CHAPTER 3

Academic and Behavior Links to Inform Dropout Prevention Methods

A strong correlation exists between academic skills and prosocial behavior, and both are equally essential for school success. The dropout prevention literature emphasizes the need to identify academic and behavior skill needs simultaneously, and to intervene as early as possible and as intensively as needed to demonstrate progress. When viewing dropout as a process that begins as early as the prekindergarten years, these dropout prevention components align with the well-established schoolwide public health model of prevention and intervention known as MTSS. A unique feature of MTSS is the integration of academic and behavior supports, with the promise that prevention and intervention in each area may lead to improvements in both areas. To illustrate this relationship, see the case example in Box 3.1.

ACADEMIC AND BEHAVIOR LINKS

As research on outcomes of RTI and PBIS evolved, the importance of an integrated approach to universal screening with a systematic review of both academic and behavior data to inform effective interventions emerged. An extensive body of research provides evidence that academic problems are often linked to behavior problems (McIntosh, Horner, Chard, Dickey, & Braun, 2008; Fleming, Harachi, Cortes, Abbott, & Catalano, 2004; Nelson, Benner, Lane, & Smith, 2004); furthermore, improvements in social behavior can be achieved through academic interventions and improvements in attention, and academic performance can be achieved through strategic behavioral and clinical interventions (Kamps et al., 2003; Lane & Menzies, 2002; Lane, 2007; Lee, Sugai, & Horner, 1999; Nelson, Stage, Epstein, & Pierce, 2005).

In a recent study to examine the relationship between academic achievement and social behavior, Algozzine, Wang, and Violette (2011) showed that the link between young

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BOX 3.1. Case Example: Mia

Mia, a 6-year-old student in the first grade, was referred to the problem-solving team by her teacher due to defiant, argumentative, and noncompliant behavior in the classroom setting. She also had difficulty getting along with peers and making friends. A universal screening in January showed that Mia was well below grade-level benchmarks on all early literacy skills, adversely affecting her ability to learn to read. In response to an initial hypothesis that Mia's delays in reading were contributing to behavior problems, she began receiving additional small-group, evidence-based reading instruction. Initially, it took behavior prompting, planned ignoring of verbal protests, and positive reinforcement procedures to increase Mia's attention to the reading instruction. She was encouraged to participate in graphing her progress data, a suggestion that was met with initial resistance, but as her performance improved, Mia became more cooperative. Meanwhile, periodic observations during the intervention period indicated that Mia's attention and participation had improved and her disruptive behavior decreased. At the third progress monitoring session, Mia entered the room, spontaneously and cheerfully segmenting words exchanged in greeting. She eagerly participated in the early literacy tasks and progress monitoring process, delighted by her graph that showed continued progress toward the benchmark goal. Simultaneously, the literacy specialist observed positive changes in Mia's classroom behaviors and interactions with peers. After 6 weeks of the reading intervention and steady increases in weekly progress monitoring data, the classroom teacher noted that she had observed a remarkable change in Mia's behavior in the classroom setting. Interestingly, at that time Mia continued to be well below spring benchmarks for reading; however, her progress data showed that she had achieved proficiency in phonological awareness and that she was making steady progress in decoding fluency. Perhaps most important, Mia now perceived herself as an emerging reader, with the progress data to prove it!

Practical Application to Dropout Prevention

As shown in Figure 3.1, Mia was not responding to Tier 1 alone; therefore, a Tier 2 reading intervention was put in place. This case demonstrates that effective methods to improve literacy skills can yield improvements in school behavior as well. Clinical observations and weekly progress monitoring indicated that Mia was keenly aware of her reading abilities compared with those of her peers, and these difficulties were likely contributing to disruptive classroom behavior.

