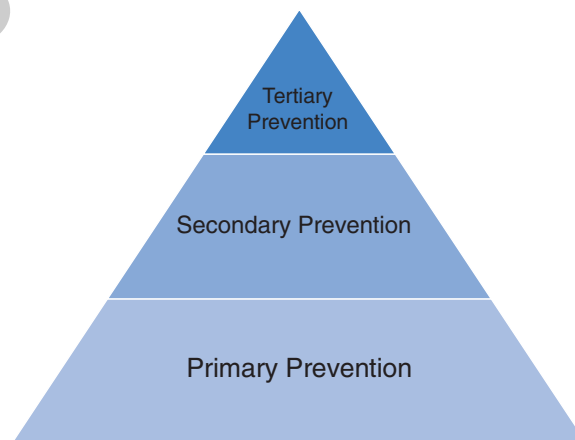
At the time in which community-based mental health was adopting preventative practices and education was adopting the reactionary "wait-to-fail" model, school psychologists could be found working in community-based mental health clinics, residential settings, and in schools (Mordock, 1988; D'Amato et al., 2011). School psychologists often worked in each of these settings as the "school" in school psychology delineates the specialty of practice these psychologists engage in and not the place. Additionally, as mentioned earlier, before 1975 many children with disabilities were educated in residential schools separate from their nondisabled peers (Katsiyannis et al., 2001). With the incorporation of the ability–achievement discrepancy model into EHCA, there was an increased demand for school psychologists to become a mandated practice within public education (Abramowitz, 1981; D'Amato et al., 2011; Mordock, 1988). It was thought that incorporation of the ability–achievement discrepancy model and utilization of school psychologists for psycho-educational testing would impede the flow of children with specific learning disabilities into special education (Cortiella & Horowitz, 2014). Therefore, by the mid-1990s and early 2000s, the ability–achievement discrepancy model was the most widely endorsed method among school psychologists for identifying SLD (Floyd, 2010; Reschly, 2008). Consequently, psycho-educational testing filling a little more than half the workweek and two-thirds of school psychologist's time was devoted to special education classification and placement (Reschly, 2008). Still, school psychologists continued to advocate for a movement away from the severe discrepancy model and better utilization of their time and skills (Box 1.1).

BOX 1.1   COVID-19 AND THE PUBLIC HEALTH MODEL

In late December 2019 and throughout 2020, a mysterious and highly contagious virus emerged that primarily attacked the respiratory system in humans and had no known vaccine or cure (Xie et al., 2020). The emergence and global spread of the disease, which came to be known as coronavirus or COVID-19 for short, globally spread from continent to continent causing millions of people across the world to become sick or pass away (Centers for Disease Control and Prevention, 2020). Due to the dangers that COVID-19 presented, 140,000 out of 148,000 public and private schools suddenly closed across the United States and Canada (National Center for Education Statistics, 2019; Statistics Canada, 2020; Viner et al., 2020). Along with school closure, universities, restaurants, parks, businesses, movie theaters, sporting events, and department stores stopped operations to prevent the spread of the disease.

Little did anyone know it at the time, but they were getting a front row seat of the public health model in action throughout the COVID-19 pandemic. Overall, the goal of the public health model is to promote and "protect the health of people and the communities where they live, learn, work, and play" (American Public Health Association, 2021; para. 1). A main focus of the public health model entails the prevention of disease outbreaks (American Public Health Association, 2021). During the COVID-19 pandemic, all three tiers of the public health model were on full display across the world in an effort to stop the spread of the virus and save lives. As mentioned earlier, initial Tier 1 efforts to stop the spread of COVID-19 involved the closure of schools, universities, businesses, and public places. Additionally, the public was educated about the virus, vulnerable populations who may be exposed to the virus, and how to best protect others from contracting the disease through press briefings and the news. Aside from press briefings and the news, many countries across the world adopted easy-to-remember mottos, such as "Stop the spread. Stay at home. Save lives" (Centers for Disease Control and Prevention, 2020). This motto along with television commercials, billboards, and roadside signs reminded the public of best hygiene practices to prevent the spread of the virus with statements, such as "wash your hands," "cover your face in public," and "stay six feet or two meters apart" (Centers for Disease Control and Prevention, 2020). In addition to these Tier 1 interventions, all family members and friends not residing together were asked to not visit one another and informed by health experts to "stay inside" (Centers for Disease Control and Prevention, 2020).

