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Effects of School-wide Positive Behavior Support on Internalizing Problems: Current

Evidence and Future Directions

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Author note: This article is dedicated to the memory of Dr. Kenneth W. Merrell, whose ideas inspired this work. This work was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R324A120278 to University of Oregon and the Social Sciences and Humanities Research Council of Canada (F09-05052). The opinions expressed are those of the authors and do not represent views of these agencies.

Citation: McIntosh, K., Ty, S. V., & Miller, L. D. (2014). Effects of school-wide positive behavior support on internalizing problems: Current evidence and future directions. *Journal of Positive Behavior Interventions*, *16*, 209-218.

Abstract

School-wide Positive Behavior Support (SWPBS) has a large evidence base for preventing and addressing externalizing problem behavior, but there is little research examining its effects on internalizing problems, such as anxiety and depression. Given the prevalence of internalizing problems in today's children and youth, it is worthwhile to examine the SWPBS research base for evidence of effectiveness in preventing and treating internalizing problems. Hypothesized mechanisms by which the SWPBS approach may support students with or at risk for internalizing problems include improving the clarity and predictability of the social environment, discouraging problem behavior that can threaten student safety, allowing instruction to take place, teaching effective responses to perceived environmental threats, and indirectly reducing internalizing problems by addressing externalizing problems. Support for internalizing challenges within a SWPBS framework can be enhanced by adding evidence-based interventions for supporting internalizing needs within SWPBS systems, providing professional development in identifying internalizing problems, and incorporating screening for internalizing problems into existing screening systems.

Effects of School-wide Positive Behavior Support on Internalizing Problems: Current Evidence and Future Directions

Growing numbers of children and adolescents are faced with mental health challenges worldwide, and these numbers are expected to grow by more than 50% by the year 2020 (U.S. Public Health Service, 2000). As many as one in five school-aged children and adolescents have signs and symptoms that would qualify them for a diagnosable mental health disorder (Merikangas et al., 2010). Of the neediest, only about 20% receive any mental health services, with most receiving this care in school (Hoagwood & Johnson, 2003). Although these statistics highlight the important role of schools in promoting mental health, they also show that many children and adolescents do not receive needed support. Unaddressed mental health challenges can lead to problem behavior and diminished academic and social emotional development.

Mental health problems are commonly divided into two types: externalizing and internalizing (Merrell, 2008). Externalizing problems are characterized by maladaptive under-regulation of cognitive and emotional states and often result in behaviors directed outward at others. Categories of externalizing problems include aggressive and disruptive behaviors, conduct problems, and hyperactivity-impulsivity. These problems are typically disruptive to activities in the classroom and throughout the school. As a result, educators can readily identify students with externalizing problems for necessary support. In contrast, internalizing problems are characterized by maladaptive over-regulation of cognitive and emotional states and typically develop and persist within the individual (Merrell, 2008). As a result, they can be more difficult to detect (Frick, Silverthorn, & Evans, 1994; Kahlberg, Lane, Driscoll, & Wehby, in press). Although some studies have shown that classroom teachers are able to identify students struggling with internalizing symptoms (e.g., Layne, Bernstein, & March, 2006), these students

are less likely to be referred for support because these challenges are less likely to disrupt instruction. Research has shown both externalizing and internalizing problems to be distinct domains; however, it is not unusual for them to co-occur (McConaughy & Skiba, 1993).

Types of Internalizing Problems

Internalizing problems are often considered to fall within four broad categories, with symptom profiles that differ somewhat from those in the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition* (DSM-IV-TR; American Psychiatric Association, 2000): anxiety, depression, social withdrawal, and somatic complaints (Merrell & Gueldner, 2010). Students with internalizing problems are likely to experience symptoms across categories (Lewinsohn, Shankman, Gau, & Klein, 2004); each category is described briefly in the following paragraphs.

Anxiety comprises a broad set of diagnosable disorders, including generalized anxiety disorder, panic disorder, social phobia, separation anxiety disorder, and post traumatic stress disorder (American Psychiatric Association, 2000). Characteristic symptoms include maladaptive cognitions, excessive fear, worry, avoidance behaviors, stomachaches, sweating, and physiological arousal. According to a review of epidemiological studies, prevalence rates for any type of anxiety disorder in pre-adolescents range from 3% to 41% (Cartwright-Hatton, McNicol, & Doubleday, 2006). Findings from a recent national study reported that anxiety disorders were the most common mental health condition for adolescents, affecting 32% of the population (Merikangas et al., 2010). A longitudinal study assessing the trajectories of anxious children from Kindergarten to Grade 6 found that students with high anxiety were significantly less likely to complete high school than those with moderate or low anxiety (Duchesne, Vitaro, Larose, & Tremblay, 2007). The mechanisms by which anxiety affects achievement may be impaired focus and undue attention to non-instructional stimuli (Wood, 2006).

Diagnosable disorders with depression as a major feature include major depression, dysthymia, bipolar disorder, and depressive disorder not otherwise specified (American Psychiatric Association, 2000). Important features characteristic of depression in children and adolescents include sadness, loss of interest, fatigue, irritability, and agitation. Lifetime prevalence rates of adolescent depression have been reported to be as high as 14% (Merikangas et al., 2010). Comorbidity rates between depression and conduct disorder/oppositional defiant disorder, and attention deficit hyperactivity disorder (ADHD) range from 21% to 83% and 0% to 57%, respectively (Angold & Costello, 1993). Students with depression have difficulty concentrating in school (Frojd et al., 2008), and concentration is a significant predictor of reading and math achievement (Breslau et al., 2009).

Social withdrawal is broadly defined as shyness based on fear of novel situations, low motivation to seek out social experiences, or self-imposed isolation from peers (Rubin, Burgess, Kennedy, & Stewart, 2003). Prevalence rates are difficult to ascertain because it is rarely conceptualized as a specific disorder (Merrell, 2008). However, social withdrawal is recognized in the symptom profiles of other disorders, such as depression and anxiety. Students with social withdrawal experience lower academic achievement in middle childhood and increased risk for dropping out of school (Serbin et al., 2010). Social withdrawal also interacts with classroom performance to decrease academic achievement (Rapport, Denney, Chung, & Hustace, 2001).