boys' reading achievement and their antisocial behavior is mediated by environmental factors, such as teacher perceptions and behavior. The researchers demonstrated a strong positive relationship between student behavior measures and teacher ratings of academic competence. These findings indicated that teachers are more likely to rate well-behaved students highly on academic competence and to hold higher expectations of these students. Well-behaved students were believed to be academically competent because they received higher ratings on cooperating with others, asserting themselves, and displaying more self-control in class. Conversely, students who demonstrated more social problems, such as those evidenced with externalizing, internalizing, and hyperactive behaviors, were believed to be less competent academically. This study illustrates that when academic achievement and behavior are viewed as outcomes, explicitly teaching academics and behavior to young children in school is an essential primary prevention strategy.
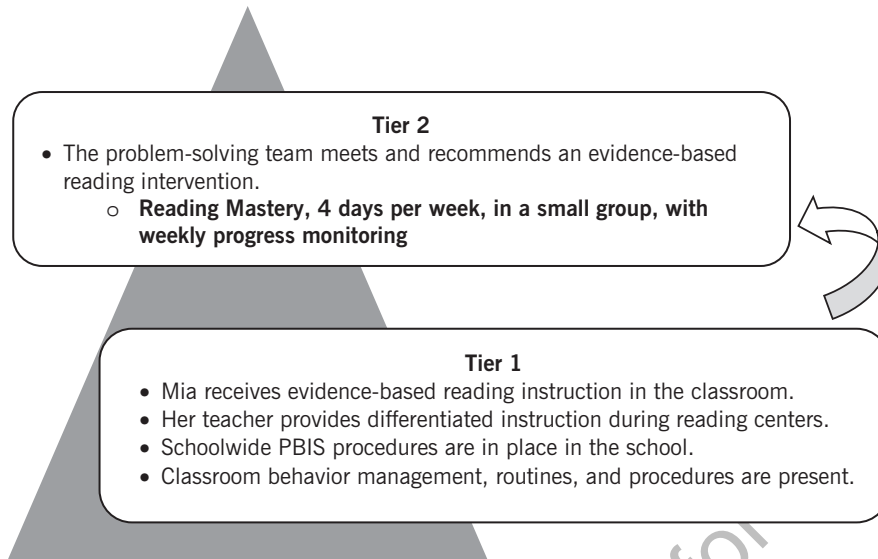
FIGURE 3.1. Tier 1 and Tier 2 supports for Mia.

The interrelationship between academics and behavior has been shown to occur early, with evidence that kindergarten early literacy skills can predict behavior problems at the end of elementary school (McIntosh, Horner, Chard, Boland, & Good, 2006). As in the case of Mia, illustrated in Box 3.1, students who begin school with reading skill deficits are at a greater risk for developing future problem behavior. McIntosh et al. (2006) showed that students identified as being at risk in a brief screening measure of phonemic awareness at the end of kindergarten were more likely to develop future behavior problems. Essentially, kindergarten students low in phoneme segmentation skills had heightened risk of receiving multiple office discipline referrals (ODRs) in fifth grade. These findings demonstrate the symbiotic relationship between early literacy skills and behavior as early as kindergarten. If academic delays are unresolved, the presence of academic and behavior problems is likely to continue in middle school and high school, significantly increasing the risk for high school failure. The compelling research evidence shows that strategic instruction and intervention targeting reading achievement and antisocial behavior as early as preschool is likely to positively influence the development of both early literacy skills and prosocial behaviors.

Research to Practice

The decision to drop out of school is typically the result of multiple and often ongoing risk factors that begin as early as preschool or elementary school, then crystallize at the secondary level (McIntosh, Horner, et al., 2008; Balfanz & Herzog, 2005; Balfanz et al., 2007). Simultaneously, research continues to demonstrate that the older the student, the more difficult it is to successfully and quickly intervene; thus an evidence-based systemic model for dropout prevention that is applicable at all educational levels is needed (Glover & Vaughn,

2010; Vaughn & Fletcher, 2010, 2012). The evolving paradigm shift toward utilizing a multi-tiered system of student supports within general education has extensive research support for prevention and early intervention methods at the elementary levels (Brown-Chidsey & Steege, 2010; Chafouleas et al., 2007), with a growing body of evidence to support similar methods at the secondary levels (Burns et al., 2012; Glover & Vaughn, 2010).

Student Engagement

The reciprocal relationship between academics and behavior can be viewed through the lens of student engagement. Successful school completion is dependent on student engagement and a student's perceived sense of belonging. Conversely, dropping out of school is a process of disengagement and of the development of negative attitudes toward school over time. It is intuitively understood and supported by research that students who are engaged attend school, complete schoolwork, participate in co-curricular activities, and tend to pass their classes. Likewise, positive school performance reinforces a sense of belonging in the school.

