Teaching Explicit Social-Emotional Skills with Contextual Supports for Students with Intensive Intervention Needs

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Abstract

Social-cognitive and emotional factors as well as behavior problems contribute to the social difficulties experienced by many students with or at high risk for emotional and behavioral disorders (EBD). The way that teachers and peers treat and respond to these students can either mitigate or exacerbate their challenges in establishing and maintaining positive social relationships and adjusting adaptively to the school context. Managing behavior alone does not address the self-regulatory skill deficits that contribute to social maladjustment, nor create socializing contexts that can support self-regulatory skill development. This paper reviews research on neurodevelopmental processes and contextual constraints that contribute to the social-emotional difficulties of students with or at high risk for EBD. Implications for intervention design are explored, with a focus on the need for more consistent use of tiered social-emotional learning programs in schools to promote the self-regulation skills and social competence of vulnerable students with or at risk for EBDs. In addition, we highlight the need for future research to enhance capacity to support tiered systems of intervention in schools and tailor them effectively to meet the varied needs of students with or at risk for EBDs.

Teaching Explicit Social Cognitive Skills with Contextual Supports for Students with Intensive Intervention Needs

Students with or at high risk for EBD often find it difficult to meet the social and behavioral demands of school (Gresham, Cook, Crews, & Kern, 2004). In addition to their behavioral adjustment difficulties, children with or at high risk for EBD often demonstrate poor interpersonal relationships reflected in significant peer problems and poor student-teacher relationships (Magg, 2006). Poor social competence and the social-emotional and self-regulatory skill deficits associated with it represent transdiagnostic difficulties that characterize many children with EBD (Clifford, Nguyen, & Bradshaw, 2020), including those who display elevated conduct problems (Waas, 2006), attention deficits (Mikami & Hinshaw, 2006), internalizing problems (LaGreca & Landoll, 2011), or autism spectrum disorders (Ratcliffe, Wong, Dosseter, & Hayes, 2014). These children find it difficult to initiate and sustain high-quality friendships, interact comfortably in the social context of the classroom and playground, and avoid peer exclusion or victimization (Magg, 2006). Some struggle to cooperate and collaborate with others and get into frequent conflicts with peers and teachers (Bierman, 2004). Many experience significant emotional distress including social anxiety and loneliness that can fuel escalating depression and isolation over time (LaGreca & Landoll, 2011). Although teachers can provide an important source of social-emotional support for students with EBD, teachers often find it challenging to form close and non-conflictual relationships with these students (Hughes & Im, 2016). Children who experience chronic social maladjustment during the elementary school years are at elevated risk for amplified adjustment problems in adolescence, including social alienation, school disengagement, truancy, risky adolescent behaviors, and early drop-out (Jones, Greenberg, & Crowley, 2015; Ve´ronneau et al., 2010). For these reasons, school-based

interventions to support children with or at high risk of EBD should include efforts to address the skill deficits that undermine their social-emotional functioning, as well as addressing the behaviors that interfere with their productive classroom engagement (Clifford et al., 2020).

Research documenting the importance of social-emotional competence to school success has produced a growing interest in the use of universal (Tier 1) classroom-level curriculum-based efforts to promote social-emotional learning, especially in the elementary school years, as part of a coordinated multi-tiered system of positive behavioral supports at school (Gresham et al., 2004; Sugai & Horner, 2002). However, to date, evidence-based social-emotional skill training programs are rarely used systematically to provide Tier 2 services in schools to the 15-20% of children experiencing significant peer difficulties (Lochman & Gresham, 2009; Mitchell, Stormont, & Gage, 2011). The most common Tier 2 interventions studied (Bruhn, Lane, & Hirsch, 2014; Mitchell et al., 2011) and used (Rodriguez, Loman & Borgmeier, 2016) by schools in the context of Multi-Tiered Systems of Support (MTSS) include Check in, Check out and a version of that program, the Behavior Education Program. These programs focus on reducing disruptive classroom behaviors and office discipline referrals, which are important goals but differ from the focus of programs that improve social-emotional competencies (Clifford et al., 2020). Social skill training is also identified frequently as a Tier 2 intervention but as an approach rather than a particular program. Schools tend to use pieces from packaged social skill training programs, with teachers or other school personnel selecting skills to target based upon their observation of a student's behavioral deficits (Majeika, Bruhn, Sterrett, & McDaniel, 2020). In this paper, we argue that a major risk of these sorts of individualized and piecemeal skill training efforts is that, even if they increase rates of specific positive behaviors with behavioral supports, they may fail to sufficiently address the emotional and social-cognitive skills that