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As a final effort to prevent the spread of COVID-19, grocery stores implemented Tier 1 interventions to protect the general public. Some of the Tier 1 interventions adopted by grocery stores included only allowing a set number of customers to enter at a time, placing tape on the ground in checkout lines to keep customers a safe distance from one another, asking shoppers to wear masks, and increasing sanitization and cleaning efforts. Finally, countries across the world worked diligently to universally screen as many individuals as they could in the community for exposure to COVID-19 (Centers for Disease Control and Prevention, 2020). Taken altogether, Tier 1 efforts during the COVID-19 pandemic were designed to prevent the spread of the virus and were to be ubiquitously adopted and practiced by all individuals residing in a community.

Despite Tier 1 efforts keeping the majority of people safe from contracting COVID-19, some individuals required more intensive interventions and supports. Therefore, Tier 2 supports were designed for individuals who were at increased risk for COVID-19, showed symptoms of the virus, or had traveled during the outbreak (Centers for Disease Control and Prevention, 2020). For these individuals, the standard protocol involved them having to self-quarantine for fourteen days and separate themselves from family members who reside in their home (Centers for Disease Control and Prevention, 2020). If individuals were feeling ill and needed medical assistance, they were advised to contact their primary medical doctor, rest, drink plenty of liquids, and take over-the-counter medications, such as acetaminophen (Centers for Disease Control and Prevention, 2020). Their response to these interventions and supports was progress monitored by having these individuals check in regularly with their primary care physician (Centers for Disease Control and Prevention, 2020).

Finally, Tier 3 efforts in response to COVID-19 were designed for the few individuals within a community who did not respond to previous intervention efforts and supports. These individuals were considered at extreme risk for dying or having lifelong complications as a result of the virus. At Tier 3, individuals who contracted the virus were admitted to hospital where they received interventions and supports, such as practicing breathing exercises with a respiratory therapist, receiving extra oxygen, being administered fluids through an IV, and receiving antiviral or steroid medications, such as remdesivir or dexamethasone (Centers for Disease Control and Prevention, 2020). In extreme cases, individuals were placed on ventilator (Centers for Disease Control and Prevention, 2020). For those individuals who did not respond to Tier 3 interventions and supports, many either developed a disability, such permanent respiratory damage, or passed away.

Although the COVID-19 pandemic significantly impacted the quality of life for many people across the world, it also provided global insight into the public health model. Being familiar with this model to prevent disease outbreaks or adapting it for use in schools is critical to providing best evidence-based supports and interventions. Through using such an approach in the schools, educators are placing them in the best place to succeed not only academically but throughout their life. Overall, the public health model and the intervention service delivery models used in the schools that mirror it seek to prevent diseases, learning, or behavioral deficits from emerging.

A Road Sign During the COVID-19 Pandemic

Movement Away From the Severe Discrepancy Model

Despite the field of education utilizing an ability–achievement discrepancy model to impede the flow of children being classified as learning disabled, the disability category continued to grow substantially. Ironically, from 1976 to 2000, children classified as having a SLD grew by more than 300% (Cortiella & Horowitz, 2014; Heward et al., 2017). In addition to failing to impede the flow of children being classified as learning disabled, scholars and educators began to note several prominent limitations to the ability–achievement discrepancy model.

First, an obvious limitation of the ability–achievement discrepancy model was its tendency to disqualify children in need of special education services and, on the contrary, qualify children who were not truly disabled (Beaujean et al., 2018; Fletcher, Lyon, Fuchs, & Barnes, 2019; Hale, 2008). Scholars have pointed out that a major flaw in the ability–achievement discrepancy model was that it denied children with disabilities access to services because the cognitive difficulties that led to the learning problem also depressed the child's IQ score (Fletcher et al., 2019; Hale, 2008; Restori, Katz, & Lee, 2009). Due to the child's overall IQ score being depressed as a result of significant cognitive deficits, they were less likely to display the substantial discrepancy needed to qualify for special education services.