Although attention to dropout risk factors increases at both the middle school and high school levels, traditionally the primary focus and intensity of dropout prevention efforts have been at the high school level, at which for the first time earned course credits and course performance directly affect a student's ability to progress with his or her peers and meet high school graduation criteria. Although criteria for graduation are based on the number of credits earned, a review of historical dropout risk patterns shows significant evidence that dropping out is a process of disengagement from school and learning that occurs over many years (Christenson, Sinclair, Lehr, & Godber, 2001). Numerous studies have shown that many students become increasingly disengaged as they progress through school (Anderman, Maehr, & Midgley, 1999). By middle school, a lack of interest in schoolwork and poor attention, task initiation, and work completion become increasingly observable. By high school, the process of disengagement from education and educational pursuits far too frequently results in dropping out. Students who are disengaged often develop a pattern of inconsistent attendance and poor academic performance that perpetuates aversive school experiences. They have more negative interactions with adults, perceive their academic classes as irrelevant, and report a lack of satisfaction and discontent during their high school years (Bridgeland et al., 2006).

Although academic engagement is very important for school success and high school completion, student engagement is multifaceted and includes components that extend beyond academic engagement (Appleton, Christenson, & Furlong, 2008). As seen in Figure 3.2, observable academic and behavioral indicators of student engagement include classroom behavior, attendance, positive social interactions, and work completion, among others. The diagram also lists components of internal engagement, such as cognitive and affective skills. Cognitive engagement encompasses the perceived relevance of a high school diploma for a student's future, as well as a student's ability for self-regulation and goal-directed persistence. In the school setting cognitive engagement requires the development of executive function skills, such as time management, organizational, and study skills to prioritize, initiate, and complete academic tasks successfully (Guare & Dawson, 2009; Guare, Dawson, &
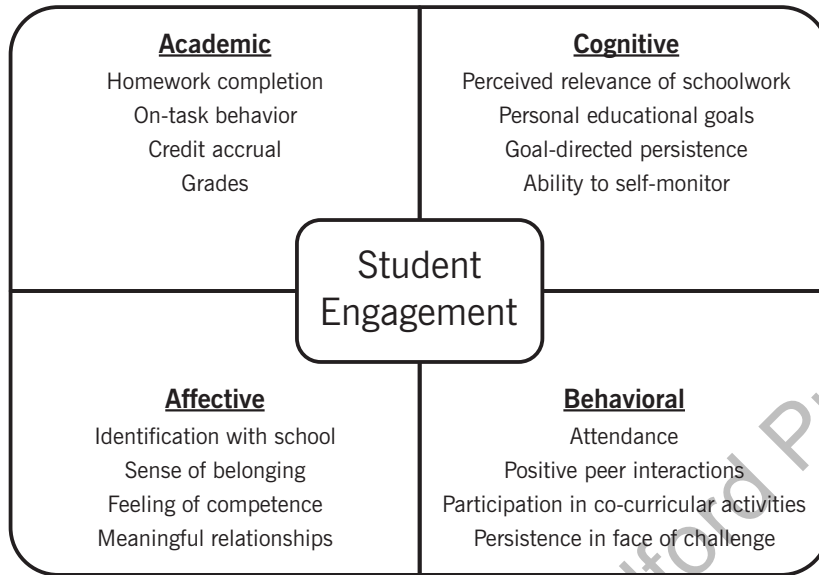
Academic Homework completion On-task behavior Credit accrual Grades	**Cognitive** Perceived relevance of schoolwork Personal educational goals Goal-directed persistence Ability to self-monitor
Student Engagement	
Affective Identification with school Sense of belonging Feeling of competence Meaningful relationships	**Behavioral** Attendance Positive peer interactions Participation in co-curricular activities Persistence in face of challenge

FIGURE 3.2. Elements of student engagement. Based on Appleton, Christenson, and Furlong (2008).

Guare, 2013). Affective components of school engagement, including a sense of belonging, have been shown to be critical components of school success and are contingent on the ability to develop positive relationships with teachers and peers. Essentially, all of these components are equally important, and when students experience all forms of engagement, the likelihood that they will complete school increases.

Focus on Reading

> **Literacy skills are highly correlated with behavior, academic achievement in other subject areas, and school completion.**

Literacy has been identified as a critical academic skill for school success, highly correlated with on-time high school graduation and postsecondary experiences. Consequently, effective literacy instruction is an essential component of dropout prevention planning. Current research shows that reading comprehension of secondary students is so low that it not only impedes school success and postsecondary learning opportunities but also precludes preparation for increasingly competitive employment options (Biancarosa & Snow, 2006; Kamil et al., 2008).