support self-regulation and therefore fail to improve student social competence and overall peer functioning. Instead, we advocate for the systematic use of evidence-based Tier 2 social skill training programs that address the neurodevelopmental foundations that promote effective social functioning.

In addition, Tier 2 efforts that focus solely on teaching specific social skills to individual children often fail to consider the multiple ways in which teachers and peers influence the social-emotional and self-regulatory functioning of children with or at risk for EBDs. These contextual influences include but extend beyond the interpersonal contingencies that elicit and reinforce social behaviors, as they also affect developing social cognitions and student feelings of emotional security or reactivity. Evidence-based Tier 2 programs typically include collateral programming designed to improve contextual supports for social-emotional and self-regulation skill development that may be neglected when Tier 2 programs remain focused on individualized social skill training. Benefits to students with or at risk for EBDs may be further optimized by coordinating Tier 1 social-emotional learning programs that promote a positive classroom climate and support healthy peer group dynamics with evidence-based Tier 2 programs that strengthen student social competence. In this paper, we describe the conceptual foundations for this approach and provide illustrations of evidence-based Tier 2 social-emotional learning programs and synchronized Tier 1 and Tier 2 program nesting. We also identify the next steps needed to help schools implement these programs with fidelity and tailor them effectively to meet individual student needs.

The Neurodevelopmental Foundations of Effective Social-emotional Functioning

The social adjustment difficulties experienced by students with or at high risk for EBD reflect deficits in key social skills needed for adaptive social functioning (Smith et al., 2017).

Social skills are defined as the specific behaviors that are correlated with positive peer relations and can be targeted in intervention (Magg, 2006). Social competence refers to students' capacity to gain acceptance and liking from peers and teachers and their ability to avoid censure or rejection. Becoming socially competent requires students to recognize and enact socially appropriate behaviors and exhibit those behaviors reliably in ways that are responsive to contextual demands and interpersonal cues (Domitrovich, Durlak, Staley, & Weissberg, 2017). Gaps between social skill knowledge and performance are well documented (Gresham et al., 2004), with skill performance affected by self-regulatory capacity (e.g. emotion regulation, inhibitory control) and contextual influences as well as skill knowledge (Smith et al. 2017).

Contemporary models of social competence recognize the critical role that social-cognitive processes and emotional functioning play in promoting socially skillful behavior and supporting positive interpersonal relationships (Domitrovich et al. 2017). Positive social behavior is supported by social-cognitive skills (e.g., the ability to make accurate social appraisals, control impulsive responding, and think flexibly for social problem solving) and emotion skills (e.g., being sensitive to one's own and others' emotions, being able to manage stress and strong feelings effectively; CASEL, 2013).

Self-regulation foundations of social competence. Central to self-regulation is the ability to modify the physiological arousal and emotional states elicited by emotionally-evocative events or situations (Gross & Thompson, 2007). Children who have difficulties regulating emotion show frequent displays of irritability and experience easily aroused feelings of anxiety, anger, or ambivalence, finding it difficult to calm down once upset (Derella et al., 2019). Emotion dysregulation is a common characteristic of children with or at risk for EBD, including those with autism spectrum disorders (Ratcliffe et al., 2014) and disruptive behavior

disorders (Derella et al., 2019).