For example, in a district requiring that a student display a 22-point discrepancy between their cognitive and achievement testing scores, a child with an IQ score of 125 (very high range) and an achievement score of 102 (average range) in reading comprehension could qualify for special education services. However, a child with an IQ score of 83 (low average range) and an achievement score of 67 (extremely low range) in reading comprehension could not qualify for special education services. Taken altogether, under the ability–achievement discrepancy model, a child with significantly lower than average intelligence and achievement scores could be denied special education services, while a child with average to significantly above average intelligence and achievement scores could qualify for special education services as a child with a SLD.

A second criticism of the ability–achievement discrepancy model was that it made early identification and intervention of children with SLD challenging (Alfonso & Flanagan, 2018; Restori et al., 2009). Using the discrepancy model, young children experiencing academic difficulties often did not demonstrate the significant difference needed between their IQ and achievement test scores to meet eligibility as a child with a SLD. Therefore, young students often had to continue to fail for several years before their achievement scores fell significantly below their IQ in order to qualify for special education services (Alfonso & Flanagan, 2018; Restori et al., 2009). For example, under the ability–achievement discrepancy model, the average age at which students were identified as having a reading disability and eligible for special education was ten years or about third to fourth grade (Al Otaiba, Wagner, & Miller, 2014). Consequently, under the ability–achievement discrepancy model, younger students with academic deficits often did not receive support for their learning difficulties in earlier grades (Al Otaiba et al., 2014).

A third problem with the discrepancy model, and one that the Isle of Wight study helped reinforce, is the general perception among school psychologists and educators that IQ and achievement in the general population are perfectly correlated (Beaujean et al., 2018; Farrell, 2010). To clarify, many educators widely believed that children with an average IQ should have reading scores proportionate with their chronological age (Beaujean et al., 2018; Farrell, 2010). Therefore, children with high IQs would be expected to have reading ages above that of their chronological age, and children with

lower IQ would be expected to have reading ages below that of their chronological age (Beaujean et al., 2018; Farrell, 2010). Despite the general perception among psychologists and educators that IQ test scores and achievement are perfectly correlated, the two are not. In fact, it is estimated that approximately 50%–60% of student achievement is related to variables beyond intelligence such as motivation, early learning opportunities, and effective instructional practices (Borghans, Golsteyn, Heckman, & Humphries, 2016; Farrell, 2010; Restori et al., 2009).

A fourth limitation of the ability–achievement discrepancy model is that it leads educators and school psychologists to believe that IQ tests can and should be utilized to prescribe interventions to students to best match their specific cognitive profile (Beaujean et al., 2018; Fletcher & Miciak, 2017; Kearns & Fuchs, 2013). Contrary to common belief, there remains a lack of compelling evidence demonstrating that cognitive assessments can be effectively utilized to suggest effective interventions for struggling learners that will help them succeed academically (Beaujean et al., 2018; Fletcher & Miciak, 2017; Kearns & Fuchs, 2013). By school psychologists recommending interventions based on cognitive profiles, students may receive the wrong interventions or interventions that lack empirical support. In addition to failing to provide educators empirically supported interventions, the ability–achievement discrepancy model did not provide educators tools to monitor a student's RTI and exit criteria from special education. Consequently, through the ability–achievement discrepancy model, educators did not fully know how much students were benefiting from their instruction and interventions as their progress was not frequently monitored, and students rarely found their way out of special education (Fletcher & Miciak, 2017; Reschly, 2008).

A final criticism of the ability–achievement discrepancy model is that there was little empirical evidence supporting its use in identifying SLD (Maki et al., 2015; Restori et al., 2009; Stuebing et al., 2002; Vellutino, Scanlon, & Lyon, 2000). Consequently, there was no universally accepted and best practice model adopted for its implementation across school districts and across states (Beaujean et al., 2018; Maki et al., 2015). For example, while one district may have required a 20-point discrepancy for determining whether a student qualified for having a SLD, a neighboring school district may have required a 23-point discrepancy. Therefore, a student who qualified for special education services in one school district may not have qualified for special education services in another school district. Additionally, since IQ and achievement tests provide educators a single test score at a single point in time, the repeated measures needed to establish the reliability of whether the child is consistently underperforming on standardized instruments cannot be determined (Restori et al., 2009). To establish the type of consistency needed to determine whether a child is underperforming, a child's RTI must be monitored over time as Witmer originally proposed.