Previous employment options for high school graduates, such as retail or service industries, often did not have significant literacy demands; however, with advances in technology, the ability to comprehend complex text, as well as fluent technological skills, have become basic job prerequisites. Literacy achievement also presents a significant challenge for students with learning problems and learning disabilities, as literacy skills cross all content areas, such as science and social studies, as well as technical education courses. Delays in the development of grade-level literacy skills as early as kindergarten have the potential to

adversely affect students' success across multiple courses, often within a single school day. Over time, these academic difficulties frequently manifest as internalizing and/or externalizing behavior problems, which contribute to a student's risk for disengagement and dropping out of school.

A longitudinal study examining the relationship between third-grade reading skills and high school completion found that students who were not reading proficiently by third grade were four times less likely to graduate than proficient readers. Third graders who had not mastered basic literacy skills were six times less likely to earn a diploma (Hernandez, 2012). This study also found that third-grade reading performance was a stronger predictor of high school graduation than poverty. Importantly, the research evidence from these studies highlights the early opportunity to intervene, which can be accomplished with early identification and evidence-based reading instruction within an MTSS framework.

DROPOUT PREVENTION AND MTSS

RTI is well established as an evidence-based, multi-tiered framework for identifying and meeting the academic needs of all students (Brown-Chidsey & Steege, 2010). Likewise, PBIS is generally recognized as the evidence-based multi-tiered framework for effective prevention of and intervention for behavior problems (Chafouleas et al., 2007; Brown-Chidsey & Steege, 2010). Schoolwide positive behavioral interventions and supports (SWPBS) have been identified as an efficient and effective system to promote prosocial behavior and decrease violent behavior in schools (McIntosh et al., 2006).

As academic and behavior problems frequently overlap, and because analysis of both academic and behavioral difficulties is required to inform effective intervention, there is growing research support and recognition for the need to integrate academic and behavioral prevention and intervention methods into MTSS, as depicted in Figure 3.3. The key components of this model are universal, high-quality, research-based academic and behavioral instruction, multiple tiers of research-based interventions that increase in intensity and/or frequency based on individual student needs, and continuous progress monitoring. Academic and behavioral interventions are two sides of the same triangle; RTI and PBIS should not be separate entities. Rather, research for both evidence-based models (RTI and PBIS) supports an *integrated* approach, with teams providing both academic and behavioral support through the same systems, which may lead to better academic and behavioral outcomes for more students (McIntosh et al., 2006; O'Shaughnessy, Lane, Gresham, & Beebe-Frankenberger, 2003). As emphasized in Box 3.2, the focus of MTSS is on prevention and early intervention.