Self-regulation also relies on inhibitory control – the capacity to deflect or block impulsive responses in order to enact more adaptive responses in pursuit of longer-term goals (Anzman-Frasca, Francis, & Birch, 2015). In social interactions, inhibitory control enables children to inhibit self-focused behaviors and immediate reward seeking in favor of complying with social norms that prescribe reciprocity and collaboration. Poor inhibitory control is a common feature of children with or at risk for EBDs (Smith et al., 2017). Emotion dysregulation and behavioral disinhibition are associated with social-cognitive biases (e.g., impulsive and inaccurate perceptions, negatively biased evaluations, and inadequate or aggression-prone problem-solving skills) that increase the likelihood of aggressive responding or social avoidance (Dodge, Godwin, & the Conduct Problems Prevention Research Group, 2013).

Processes supporting or impeding self-regulatory development. Accumulating developmental research has identified exposure to adverse events as a common precursor to deficits in self-regulatory skill development (Blair & Raver, 2012). Students with or at risk for EBD are more likely than students without disabilities to live in poverty, have a single or unemployed parent, and to have another household member who has a disability (Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005). These socio-economic disadvantages increase child exposure to stressful, threatening, and unpredictable socialization experiences, including family instability, family conflict, insufficient parental supervision and support, and punitive discipline practices (Blair & Raver, 2012). Chronic stress exposure, in turn, impedes the neurodevelopment of physiological stress management systems and executive function skills, increasing emotional reactivity (e.g., easily aroused feelings of anxiety, anger, or ambivalence in interpersonal contexts) and undermining emotion regulation and inhibitory control (Shin,

McDonald, & Conley, 2018).

Developmental research on self-regulation processes and adaptive social functioning indicates that intervention programs for students with EBD should be designed to support neurocognitive functioning as well as shape social behavior (Greenberg, 2006; Smith, Cumming, Merrill, Pitts, & Daunic, 2015). The socializing context plays a central role in supporting or impeding self-regulatory functioning, as well as shaping social behavior, and hence also requires attention for intervention design.

The Role of Context in Supporting the Development of Social Competence

Social-emotional and self-regulatory skills develop and operate via their transactions with socialization influences at home and school. During early childhood, sensitive-responsive parenting and opportunities for guided exploration of the social and physical environment play a key role in supporting social interaction skills, emotional understanding, and self-regulation skills (Lengua, Horonardo, & Bush, 2007). Interventions for vulnerable young children that promote contingent and sensitive responding can counter the effects of early adversity and promote positive growth in self-regulation skills (Lewis-Morrarty, Dozier, Bernard, Terracciano, & Moore, 2012).

After school entry, key aspects of the school context influence the development and display of social competence and self-regulation skills (Lee & Bierman, 2015). These include the personal social-emotional support provided via student-teacher relationships, the quality of social initiations and responses received from peers, and the broader classroom social influences affected by peer group dynamics and the teacher's interaction and management style (see also Farmer et al., 2016)

Supportive, non-conflictual relationships with teachers characterized by warmth,

sensitivity, and openness support cooperative and engaged behavior in the classroom (Roorda, Koomen, Spilt, & Oort, 2011). Over time, positive student-teacher relationships promote social competence, reflected in improved peer relations assessed with sociometric nominations in longitudinal analyses that control for baseline levels (Hughes & Im, 2016).

The quality of interactions between teachers and students in a classroom also affects student academic engagement and social-emotional adjustment (Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009). Teacher's use of positive behavior supports with clear expectations and non-punitive consequences, along with proactive efforts to support on-task learning and avoid critical comments are associated with elevated levels of student prosocial engagement and low levels of student aggression (Hamre et al., 2013).

Peers also influence developing social-emotional and self-regulation skill development. In schools characterized by high levels of student disadvantage (e.g. high levels of student poverty and low levels of student achievement), rates of classroom disruptive behavior are elevated (Powers, Bierman, & CPPRG, 2013). When children are in classrooms with many aggressive classmates, they are likely to show increased aggression over time, likely due to the increased peer modeling and reinforcement of disruptive-aggressive behaviors and social norms that reduce social censure for these behaviors (Powers et al., 2013).