Response to Intervention and the Problem-Solving Process

Due to ongoing concerns with the discrepancy model, the National Joint Committee on Learning Disabilities (NJCLD) wrote a letter to the Office of Special Education Programs (OSEP) in 1997 to encourage dialogue on best practices for identifying learning disabilities (Preston et al., 2016). Consequently, OSEP responded by forming a committee of researchers, parents, teachers, advocates, and policymakers to identify best possible ways to improve LD eligibility criteria. Subsequently in August 2001 a Learning Disabilities Summit was held by the OSEP of the US Department of Education (Al Otaiba et al., 2014; Preston et al., 2016). The purpose of the summit was to align identification of struggling learners with best evidence-based practices and influence the upcoming NCLB Act (Al Otaiba et al., 2014). A particular emphasis at the summit and in

subsequent white papers was placed on children who displayed significant reading deficits and were not receiving adequate support in education. Therefore, scholars and educators argued that there was a critical need to provide children with early preventative interventions rather than waiting for them to fall far enough behind to qualify for help (Al Otaiba et al., 2014).

At the Learning Disabilities Summit, a consensus was reached to incorporate the science of reading intervention with screening and progress monitoring under a three-tiered problem-solving model known as "response to intervention" (Al Otaiba et al., 2014; D'Amato et al., 2011; Maki et al., 2015). Ironically, this three-tiered model appeared to borrow from the public health model's three tiers of preventative practice and incorporated several of Witmer's early ideas including the problem-solving process, progress monitoring, and utilization of evidence-based interventions. Along the lines of evidence-based interventions, the passage of NCLB Act strongly recommended the use of "scientifically based research" over 100 times, suggesting that the teaching methodologies and interventions utilized to assist children should have garnered empirical support (No Child Left Behind, 2002).

By the 2004 reauthorization of Individuals with Disabilities Education Act (IDEA), the federal government introduced the "response to intervention" (RTI) statue, which shifted emphasis away from the utilization of IQ and achievement tests to determine whether a child has SLD and instead suggested the following:

A. When determining whether a child has a SLD as defined in Section 1401 of this title, a local education agency shall not be required to take into consideration whether a child has a severe discrepancy between achievement and intellectual ability in oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculation, or mathematical reasoning [{20 USC 1414(b) (6)}].

B. In determining whether a child has a SLD, a local educational agency may use a process that determines if the child responds to scientific, research-based intervention as a part of the evaluation procedures described in paragraphs (2) and (3) [{20 USC 1414(b) (6)}].

In addition to setting forth these regulations, nearly 30 years after the Federal Register incorporated the discrepancy approach in the identification of students with learning disabilities, the US Department of Education's OSEP distanced themselves from using of intelligence and achievement measures (Federal Register, 2006, p. 46651; VanDerHeyden & Burns, 2010). The department wrote that there is "no current evidence that such assessments are necessary or sufficient in identifying SLD. Furthermore, in many cases, these assessments have not been used to make appropriate intervention decisions" (Federal Register, 2006, p. 46651; VanDerHeyden & Burns, 2010).

Although the federal register statement initially appears to discredit the utilization of IQ and achievement tests for determining whether a child qualifies for special education services, the federal definition of SLD maintained that it is a disorder of "psychological processes" that manifests itself in an "imperfect ability to listen, think, speak, read, write, spell or do mathematical calculations" (Individuals with Disabilities Act, 2004). Consequently, the Federal Register's (2006) statement continues to state that the Department of Education:

Permits, but does not require, consideration of a pattern of strengths and weaknesses, or both, relative to intellectual development, if the evaluation group considers that

information relevant to an identification of SLD. In many cases, though, assessments of cognitive processes simply add to the testing burden and do not contribute to interventions. (p. 46651)

Even though RTI has garnered considerable support, it appears that psycho-educational testing will still play a role in school psychology practice. Intelligence tests are a central component of assessing children for intellectual disability and remain objective measures that are not subject to the same bias as teacher ratings or grading (Floyd, 2010). Additionally, psycho-educational tests, especially IQ scores, have accumulated significant evidence for predicting socially important variables such as grades in school, years of schooling, job performance, income, learning outcomes in college and work, and social status (Butler, Pentoney, & Bong, 2017; Floyd, 2010).