Effective MTSS methods increase student performance and school success. These methods can be applied to dropout prevention, as both academic skills and prosocial skills are important for school completion. The effort to decide which of these should be emphasized or taught "first" can be conceptualized as a "chicken or egg" question. What we know from extensive research is that a reciprocal relationship exists between academic and prosocial skills and that both are essential for school success (Brown-Chidsey & Steege, 2010; Burns et al., 2012; Chafouleas et al., 2007). A weakness in either academic or behavioral
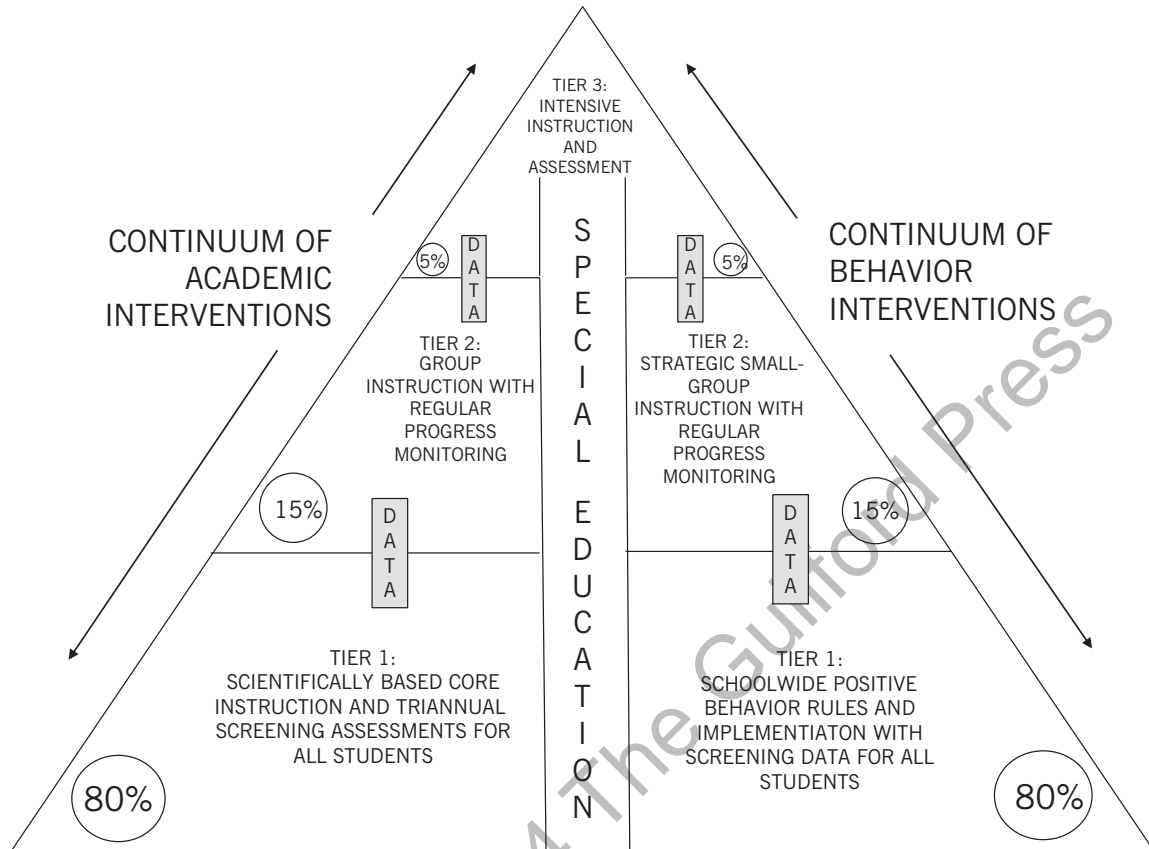
FIGURE 3.3. MTSS model. From Brown-Chidsey and Steege (2010). Copyright 2010 by The Guilford Press. Reprinted by permission.

skills has the potential to adversely affect the other. Similarly, when both academic and prosocial behavior skills are taught explicitly, student outcomes improve. Essentially, when students have learned and can demonstrate appropriate prosocial skills, their receptivity and ability to learn academic skills increases, simultaneously increasing school engagement. Likewise, teaching appropriate behavior skills across settings improves opportunities to learn other skills (Massetti & Bracken, 2010; Haydon et al., 2010). This cycle is illustrated in Figure 3.4. The school setting presents a special opportunity to nurture social, emotional, and academic success for all children. Research shows that children will do as well as the learning environment allows; thus when we improve learning environments, we improve outcomes for children (Brown-Chidsey & Steege, 2010; Brown-Chidsey et al., 2009; Coyne, Carnine, & Kame'enui, 2010).

As in the case of Mia (see Box 3.1), effective instruction of academic skills has the power to also improve students' prosocial behaviors and reduce problem behaviors. Additionally, when academic instruction is at a student's skill, or learning, level, fewer problem behaviors occur (Partin, Robertson, Maggin, Oliver, & Wehby, 2010; Spaulding et al., 2010). Determination of the appropriate instructional level is essential for academic and behavioral success, as all students, including those receiving special education services and those in gifted and

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BOX 3.2. The Importance of Early Intervention

We know from previous research that signs of antisocial behavior emerge as early as school entry in kindergarten (Hamre & Pianta, 2001; Walker, Kavanagh, et al., 1998). Simultaneously, research shows that both academic and behavioral interventions increasingly lose effectiveness after third grade (Juel, 1998; Kazdin, 1987; Walker & Severson, 1992; Vaughn & Fletcher, 2010), resulting in the need for more intensive intervention with slower gains, particularly at the secondary level. This evidence highlights the importance of early intervention to avert more severe academic, social, and emotional challenges and reinforce school completion (Good, Simmons, & Kame'enui, 2001; Sugai & Horner, 2002).