These levels of contextual influence are inter-related. Classroom composition and peer group dynamics affect the quality of student-teacher interactions that emerge over time (Thomas, Bierman, Powers, & CPPRG, 2011) and conversely, student-teacher interactions and teacher management decisions influence peer interactions and peer group dynamics (Farmer et al., 2018). In addition, transactional processes have been documented in longitudinal studies, in which students with poor social-emotional and self-regulation skills evoke more negative

responses in school contexts, which in turn, exacerbate their social difficulties. For example, bi-directional effects create a negative cascade over time between low likability and poor-quality student-teacher relationships (DeLaet et al., 2014). Similarly, peers often respond negatively to students who exhibit poor social skills, excluding them from social interactions or targeting them for victimization. Negative peer experiences, in turn, increase feelings of loneliness and social anxiety and amplify student anger, contributing to escalations in reactive aggression or social withdrawal (Mikami & Hinshaw, 2006).

Teacher and peer behaviors in the school context thus influence the contingencies that shape the social behavior of students with or at risk for EBD and affect the emotional processes and social cognitions that contribute to socially ineffective or undesirable behaviors (Farmer, Gatzke-Kopp, & Latendresse, 2020). Interventions designed to improve children's social competence need take into account these critical classroom, teacher, and peer influences affecting child social cognitions, emotions, and behaviors in order to promote lasting gains.

Evidence-based Tier 2 Programs that Teach Explicit Social-Cognitive Skills

Over the past forty years, social skill training interventions designed to promote social competence have demonstrated efficacy in promoting improvements in child social behavior (Gresham et al., 2004). These programs utilize cognitive-behavioral strategies (e.g., instructions, discussion, modeling, role-play, behavioral rehearsal, performance feedback, and positive reinforcement) to build skill concepts and shape behavioral performance (Bierman & Powers, 2009). They target behavioral skills, such as prosocial behavior and communication skills, and many also address social perception and problem-solving skills, focusing on reducing negatively biased social-cognitive processing and increasing flexible and positive approaches to resolving peer conflicts (Magg, 2006). Increasingly, emotion knowledge and emotion regulation skills are

also included as intervention targets (Ratcliffe et al., 2014). Despite strong research of effectiveness, evidence-based social skill training programs are not often used by schools (Bruhn, Lane, & Hirsch, 2014; Mitchell et al., 2011). If several key challenges can be overcome, these programs have much to offer schools as Tier 2 programs. These challenges include the effective scaling and supporting of these Tier 2 programs in school settings, the linking of these targeted interventions with classroom and school-wide supports that address the contextual dynamics affecting student social development and adjustment, and the capacity to adapt interventions to increase positive effects for individual students. In the next sections, we provide examples of evidence-based Tier 2 programs with promise for school implementation. We highlight programs that have effectively improved self-regulation and social-emotional skills when implemented by school mental health professionals and evaluated in the context of rigorous randomized-controlled designs. We then discuss the feasibility and utility of nesting Tier 2 programs within universal Tier 1 programs that address the school context more broadly, and finally we consider the research needed to improve capacity to adapt evidence-based programs to improve individual student benefits.

In MTSS systems, it is anticipated that about 15% of students are experiencing social adjustment difficulties that require more intensive intervention than that provided by universal programming (Sugai & Horner, 2002). Conceptually, these students would benefit optimally from evidence-based, small group social-cognitive skill training programs delivered as Tier 2 interventions, providing systematic support for the development of self-regulation skills and related social skills. Tier 2 small group interventions can build upon the foundation laid by universal interventions and offer more intensive social-cognitive skill training to students with or at risk for EBD. In a meta-analyses conducted by Gresham et al., (2004), these kinds of

evidence-based small group social skills training programs produced an overall mean effect size *d* of .29 (range = .19 - .40) for students with or at risk for EBD, corresponding to an improvement rate of 65% versus 35% for children in the intervention and control groups, respectively. Reflecting students with EBDs, the programs studied intervened with children who varied considerably in their social difficulties, including those exhibiting a wide range of externalizing and internalizing problems. The interventions described in the following sections use social-cognitive coaching strategies that characterize effective social skills training with target skills that vary somewhat based upon the difficulties of the students they focus on. Each also includes collateral sessions with parents and teachers designed to strengthen contextual supports for social-emotional learning.