Similarly to social withdrawal, somatic complaints are often part of the experience of disorders such as depression and anxiety (Storey & Smith, 2008). Symptoms of physical pain or discomfort (e.g., complaints of stomachaches and headaches) characterize somatic problems. According to one study, 72% and 45% of children and adolescents reported more than one somatic and gastrointestinal symptom per week, respectively, with 52% reporting persistent

abdominal pain lasting more than 4 consecutive weeks (Storey & Smith). Perhaps not surprisingly, higher levels of somatic complaints in students identified as anxious have been found significantly and uniquely to predict poorer academic performance independent of other internalizing symptoms (Hughes, Lourea-Waddell, & Kendall, 2007).

Supporting Student Internalizing Needs in Schools

Internalizing disorders in youth are responsive to treatment; the most effective interventions are based on behavioral or cognitive behavioral treatments (Merrell & Gueldner, 2010). CBT approaches in particular have been increasingly adapted from use in clinical settings to school settings, due to greater recognition of mental health issues, an increased focus on school-based prevention, and adaptability to school curricula (Mychailyszyn, Mendez, & Kendall, 2010). Even so, school systems continue to be fragmented, with separate systems for academic, behavior, and mental health challenges (McIntosh, Goodman, & Bohanon, 2010). Such separation creates significant barriers to implementing and sustaining effective practices to address the range of student needs (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). One solution to the problem of fragmentation and diverse student needs may be to examine how existing, widely used universal behavior support approaches may support student internalizing needs or enhance implementation of effective school-based internalizing interventions.

The purpose of this article is to describe the evidence base for the effectiveness of school-wide positive behavior support (SWPBS) in preventing and addressing challenges with internalizing problems, and how support in the area of internalizing problems may be enhanced. SWPBS has demonstrated positive effects on externalizing problems, resulting in improved behavior and academic outcomes (Horner, Sugai, & Anderson, 2010), but studies examining effects for internalizing problems are few and less clear. Given that internalizing problems are

common (Merikangas et al., 2010) and typically go undetected (Kahlberg et al., in press), this article will review the evidence for effects of SWPBS on internalizing challenges, describe the mechanisms by which SWPBS may support student internalizing problems, and identify ways to augment SWPBS systems to enhance support for students in the internalizing domain.

School-wide Positive Behavior Support

School-wide Positive Behavior Support (SWPBS) is a comprehensive approach for the prevention and treatment of problem behavior (Sugai & Horner, 2009). It is designed to change ineffective practices in schools with the goal of creating positive and predictable environments that support improved behavior and academic outcomes. Critical features include defining and teaching school-wide expectations for social behavior, acknowledging prosocial behavior, providing instructional consequences for problem behavior, implementing evidence-based prevention and intervention practices, and using data collection systems to facilitate decision making. Practices are implemented within a three-tiered continuum of support. At the universal tier are primary prevention strategies that change environments to enhance social development and provide all students with explicit instruction on prosocial behavior. This school-wide approach emphasizes prevention because of its focus on intervention for all students in all settings. This approach provides preventive support when problems are more easily treated and can provide a base level of support even for students who have not been identified for support. Students who are not responsive to universal support are identified for more specialized support at the targeted tier. The intensive tier supports students for whom universal and targeted support has not been effective. These students receive individualized, comprehensive intervention plans.

Effects on Externalizing Behavior

A main objective of SWPBS is to reduce the externalizing problem behavior that disrupts

positive student social and academic growth. The existing body of research demonstrates that SWPBS implementation is associated with reduced externalizing behavior, as measured by office discipline referrals (ODRs) and suspensions. Recently, Bradshaw, Mitchell, and Leaf (2010) reported the results of a five-year longitudinal randomized controlled effectiveness trial in 37 public elementary schools. Schools implemented SWPBS with high fidelity and reported significant decreases in major and minor ODRs. Also, the mean suspension rates for SWPBS schools declined significantly across the trial, whereas suspensions in the comparison schools did not change. Other studies of SWPBS have also reported significant decreases in disruptive behaviors (e.g., Nelson, Martella, & Marchand-Martella, 2002). Importantly, Lassen, Steele, and Sailor (2006) emphasized the inverse relation between SWPBS implementation and disruptive behavior. ODRs and suspensions decreased as adherence to its critical features increased.

Effects on Academic Achievement

Existing research has documented significant associations between SWPBS and improved student performance on provincial and state achievement tests (Bradshaw et al., 2010; Horner et al., 2009; Lassen et al., 2006; McIntosh, Bennett, & Price, 2011; Muscott, Mann, & LeBrun, 2008) and standardized achievement tests (Luiselli, Putnam, Handler, & Feinberg, 2005; Nelson et al., 2002). The mechanism for these effects may be increased opportunities for academic instruction and learning. SWPBS implementation is associated with reductions in the amount of time students are removed from instruction due to ODRs and suspensions (Scott & Barrett, 2004). Implementation of SWPBS also creates opportunities for learning by improving the classroom ecology and engaging students in instructional activities with minimal disruptions. Algozzine and Algozzine (2007) found that SWPBS implementation was associated with increased on-task student behaviors (e.g., reading and writing, asking and answering questions).

In contrast, students in classrooms without critical features of SWPBS spent significantly more time engaged in off-task behaviors (e.g., disrupting the class, talking inappropriately).

Effects on Internalizing Problems

A literature search of the effects of SWPBS on internalizing problems was conducted in the PsycINFO, Education Research Complete, and ERIC databases using all years and all combinations of the following terms: positive behavior support, positive behavioral interventions and supports, anxiety, depression, social withdrawal, somatic, and internalizing. This search yielded one published journal article. Based on personal communications, one additional study was identified, and both are described in the following paragraphs.