Perhaps, the most important reason why IQ and achievement measures will continue to play a role in school psychology practice is that these measures continue to improve. Therefore, these assessments may eventually provide considerable insight into the cognitive processes that are affecting a child's learning. As a result, cognitive measures could help explain why interventions have largely been proven ineffective at remediating learning deficits for some children. For example, recent studies have suggested that understanding the fundamental cognitive processes that underlie reading, math, and writing disabilities and may be critical in the identification of such impairments (Kudo, Lussier, & Swanson, 2015; Peng, Wang, & Namkung, 2018). Finally, IQ and achievement measures may continue to play a role in school psychology practice as educational scholars have cited several limitations to implementing RTI. These limitations include difficulty establishing criteria for what evidence-based interventions should look like across different subject areas and grade levels, vague criteria on how to implement RTI with fidelity, and RTI being an inadequate stand-alone process for identification of specific learning disabilities (Hale, 2008; Hale et al., 2008; Preston et al., 2016). Ultimately, these limitations involving RTI, along with the fact that the current definition for LD includes a disorder in one or more of the "basic psychological processes," led the final federal regulations to state that:

RTI is only one component of the process to identify children in need of special education and related services. Determining why a child has not responded to research-based interventions requires a comprehensive evaluation […] An RTI process does not replace the need for a comprehensive evaluation. (Federal Register, 2006, pp. 46646–46647)

The overlying principle of the 2006 regulations was to ensure that RTI was only one component of the evaluation process and that the data gathered do not rely solely on one single procedure for determining SLD (Federal Register, 2006). Therefore, the general impression is that the majority of students will respond to RTI-tiered instruction at the 1, 2, or 3 levels and remain in the general education curriculum. For the few students who do not respond to intervention, a psycho-educational evaluation may assist in determining whether the child is disabled. Therefore, if RTI was attempted and was unsuccessful in helping the child to overcome the problem, a psycho-educational evaluation would reveal the deficits in the basic psychological processes that cause a SLD.

Integration of Intervention Service Delivery Models Under MTSS

The incorporation of the "RTI statute" into IDEA 2004 and the reinforcing statement from the Federal Register in 2006 clarified the federal government's stance on the

overuse of cognitive and achievement measures in identifying learning disabilities. Interestingly, IDEA 2004 never once utilized the term "response to intervention," but Vaughn and Fuchs (2003) suggest that the origins of RTI came from a 1982 National Research Council study on an approach to identify students with learning disabilities. Additionally, evidence exists that the term "response to intervention" has its terminology roots in an article by Frank Gresham (1991) in which he utilized the term "resistance to intervention" as a new method of assessing behavior disorders.

Although Gresham's article on "resistance to intervention" better aligns to the improved identification behavioral disorders in children, the term appears to have been altered to "response to intervention" to signify the idea that children without learning deficits tend to respond to evidence-based interventions provided, whereas children who do not may have significant learning impairments. Either way, Gresham's article and his focus on the improved selection and implementation of behavioral interventions appear to be an early precursor to the intervention service delivery model of School-Wide Positive Behavior Support (SWPBS).

The humble beginnings of SWPBS began in response to concerns over the use of aversive and humiliating procedures utilized to manage behaviors for individuals with developmental disabilities (Hieneman, 2015). However, in education, SWPBS was viewed as a means to proactively address the needs of students with significant behavioral concerns. SWPBS' appeal was significantly bolstered from 1987 to 1992 by a $670,000 grant from the US Department of Education National Institute on Disability and Rehabilitation Research (Johnston, Foxx, Jacobson, Green, & Mulick, 2006). The grant provided a consortium of universities funding to research and expand the applicability of SWPBS (Johnston et al., 2006). By 1997, SWPBS was incorporated into the amended version of the IDEA to improve school culture and utilize evidence-based strategies to proactively address the behavioral needs of students (Johnston et al., 2006). Although SWPBS initially had focused on children with developmental and behavioral disabilities, its appeal in proactively addressing problem behaviors and promoting a positive school climate led to it being incorporated as a general education initiative (Johnston et al., 2006).

Like RTI, SWPBS adopted a three-tier triangular model in which interventions increase in intensity and duration, and children do not respond to supports provided. Additionally, like RTI, SWPBS was largely refined throughout the 1990s and gained prominence throughout the 2000s. As both RTI and SWPBS grew in popularity throughout the 2000s, there was an increased push to integrate both of these intervention service delivery models under one general model in what would become known as MTSS.