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talented programs, need an appropriate level of challenge. If the instruction is too easy, it won't lead to new learning, and students are likely to feel bored. When instruction is too difficult, students are likely to give up and disengage. Disengagement, whether in the form of internalizing inattentive behavior or externalizing disruptive behavior, often serves the function of avoiding or escaping academic activities that are too difficult, too easy, or simply don't seem relevant and should signal the need to make instructional changes. The "Goldilocks rule" is a guideline for determining the appropriate instructional level: Instruction needs to be delivered at the "just right" level of challenge for all students in order for optimal learning to occur.

> **Matching instruction to a student's skill level is a Tier 1, or universal, intervention that leads to gains in academic skills, behavior, and student engagement.**

As mentioned in Chapter 1, post hoc research suggests that students who leave school most often cite push-out factors as reasons for dropping out (Dynarski et al., 2008). These
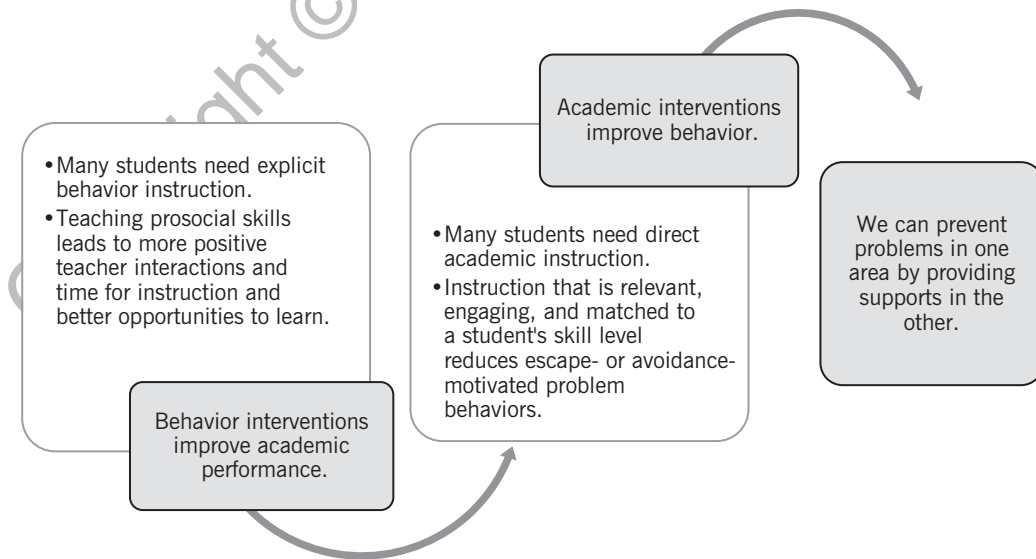

FIGURE 3.4. The academic–behavior link.

variables, such as course content and activities, or school discipline practices, which can leave students feeling unmotivated or isolated, are within the school's realm of influence. Expanding the MTSS model to include integral components of student engagement, family and parental involvement, and community supports provides an evidence-based framework that aligns with dropout prevention research and mediates the myriad of push and pull effects in the early stages of a problem to support school success for all students.

SUMMARY

This chapter highlights research evidence that consistently points to a link between academic achievement and social behavior. This body of research highlights the importance of explicitly teaching prosocial behavior skills, as well as academic skills, as part of our national efforts to improve school success and high school completion for all students. Poor literacy achievement as early as kindergarten can predict the subsequent development of disruptive behavior problems, and reading achievement by third grade correlates with high school completion. The reciprocal relationship between literacy and behavior, and ultimately with on-time high school graduation, provides a compelling rationale for proactive prevention and early intervention systems change.

Current dropout prevention research supports the foundation, or infrastructure, of a multi-tiered pyramid of continuous academic and behavioral supports for all students. As MTSS evolved at the elementary school level, the need to identify effective methods for prevention and early intervention at the secondary level emerged. Simultaneously, dropout prevention research has identified key indicators and predictors of dropout risk, along with protective variables that facilitate school success. Outcomes from converging prevention, early intervention, and dropout prevention research support expanding the MTSS framework to include the essential components of student engagement and family and community partnerships.

BIG IDEAS

- Academic skills and prosocial behaviors are interrelated and equally essential for school success.
- Effective instruction targets academic *and* behavioral skills.
- Dropping out is a multifaceted process that often begins early in school experiences.
- Student engagement is a key component of successful school completion and encompasses academic, behavior, cognitive, and affective engagement.
- Early identification of academic and behavioral problems is pivotal to effective dropout prevention.