Lane, Wehby, Robertson, and Rogers (2007) examined the effectiveness of universal tier SWPBS for high school students with externalizing and internalizing behavior challenges. Teachers used a modified version of the *Systematic Screening for Behavior Disorders* (H. M. Walker & Severson, 1992) to nominate students into externalizing, internalizing, comorbid (externalizing and internalizing), and typical groups. Results indicated that over the course of one year, students with internalizing behaviors were the most responsive to SWPBS, experiencing the greatest gains in GPA and the greatest declines in the number of suspensions. In contrast, students with externalizing behaviors showed low to modest gains in GPA, the smallest declines in the number of suspensions, and increases in the number of ODRs. Overall, students with comorbid behaviors, those who experienced both externalizing and internalizing problems, were the least responsive.

A two-year study examined the effects of Check, Connect, and Expect (Cheney et al., 2009), a targeted tier SWPBS intervention that integrates aspects of the Check-in/Check-out (Hawken & Horner, 2003) and Check and Connect (Sinclair, Christenson, Evelo, & Hurley,

1998) interventions. Results indicated that students receiving the intervention showed significant decreases in both externalizing and internalizing problem behaviors. Their scores on the Problem Behavior scale of the *Social Skills Rating System* (SSRS; Gresham & Elliott, 1990), which includes items capturing both internalizing and externalizing behaviors, and the Internalizing and Externalizing Problem Behavior scales from the *Child Behavior Checklist* (Achenbach, 2001) moved into the normal range. Together, these findings provide initial support that applying the principles of SWPBS at the universal and targeted tiers holds some promise for preventing and addressing internalizing as well as externalizing problems, either by targeting internalizing problems directly or indirectly improving internalizing problems through effects on comorbid externalizing problems.

How SWPBS May Prevent and Address Internalizing Problems

Based on the initial but scant evidence that SWPBS may be a promising approach to supporting students with internalizing challenges, it is worthwhile to examine theoretical models for the etiology of internalizing problems to identify some hypothesized mechanisms by which student outcomes may be improved. Although there are many theoretical models that have been proposed to explain the development and maintenance of internalizing challenges in adults, a model with particular relevance to school-based intervention is that of Lonigan and Vasey (2009; a downward extension of Clark, Watson, & Mineka, 1994). This model includes three key principles: attention to threat-relevant stimuli, negative affectivity, and effortful control. Some environmental stimuli can be perceived as threatening, and excessive attention to these stimuli can lead to perceptions that the setting is hostile or dangerous, a stressor that may evoke the use of detrimental responses. Negative affectivity is conceptualized as an underlying disposition of internal distress (Nigg, 2006). It is associated with undue attention to negatively valenced and

threat-relevant stimuli (Bar-Haim, Orrie, Eshel, & Sagi-Schwartz, 2007), particularly for anxiety disorders (Dandeneau, Baldwin, Baccus, Sakellaropoulo, & Pruessner, 2007). However, not all individuals high in negative affectivity go on to develop anxiety disorders (Rapee, 2002), and one proposed mediator is effortful control, the use of effective emotional responses to counter negative distortions or perceived threats (Loukas & Murphy, 2007). For example, all children in a classroom will notice an aggressive classmate, but some children may require more effortful control to ignore or redirect their attention away from the threat. A student with anxiety may be more vigilant to perceived threats (i.e., social, physical, psychological) and may be less able to exert control to ignore the disruptive student and remain calmly attentive to instruction.

Based on this theory, it is possible to identify some hypothesized mechanisms by which SWPBS may support students' internalizing needs. As noted, a primary aim of SWPBS is to change the social climate in schools to better support student behavior. These antecedent-based strategies may remove some threatening stimuli in the school environment that may occasion internalizing challenges. In addition, the focus of SWPBS on instruction of positive behaviors can be used to teach effortful control and the use of replacement behaviors for ineffective coping strategies. The following section describes four proposed mechanisms.

Improving the Clarity and Predictability of the Social Environment

All schools have their own unique culture or climate. Schools that lack clear and consistent behavioral guidelines can become a disorganized social environment, associated with high rates of problem behavior and interrupted learning (Cornell & Mayer, 2010; Roeser & Eccles, 2000). High levels of general school disorder can cause emotional distress, which can bias attention toward threat-relevant stimuli and increase negative affectivity (Roeser & Eccles). Such experiences can lead to increased anxiety and reliance on ineffective learning strategies

(Seligman, 1992). In contrast, positive perceptions of the school climate, including perceived order, safety, and equitable discipline, can be a protective factor for vulnerable students (Kuperminc, Leadbeater, & Blatt, 2001). For instance, self-critical students who perceive their school environment as more positive show lower levels of internalizing and externalizing problems. SWPBS has at its core an instructional curriculum that teaches students what school personnel and their peers expect from them and what they can expect if they meet or do not meet expectations. By implementing the core features of SWPBS, school personnel can create a more stable and predictable school environment, features that promote healthy social and emotional functioning, especially for students whose internalizing symptoms are primarily evoked by excessive attention to a disorganized or chaotic setting.

Reducing Problem Behavior that can be Perceived as Threatening Student Safety

Bullying, intimidation, and aggression have been linked with increased internalizing distress (Arseneault et al., 2008), increased school avoidance behaviors (Buhs, Ladd, & Herald, 2006; Dinkes, Cataldi, Lin-Kelly, & Snyder, 2007), lowered school connectedness, and reduced perceptions of school safety (Glew, Fan, Katon, & Rivara, 2008). Students who perceive high levels of friction among classmates experience more depressive symptoms and lower effortful control (Loukas & Murphy, 2007). By reducing aggressive behavior and increasing perceived school safety, implementing SWPBS may create conditions that foster healthy social development through a safer environment where students are less likely to live in fear. Specifically, SWPBS has been associated with significant decreases in rates of bullying and peer rejection (Waasdorp, Bradshaw, & Leaf, 2012) and significant increases in student perceptions of school safety (Horner et al., 2009; McIntosh et al., 2011). A universal approach that emphasizes a safe social climate enhances effective social skills and academic learning for the

majority of students and reduces threatening stimuli that may lead to internalizing as well as externalizing problems (Roeser & Eccles, 2000).