Collaborative Life Skills Program (CLS). The CLS (Pfiffner et al., 2018) was developed to strengthen the organizational and social skills of children with Attention Deficit Hyperactivity Disorder (ADHD) who often exhibit emotional and behavioral difficulties in the classroom and other social contexts (Mikami & Hinshaw, 2006). CLS includes a child, parent, and classroom component. The nine child group sessions are divided into two modules (social functioning and independence) and include topics such as social problem-solving, friendship making, homework skills, and establishing and following routines. Ten parent sessions and two classroom sessions address topics such as the use of effective instructions and reinforcement and are coordinated via the use of an individualized report card used to monitor a child's progress across school to home contexts.

In a randomized trial, school-based mental health professionals (SMHPs) who were masters-level clinicians attended a 1-day training workshop and received weekly supervision as they implemented the program in their schools. Significant intervention effects emerged on

parent and teacher ratings of ADHD symptom severity and functional impairment (e.g., organizational skills), teacher ratings of academic performance, and parent-rated social skills and oppositional defiant disorder (ODD) symptom severity (Pfiffner et al., 2016). Sustained benefits were evident on parent-rated ADHD and ODD symptom severity and functional impairment one year later (Pfiffner et al., 2018). The findings demonstrate the feasibility of school mental health professionals delivering a Tier 2 cognitive-behavioral skill training program and promoting positive changes in the behavioral and social adjustment of children with significant social, behavioral, and academic adjustment difficulties.

Coping Power. The Coping Power program (Lochman, Powell, Boxmeyer, Ford, & Minney, 2014) was designed to address social-cognitive deficits and information-processing biases that are implicated in the development of aggressive behavior problems in late childhood and early adolescence (Dodge et al., 2013) by targeting emotion awareness in self and others, inhibition of angry impulses, and the capacity to make socially-acceptable and prosocial decisions. While it can be delivered individually, Coping Power is best delivered in small groups of children who are at risk to develop disruptive behavior problems or related EBDs; this allows for coaches to model and scaffold desired skills and children to participate in group-problem solving and perspective-taking and receive positive reinforcement from peers for their skill performance.

Coping Power consists of a child-focused group (34 weekly sessions) and concurrent parent-focused group (15 bi-weekly sessions). The child sessions address several main topics such as establishing long- and short-term goals, reviewing organization and study skills, perspective-taking, identifying signs of anger in the body (cognitive, physiological, and behavioral), learning coping skills for anger (e.g., relaxation, self-statements, distraction), social-

problem solving, coping with peer pressure, and cooperating and negotiating with peers (Lochman et al., 2014).

Coping Power has consistently demonstrated a capacity to produce sustained reductions in children's aggression and disruptive behavior problems as well as the positive promotion of social-cognitive skills that contribute to increased prosocial ability and social skills (Lochman et al., 2014). A unique set of studies has examined factors associated with the effective implementation of Coping Power in elementary schools when delivered by school counselors. In a large randomized trial, positive intervention effects on externalizing behavior problems and teacher-rated social skills emerged for children whose counselors received intensive training in Coping Power with feedback (three days of workshop trainings prior to the beginning of the school year, monthly 2-hour training sessions, individualized problem-solving consultation, and individualized supervisory feedback after each session) but not for children whose counselor received a less-intensive (i.e., basic) training (the three days of workshop trainings and monthly 2-hour training sessions) or no treatment (Lochman, Boxmeyer, et al., 2009). Children whose counselors had received the intensive training were the only ones to show sustained academic benefits as well (Lochman et al., 2012). Counselor conscientiousness and agreeability, along with a positive school-level climate facilitated positive outcomes (Lochman, Powell et al., 2009). These studies highlight several conditions that may be important when evidence-based Tier 2 programs are disseminated in schools, including the need to provide intensive training and the importance of school-level organizational support.