The initial push for the integration of RTI and SWPBS arose primarily from three assumptions. First, an extensive literature base documented that lower academic achievement may lead to problem behaviors and that problem behaviors tend to lead to lower academic achievement (Kremer, Flower, Huang, & Vaughn, 2017; Madigan, Cross, Smolkowski, & Strycker, 2016). Evidence suggests that there is a 12.5% prevalence rate of children with co-occurring academic and behavior problems and that increased disruptive behavior frequently inhibits academic success, likely as a result of reduced instructional time (Taylor, Kilgus, & Huang, 2018). Additionally, studies have found that academic, behavioral, and emotional problems appear more stable the longer they go undetected and untreated. Due to academic achievement and behavioral deficits appearing to be related, attempting to address both through separate intervention systems rather than through combined approaches may not be as effective (McIntosh & Goodman, 2016). For example, attempting to address a child with academic and

behavioral deficits through RTI, as opposed to RTI and SWBPS together, may not fully support the youth's areas of deficit.

Secondly, McIntosh and Goodman (2016) point out that proponents of integrating RTI and SWPBS under MTSS realized that each of these intervention service delivery models share many common underlying theories and features. Consequently, it was thought that by pointing out the similarities between RTI and SWPBS that school staff would be more likely to adopt both models under MTSS. Educators can better adapt to systems-level change when pointing and focusing on the similarities between two intervention service delivery models, rather than pointing out their differences (McIntosh & Goodman, 2016. By school districts introducing and integrating both intervention service delivery models under MTSS, as opposed to adopting each as a separate large initiative, educators may view that task of implementing them as less daunting (Freeman, Miller, & Newcomer, 2015; McIntosh & Goodman, 2016).

Finally, the integration of academic and behavior support efforts may lead to more efficient use of resources (Eagle et al., 2015; Preston et al., 2016). By combining and displaying how RTI and SWBPS initiatives address interrelated challenges as opposed to competing initiatives, a strong case can be made for funding and sustaining an integrated RTI and SWBPS models under MTSS (McIntosh & Goodman, 2016). This is opposed to proposing RTI and SWBPS and separate initiatives, which may seem like a daunting and costly undertaking to educators. Therefore, by integrating RTI and SWBPS under MTSS, resources will be allocated more effectively, time managed more efficiently, concepts will be better understood, and cost to schools will be minimized. Each of these assumptions led to MTSS gaining popularity among educators and educational scholars as a powerful model for best-assisting children socially, emotionally, behaviorally, and academically.

Conclusion

MTSS has its foundations in early school psychology practice and the problem-solving model proposed by Lightner Witmer in 1896. Witmer developed the problem-solving model after his experiences as a teacher and noting that although some of his students appeared capable and motivated remained unable to learn course content. Despite the basic components of MTSS being proposed by Witmer in the late 1800s, the preventative practice model was not fully embraced until the signing of the ESSA in 2015. MTSS is viewed by educators, scholars, and policymakers as a framework for preventing learning, behavior, and social-emotional difficulties early on as opposed to letting the child fail before receiving help for their deficits. MTSS "houses" three-tiered intervention service delivery models which seek to prevent children from experiencing learning and behavioral difficulties in school and in life. These intervention service delivery models seek to help students by providing them evidence-based interventions and supports in the areas of learning, behavior, mental health, and suicide prevention and intervention. To determine whether children are responding to the supports provided in these intervention service delivery models, data are frequently collected, and progress is monitored.

The idea of systemically providing children increasing levels of intervention and supports to remediate their deficits is similar to that of the public health model. Under the public health model, individuals who do not respond to interventions provided receive increasing levels of interventions and supports in hopes of ameliorating their illness and disease early on. Intervention service delivery models operate in a similar fashion in providing students with learning, behavior, or social-emotional challenges

increasing levels of support in hopes of remediating their deficits before they lead to special education placement. Understanding the history of where MTSS and intervention service delivery models come from forms the foundation of the MTSS "house."

Discussion Questions

1. How do you think Lightmer Witmer's early career as an English and history teacher influenced his development of the problem-solving process and the profession of school psychology?

2. Do you believe that there was a need to move away from using the severe discrepancy model? Why or why not?

3. As a future educator, how does it make you feel knowing that it took nearly 30 years to endorse RTI over the severe discrepancy model?

4. Do you think academic achievement deficits influence the way a child behaves or feels about themselves? Why or why not?