Allowing Instruction to Take Place

One of the most important potential mechanisms by which SWPBS may improve internalizing problems could be by reducing disruptions to classroom instruction, which can interfere with student learning and result in negative affectivity (Cornell & Mayer, 2010). Because SWPBS is associated with significant reductions in ODRs (Bradshaw et al., 2010), academic lessons can proceed with less interruption, and student learning can be enhanced (Algozzine & Algozzine, 2007). As a result, the classroom may better support instructional efforts and student learning. For some vulnerable students, this change in the instructional environment could serve as a protective factor against the emotional distress that is thought to underlie the development of internalizing and externalizing problems (Roeser & Eccles, 2000).

For students with low academic skills, enhancing academic performance can break a coercive cycle in which they may act out to escape academic task demands (McIntosh, Horner, Chard, Dickey, & Braun, 2008). Students with behavior maintained by escaping academic tasks do not receive the necessary instruction for their skills to meet grade-level expectations. Subsequent task demands thus evoke continued problem behavior to escape the aversive task. This coercive cycle increases the probability of school failure and may also promote a negatively-valenced tendency to attribute failure to personal traits over which they feel they have little control (e.g., low intelligence, low problem-solving ability). As a direct result, students can develop internalizing problems, developing negative affectivity and rumination that further interferes with learning (Roeser & Eccles, 2000). For these students, SWPBS can facilitate academic achievement, which may increase the likelihood of breaking the coercive cycle and act

as a protective factor against negative emotional beliefs.

Teaching Effective Responses to Environmental Threats

Even with a strong focus on reducing aversive environmental stimuli and patterns that lead to negative affectivity, students are still likely to experience stressors that may result in the use of ineffective and detrimental coping strategies. The instructional focus of SWPBS provides a framework for teaching adaptive social and emotional skills. Specifically, SWPBS has been shown in a recent randomized trial to significantly improve self-regulation, including effortful control of emotional states (Bradshaw, Waasdorp, & Leaf, in press). By defining, teaching, practicing, and acknowledging important skills across all settings, school personnel may promote effortful control by providing students with a repertoire of adaptive social or emotional responses to challenging situations or negative thoughts, such as catastrophic thinking. These skills can be conceptualized and taught as replacement behaviors for detrimental responses (Akin-Little, Little, Bray, & Kehle, 2009). If effective in providing escape from stressors, these behaviors may replace existing coping strategies that may lead to negative outcomes (e.g., avoiding school).

Recommendations for Enhancing SWPBS Systems to Prevent and Address Internalizing Problems More Effectively

SWPBS has demonstrated effectiveness at addressing externalizing problems and represents a promising framework for supporting students' internalizing needs. Core features that are conducive to its ability to address a range of student challenges from both domains include its emphasis on the provision of foundational behavior support for all students and the selection of research-validated interventions based on data indicating prevention and intervention needs (Sugai & Horner, 2009). Therefore, if data identify internalizing problems as a pressing issue, even after common universal SWPBS interventions are implemented, a SWPBS approach would

emphasize adopting specific evidence-based practices to support internalizing needs more effectively. In addition, it may be necessary to adapt current systems to identify students requiring internalizing intervention. Educating teachers on recognizing symptoms associated with internalizing problems and incorporating screening measures to supplement those currently used in SWPBS (e.g., ODRs) may also be necessary. These general recommendations for enhancing support for students with or at risk for internalizing challenges are provided below.

Add Specific Internalizing Interventions within a SWPBS Framework

One way to prevent and support internalizing problems more effectively through a SWPBS approach is to incorporate specific internalizing interventions at each tier. Given that strategies within SWPBS traditionally focus on externalizing problems, implementing existing curricula designed to address internalizing problems and teach social and emotional skills within a SWPBS framework would provide a continuum of support that addresses both domains of problem behavior and maximize results within limited school resources (Osher, Bear, Sprague, & Doyle, 2010). Two effective and complimentary intervention approaches used in schools are cognitive behavior therapy (CBT) and social and emotional learning (SEL). Commonalities include manualized curricula that are developmentally appropriate, are based on validated theories, offer repeated practice (e.g., peer-modeling, role play; Miller, Shumka, & Baker, 2012), and emphasize self-awareness and effortful control (Akin-Little et al., 2009).

There are a number of effective interventions for internalizing problems that are commonly used in schools. Although not exhaustive, the following interventions have strong evidence supporting their use. The *Adolescent Coping with Depression* program is a group intervention for depression in middle and secondary schools. Results of randomized controlled trials show decreases in depressive symptoms (Lewinsohn, Clarke, Hops, & Andrews, 1990)

sustained at 12- and 24-month follow-up (Clarke, P Rohde, Lewinsohn, Hops, & Seeley, 1999). *Coping Cat* and *FRIENDS for Life* are elementary-level anxiety prevention programs that have been shown to reduce anxiety symptoms in students at the universal (Barrett, Lock, & Farrell, 2005; Barrett & Turner, 2001) and targeted tiers, with improvements sustained as long as 12 months (Bernstein, Bernat, Victor, & Layne, 2008; Bernstein, Layne, Egan, & Tennison, 2005; Kendall, 1994; Kendall et al., 1997). The *Penn Resiliency Program*, a universal and targeted intervention for depressive symptoms in children and adolescents, has been studied extensively. A meta-analytic review revealed significant reductions in depressive symptoms at post-intervention, 6- to 8-month, and 12-month follow-up (Brunwasser, Gillham, & Kim, 2009). The *Promoting Alternative Thinking Strategies* (PATHS) program is a comprehensive, skills-based program with specific curricula for different ages. It has been shown to reduce both externalizing and internalizing problems (Greenberg, Kusché, Cook, & Quamma, 1995) with sustained improvements in social and emotional competence at 1- and 2-year follow-up (Domitrovitch, Cortes, & Greenberg, 2007; Greenberg & Kusché, 1998).

Some evidence-based programs that focus on internalizing problems are conceptualized and/or regarded as aligned with a specific tier, yet programs can be adapted to be delivered across the three tiers of the SWPBS framework. Using the *Strong Kids* curriculum as an example, Merrell and Gueldner (2010) describe how lessons could be delivered at the universal tier, through a structured school-wide curriculum. All students would learn how to identify emotions, develop adaptive ways of thinking and perceiving, set goals and problem-solve, and practice relaxation and stress management techniques. At the targeted tier, students would receive further instruction, examples, and practice in critical concepts and skills. These sessions could take place in small groups outside the classroom setting and target specific internalizing

problems. At the intensive tier, school teams can build relationships between school-based service providers and community-based mental health clinicians to provide integrated support.

Provide Professional Development in Identifying Internalizing Problems

Internalizing problems present a unique challenge to school teams in that they can be difficult to detect. Classroom teachers are often the front line screeners for the need for additional support (Dwyer, Nicholson, & Battistutta, 2006), and research has shown that classroom teachers can be highly accurate in identifying students in need of externalizing behavior support (Lane & Menzies, 2005), but results are mixed regarding identification of students with internalizing challenges (Kahlberg et al., in press; Layne et al., 2006). Because teachers spend the most time with students, enhancing their knowledge of and skills in recognizing symptoms of internalizing problems would be beneficial. Research has shown that brief professional development can greatly enhance teacher accuracy in identifying students with internalizing problems (Davis, 2005).

Incorporate Screening for Internalizing Problems into Existing Screening Systems

Like informal teacher identification, screening systems in many schools are more accurate in identifying externalizing than internalizing problems. Within SWPBS systems, ODRs are widely used to screen for the need for additional support (Sugai, Sprague, Horner, & Walker, 2000). Unfortunately, although ODRs are a strong indicator of externalizing problems, they are much less effective at capturing internalizing problems (McIntosh, Campbell, Carter, & Zumbo, 2009; B. Walker, Cheney, Stage, Blum, & Horner, 2005). Given the limitations of behavior measures currently used in schools, McIntosh, Reinke, and Herman (2009) recommended an approach integrating existing data (e.g., ODRs) with multiple gating screening measures designed to address specific student concerns (e.g., use of the research-validated *Systematic*

Screening for Behavior Disorders to identify students with internalizing and externalizing problems). This approach would maximize both the effectiveness and efficiency of screening efforts to capture the greatest number of students at risk for school failure in each domain.

A Call for Research

Given their prevalence in the general student population, it seems prudent to address internalizing concerns using a comprehensive framework. The SWPBS focus on prevention, explicit instruction in prosocial and adaptive social and emotional skills, and environmental manipulation to encourage prosocial behavior holds promise in addressing the theoretical mechanisms that produce and maintain internalizing challenges. The literature shows the effectiveness of behavioral and cognitive-behavioral approaches for internalizing problems, and SWPBS can provide a potentially effective framework for implementing, monitoring, and sustaining these evidence-based practices in schools.

However, although SWPBS has an established research base for supporting students with externalizing problem behavior, research regarding its effects for students with internalizing needs has been sparse (Lane et al., 2007). As a result, there is a pressing need for a campaign of research in this area. First, it would be beneficial for researchers to include measures of internalizing problem behavior in future trials to examine the effects of typical SWPBS implementation on internalizing challenges. Second, there is a need to evaluate specific interventions for internalizing problems at each tier within a SWPBS framework. Third, more studies are needed to examine effective and efficient screening systems for identifying students with internalizing needs. Through studies such as these, researchers could test the hypothesized mechanisms described in this paper and better understand the potential for the SWPBS approach to support students with internalizing needs.

References

- Achenbach, T. A. (2001). *Achenbach empirical behavioral assessment manual for teacher report form*. Burlington, VT: AEBSA.
- Akin-Little, K. A., Little, S. G., Bray, M. A., & Kehle, T. J. (2009). *Behavioral interventions in schools: Evidence-based positive strategies*. Washington, DC: American Psychological Association.
- Algozzine, K., & Algozzine, B. (2007). Classroom instructional ecology and school-wide positive behavior support. *Journal of Applied School Psychology, 24*, 29-47.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision ed.). Washington, DC: Author.
- Angold, A., & Costello, E. J. (1993). Depressive comorbidity in children and adolescents: Empirical, theoretical, and methodological issues. *American Journal of Psychiatry, 150*, 1779-1791.
- Arseneault, L., Milne, B. J., Taylor, A., Adams, F., Delgado, K., Caspi, A., & Moffitt, T. E. (2008). Being bullied as an environmentally mediated contributing factor to children's internalizing problems: A study of twins discordant for victimization. *Archives of Pediatric and Adolescent Medicine, 162*, 145-150.
- Bar-Haim, Y., Orrie, D., Eshel, Y., & Sagi-Schwartz, A. (2007). Predicting children's anxiety from early attachment relationships. *Journal of Anxiety Disorders, 21*, 1061-1068.
doi:10.1016/j.janxdis.2006.10.013
- Barrett, P. M., Lock, S., & Farrell, L. (2005). Developmental differences in universal preventive intervention for child anxiety. *Clinical Child Psychology and Psychiatry, 10*, 539-555.
doi:10.1177/1359104505056317

- Barrett, P. M., & Turner, C. M. (2001). Prevention of anxiety symptoms in primary school children: Preliminary results from a universal trial. *British Journal of Clinical Psychology, 40*, 399–410.
- Bernstein, G. A., Bernat, D. H., Victor, A. M., & Layne, A. E. (2008). School-based interventions for anxious children: 3-, 6-, and 12-month follow-ups. *Journal of the American Academy of Child & Adolescent Psychiatry, 47*, 1039-1047.
- Bernstein, G. A., Layne, A. E., Egan, E. A., & Tennison, D. M. (2005). School-based interventions for anxious children. *Journal of the American Academy of Child & Adolescent Psychiatry, 1118-1127*.
- Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2010). Examining the effects of schoolwide positive behavioral interventions and supports on student outcomes: Results from a randomized controlled effectiveness trial in elementary schools. *Journal of Positive Behavior Interventions, 12*, 133-148. doi:10.1177/1098300709334798
- Bradshaw, C. P., Waasdorp, T. E., & Leaf, P. J. (in press). Effects of School-wide Positive Behavioral Interventions and Supports on child behavior problems and adjustment. *Pediatrics*.
- Breslau, J., Miller, E., Breslau, N., Bohnert, K., Lucia, V., & Schweitzer, J. (2009). The impact of early behavior disturbances on academic achievement in high school. *Pediatrics, 123*, 1472-1476.
- Buhs, E. S., Ladd, G. W., & Herald, S. L. (2006). Peer exclusion and victimization: Processes that mediate the relation between peer group rejection and children's classroom engagement and achievement? *Journal of Educational Psychology, 98*, 1-13.
doi:10.1037/0022-0663.98.1.1

- Cartwright-Hatton, S., McNicol, K., & Doubleday, E. (2006). Anxiety in a neglected population: Prevalence of anxiety disorders in pre-adolescent children. *Clinical Psychology Review, 26*, 817-833. doi:10.1016/j.cpr.2005.12.002
- Cheney, D., Stage, S. A., Hawken, L. S., Lynass, L., Mielenz, C., & Waugh, M. (2009). A 2-year outcome study of the check, connect, and expect intervention for students at risk for severe behavior problems. *Journal of Emotional and Behavioral Disorders, 17*, 226-243. doi:10.1177/1063426609339186
- Clark, L. A., Watson, D., & Mineka, S. (1994). Temperament, personality, and the mood and anxiety disorders. *Journal of Abnormal Psychology, 103*, 103-116. doi:10.1037/0021-843X.103.1.103
- Clarke, G. N., P Rohde, P., Lewinsohn, P. M., Hops, H., & Seeley, J. R. (1999). Cognitive-behavioral treatment of adolescent depression: Efficacy of acute group treatment and booster sessions. *Journal of the American Academy of Child & Adolescent Psychiatry, 38*, 272-279. doi:10.1097/00004583-199903000-00014
- Cornell, D. G., & Mayer, M. J. (2010). Why do school order and safety matter? *Educational Researcher, 39*, 7-15. doi:10.3102/0013189X09357616
- Dandeneau, S. D., Baldwin, M. W., Baccus, J. R., Sakellaropoulos, M., & Pruessner, J. C. (2007). Cutting stress off at the pass: Reducing vigilance and responsiveness to social threat by manipulating attention. *Journal of Personality and Social Psychology, 93*, 651-666. doi:10.1037/0022-3514.93.4.651
- Davis, C. A. (2005). *Effects of in-service training on teachers' knowledge and practices regarding identifying and making a focus of concern students exhibiting internalizing problems*. Unpublished doctoral dissertation, University of Oregon.

- Dinkes, R., Cataldi, E. F., Lin-Kelly, W., & Snyder, T. D. (2007). *Indicators of school climate and safety: 2007 (NCES 2008-021/NCJ 219553)*. Washington, DC.
- Domitrovitch, C. E., Cortes, R. C., & Greenberg, M. T. (2007). Improving young children's social and emotional competence: A randomized trial of the preschool "PATHS" curriculum. *Journal of Primary Prevention, 28*, 67-91. doi:10.1007/s10935-007-0081-0
- Duchesne, S., Vitaro, F., Larose, S., & Tremblay, R. E. (2007). Trajectories of anxiety during elementary-school years and the prediction of high school noncompletion. *Journal of Youth and Adolescence, 37*, 1134-1146. doi:10.1007/s10964-007-9224-0
- Dwyer, S. B., Nicholson, J. M., & Battistutta, D. (2006). Parent and teacher identification of children at risk of developing internalizing or externalizing mental health problems: A comparison of screening methods. *Prevention Science, 7*, 343-357. doi:10.1007/s11121-006-0026-5
- Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: Synthesis of the literature*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231).
- Frick, P. J., Silverthorn, P., & Evans, C. (1994). Assessment of childhood anxiety using structured interviews: Patterns of agreement among informants and association with maternal anxiety. *Psychological Assessment, 9*(1), 372-379.
- Frojd, S., Nissinen, E., Pelkonen, M., Marttunen, M., Koivisto, A., & Kaltialaheino, R. (2008). Depression and school performance in middle adolescent boys and girls. *Journal of Adolescence, 31*, 485-498. doi:10.1016/j.adolescence.2007.08.006

- Glew, G. M., Fan, M.-Y., Katon, W., & Rivara, F. P. (2008). Bullying and school safety. *Journal of Pediatrics*, *152*, 123-128. doi:10.1016/j.jpeds.2007.05.045
- Greenberg, M. T., & Kusché, C. A. (1998). Preventive intervention for school-age deaf children: The PATHS curriculum. *Journal of Deaf Studies and Deaf Education*, *3*(1), 49-63.
- Greenberg, M. T., Kusché, C. A., Cook, E. T., & Quamma, J. P. (1995). Promoting emotional competence in school-aged children: The effects of the paths curriculum. *Development and Psychopathology*, *7*, 117-136. doi:10.1017/S0954579400006374
- Gresham, F. M., & Elliott, S. N. (1990). *Social skills rating system*. Circle Pines, MN: American Guidance Service.
- Hawken, L. S., & Horner, R. H. (2003). Evaluation of a targeted group intervention within a school-wide system of behavior support. *Journal of Behavioral Education*, *12*, 225-240.
- Hoagwood, K., & Johnson, J. (2003). School psychology: A public health framework, from evidence-based practices to evidence-based policies. *Journal of School Psychology*, *41*, 3-21.
- Horner, R. H., Sugai, G., & Anderson, C. M. (2010). Examining the evidence base for School-wide Positive Behavior Support. *Focus on Exceptional Children*, *42*(8), 1-14.
- Horner, R. H., Sugai, G., Smolkowski, K., Eber, L., Nakasato, J., Todd, A. W., & Esperanza, J. (2009). A randomized, wait-list controlled effectiveness trial assessing school-wide positive behavior support in elementary schools. *Journal of Positive Behavior Interventions*, *11*, 133-144. doi:10.1177/1098300709332067
- Hughes, A. A., Lourea-Waddell, B., & Kendall, P. C. (2007). Somatic complaints in children with anxiety disorders and their unique prediction of poorer academic performance. *Child Psychiatry and Human Development*, *39*, 211-220. doi:10.1007/s10578-007-0082-5

- Kahlberg, J. R., Lane, K. L., Driscoll, S., & Wehby, J. (in press). Systematic screening for emotional and behavioral disorders at the high school level: A formidable and necessary task. *Remedial and Special Education*. doi:10.1177/0741932510362508
- Kendall, P. C. (1994). Treating anxiety disorders in children: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 62*, 100-110. doi:10.1037/0022-006X.62.1.100
- Kendall, P. C., Flannery-Schroeder, E., Panichelli-Mindel, S. M., Southam- Gerow, M., Henin, A., & Warman, M. (1997). Therapy for youths with anxiety disorders: A second randomized clinical trial. *Journal of Consulting and Clinical Psychology, 65*, 366-380. doi:10.1037/0022006X.65.3.366
- Kuperminc, G. P., Leadbeater, B. J., & Blatt, S. J. (2001). School social climate and individual differences in vulnerability to psychopathology among middle school students. *Journal of School Psychology, 39*, 141-159. doi:10.1016/S0022-4405(01)00059-0
- Lane, K. L., & Menzies, H. M. (2005). Teacher-identified students with and without academic and behavioral concerns: Characteristics and responsiveness. *Behavioral Disorders, 31*, 65-83.
- Lane, K. L., Wehby, J. H., Robertson, E. J., & Rogers, L. A. (2007). How do different types of high school students respond to schoolwide positive behavior support programs?: Characteristics and responsiveness of teacher-identified students. *Journal of Emotional and Behavioral Disorders, 15*, 3-20. doi:10.1177/10634266070150010201
- Lassen, S. R., Steele, M. M., & Sailor, W. (2006). The relationship of school-wide positive behavior support to academic achievement in an urban middle school. *Psychology in the Schools, 43*, 701-712.

- Layne, A. E., Bernstein, G. A., & March, J. S. (2006). Teacher awareness of anxiety symptoms in children. *Journal of Child Psychiatry and Human Development, 36*, 383-392.
doi:10.1007/s10578-006-0009-6
- Lewinsohn, P. M., Clarke, G. N., Hops, H., & Andrews, J. (1990). Cognitive-behavioral treatment for depressed adolescents. *Behavior Therapy, 21*, 385-401.
doi:10.1016/S0005-7894(05)80353-3
- Lewinsohn, P. M., Shankman, S. A., Gau, J. M., & Klein, D. N. (2004). The prevalence and comorbidity of subthreshold psychiatric conditions. *Psychological Medicine, 34*, 613-622.
doi:10.1017/S0033291703001466
- Lonigan, C. J., & Vasey, M. W. (2009). Negative affectivity, effortful control, and attention to threat-relevant stimuli. *Journal of Abnormal Child Psychology, 37*, 387-399.
doi:10.1007/s10802-008-9284-y
- Loukas, A., & Murphy, J. L. (2007). Middle school student perceptions of school climate: Examining protective functions on subsequent adjustment problems. *Journal of School Psychology, 45*, 293-309.
- Luiselli, J., Putnam, R., Handler, M., & Feinberg, A. (2005). Whole-school positive behaviour support: Effects on student discipline problems and academic performance. *Educational Psychology, 25*, 183-198. doi:10.1080/0144341042000301265
- McConaughy, S. H., & Skiba, R. J. (1993). Comorbidity of externalizing and internalizing problems. *School Psychology Review, 22*, 421-436.
- McIntosh, K., Bennett, J. L., & Price, K. (2011). Evaluation of social and academic effects of School-wide Positive Behaviour Support in a Canadian school district. *Exceptionality Education International, 21*, 46-60.

- McIntosh, K., Campbell, A. L., Carter, D. R., & Zumbo, B. D. (2009). Concurrent validity of office discipline referrals and cut points used in schoolwide positive behavior support. *Behavioral Disorders, 34*, 100-113.
- McIntosh, K., Goodman, S., & Bohanon, H. (2010). Toward true integration of academic and behavior support. *NASP Communique, 39*.
- McIntosh, K., Horner, R. H., Chard, D. J., Dickey, C. R., & Braun, D. H. (2008). Reading skills and function of problem behavior in typical school settings. *Journal of Special Education, 42*, 131-147. doi:10.1177/0022466907313253
- McIntosh, K., Reinke, W. M., & Herman, K. E. (2009). School-wide analysis of data for social behavior problems: Assessing outcomes, selecting targets for intervention, and identifying need for support. In G. G. Peacock, R. A. Ervin, E. J. Daly, & K. W. Merrell (Eds.), *The practical handbook of school psychology* (pp. 135-156). New York: Guilford.
- Merikangas, K. R., He, J.-P., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., . . . Swendsen, J. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the national comorbidity survey–adolescent supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry, 49*, 980-989. doi:10.1016/j.jaac.2010.05.017
- Merrell, K. W. (2008). *Helping students overcome depression and anxiety: A practical guide* (2nd ed.). New York: Guilford.
- Merrell, K. W., & Gueldner, B. A. (2010). Preventative interventions for students with internalizing disorders: Effective strategies for promoting mental health in schools. In M. R. Shinn & H. M. Walker (Eds.), *Interventions for achievement and behavior in a three-*

- tier model including rti* (3rd ed., pp. 729-823). Bethesda, MD: National Association of School Psychologists.
- Miller, L. D., Shumka, E., & Baker, H. (2012). Special applications: A review of cognitive behavioral mental health interventions for children in clinical and school-based settings. In S. A. Lee & D. M. Edget (Eds.), *Cognitive behavioral therapy: Applications, methods and outcomes* (pp. 1-36). Hauppauge, NY: Nova Science Publishers, Inc.
- Muscott, H. S., Mann, E. L., & LeBrun, M. R. (2008). Positive Behavioral Interventions and Supports in New Hampshire: Effects of large-scale implementation of Schoolwide Positive Behavior Support on student discipline and academic achievement. *Journal of Positive Behavior Interventions, 10*, 190-205.
- Mychailyszyn, M. P., Mendez, J. L., & Kendall, P. C. (2010). School Functioning in Youth With and Without Anxiety Disorders: Comparisons by Diagnosis and Comorbidity. *School Psychology Review, 39*(1), 106-121.
- Nelson, J. R., Martella, R. M., & Marchand-Martella, N. (2002). Maximizing student learning: The effects of a comprehensive school-based program for preventing problem behaviors. *Journal of Emotional and Behavioral Disorders, 10*, 136-148.
- Nigg, J. T. (2006). Temperament and developmental psychopathology. *Journal of Child Psychology and Psychiatry, 47*, 395-422. doi:10.1111/j.1469-7610.2006.01612.x
- Osher, D., Bear, G. G., Sprague, J. R., & Doyle, W. (2010). How can we improve school discipline? *Educational Researcher, 39*, 48-58. doi:10.3102/0013189X09357618
- Rapee, R. M. (2002). The development and modification of temperamental risk for anxiety disorders: Prevention of a lifetime of anxiety? *Biological Psychiatry, 52*, 947-957. doi:10.1016/S0006-3223(02)01572-X

- Rappoport, M. D., Denney, C. B., Chung, K.-M., & Hustace, K. (2001). Internalizing behavior problems and scholastic achievement in children: Cognitive and behavioral pathways as mediators of outcome. *Journal of Clinical Child Psychology, 30*, 536-551.
- Roeser, R. W., & Eccles, J. S. (2000). Schooling and mental health. In A. J. Sameroff, M. Lewis, & S. M. Miller (Eds.), *Handbook of developmental psychopathology* (2nd ed., pp. 135-156). New York: Kluwer Academic/Plenum.
- Rubin, K. H., Burgess, K. B., Kennedy, A. E., & Stewart, S. L. (2003). Social withdrawal in childhood. In E. J. Mash & R. A. Barkley (Eds.), *Child Psychopathology* (Second ed., pp. 372-406). New York: The Guildford Press.
- Scott, T. M., & Barrett, S. B. (2004). Using staff and student time engaged in disciplinary procedures to evaluate the impact of school-wide PBS. *Journal of Positive Behavior Interventions, 6*, 21-27.
- Seligman, M. E. P. (1992). *Helplessness: On depression, development, and death*. New York, NY: W. H. Freeman.
- Serbin, L. A., Temcheff, C. E., Cooperman, J. M., Stack, D. M., Ledingham, J., & Schwartzman, A. E. (2010). Predicting family poverty and other disadvantaged conditions for child rearing from childhood aggression and social withdrawal: A 30-year longitudinal study. *International Journal of Behavioral Development*. doi:10.1177/0165025410372008
- Sinclair, M. F., Christenson, S. L., Evelo, D. L., & Hurley, C. M. (1998). Dropout prevention for youth with disabilities: Efficacy of a sustained school engagement procedure. *Exceptional Children, 65*, 7-21.

- Storey, P., & Smith, M. (2008). *Methods and approaches to improving the emotional health and well being of children: A briefing paper concerning interventions to prevent internalising disorders*. Retrieved from London:
- Sugai, G., & Horner, R. H. (2009). Defining and describing schoolwide positive behavior support. In W. Sailor, G. Dunlap, G. Sugai, & R. H. Horner (Eds.), *Handbook of positive behavior support* (pp. 307-326). New York: Springer.
- Sugai, G., Sprague, J. R., Horner, R. H., & Walker, H. M. (2000). Preventing school violence: The use of office discipline referrals to assess and monitor school-wide discipline interventions. *Journal of Emotional and Behavioral Disorders*, 8, 94-101.
doi:10.1177/106342660000800205
- U.S. Public Health Service. (2000). *Report of the surgeon general's conference on children's mental health: A national action agenda*. Washington, DC: Department of Health and Human Services. Retrieved from
<http://www.ncbi.nlm.nih.gov/books/NBK44233/pdf/TOC.pdf>.
- Waasdorp, T. E., Bradshaw, C. P., & Leaf, P. J. (2012). The impact of Schoolwide Positive Behavioral Interventions and Supports on bullying and peer rejection. *Archives of Pediatrics & Adolescent Medicine*, 166, 149-156.
- Walker, B., Cheney, D., Stage, S., Blum, C., & Horner, R. H. (2005). Schoolwide screening and positive behavior supports: Identifying and supporting students at risk for school failure. *Journal of Positive Behavior Interventions*, 7, 194-204.
doi:10.1177/10983007050070040101
- Walker, H. M., & Severson, H. (1992). *Systematic screening for behavior disorders* (2nd ed.). Longmont, CO: Sopris West.

Wood, J. (2006). Effect of anxiety reduction on children's school performance and social adjustment. *Developmental Psychology*, 42, 345-349. doi:10.1037/0012-1649.42.2.345