Cognitive Behavior Intervention for Trauma in Schools (CBITS). Accumulating research on the negative effects of early exposure to trauma and the prevalence of trauma exposure among students with or at risk for EBDs has increased school system interest in

providing trauma-informed Tier 2 interventions. CBITS (Jaycox, Langley, & Hoover, 2018) is one such intervention, consisting of a 10-session small group program with sessions focused on managing anxiety and depression associated with trauma (the use of coping skills, exposure, and creating a trauma narrative), and the use of social problem-solving skills to address negatively-biased self and other perceptions and more effectively manage anger. Additional individual sessions are included to personalize the program and support generalization support outside of group sessions. CBITS is designed to help students refocus the negative thoughts and maladaptive coping strategies that often accompany traumatic experiences, thereby leading to improvements in social adjustment and classroom behavior (Stein et al., 2003; Smith et al., 2007).

In a randomized-controlled trial conducted in middle schools, Stein and colleagues (Stein et al., 2003) demonstrated that CBITS was implemented with fidelity by school-based mental health professionals (masters-level clinicians or psychiatric social workers). School-based clinicians received 1-2 days of training prior to the start of the school year as well as weekly supervision with the research/clinical team overseeing the intervention. The intervention effectively reduced symptoms of PTSD, depression, and psychosocial dysfunction for a set of diverse students exposed to trauma (Stein et al., 2003). Pilot studies suggest similarly positive effects of CBITS with underserved student populations including American Indians (Morsette et al., 2009). In these field trials, school personnel reported they were pleased with how well CBITS was integrated within their schools and saw a significant increase in feelings of efficacy working with trauma-exposed children.

An elementary school version of CBITS, Bounce Back, includes 10 small group sessions, 2-3 individual sessions, and 1-3 parent sessions. In a randomized-controlled trial, Bounce Back

was delivered by masters level social workers or licensed clinical psychologists who were employed by a community mental health organization that provided contracted services in schools (Langley, Gonzalez, Sugar, Solis, & Jaycox, 2015). It proved effective in reducing symptoms of anxiety, depression, and PTSD relative to a wait-listed control group. The researchers and school personnel noted that accessible, stigma-reducing programs implemented in schools such as CBITS and Bounce Back reduce the barriers to engagement that may be present in clinic settings (Jaycox et al., 2018).

Each of these studies used an evidence-based Tier 2 intervention that was informed by research linking deficits in information-processing and self-regulation to student social difficulties and behavior problems. They highlight the potential efficacy of training and supporting school mental health professionals in the delivery of sequenced and explicit social-emotional skill training in small groups.

The impact of these interventions may be strengthened when schools attend to the contextual features of the classroom or school that also influence student social-emotional and self-regulatory skill development. As noted by Lochman, Powell, and colleagues (2009), school climate may influence the willingness and ability of teachers and counselors to support social-emotional programming. Coordinating Tier 2 with universal, Tier 1 programming offers the promise of strengthening intervention effects by increasing cross-context supports for improvement.

Integrating Tier 2 Programming with Universal Tier 1 Programming

In a MTSS framework, students with or at risk for EBDs may benefit from coordinated programming in which universal Tier 1 programs improve contextual support and increase teacher capacity to enhance the quality of social and emotional support class-wide. Universal

SEL programs also act to reduce negative classroom influences, as they can foster a more prosocial norms and reduce deviant or negative peer effects present in a school setting, thereby creating a more positive peer support system (Bierman, Greenberg, & Conduct Problems Prevention Research Group, 2020).

Universal interventions may be most helpful to students with or at risk for EBDs when they improve student-teacher relationships and enhance classroom management strategies, and also provide a focus on teaching the explicit social-cognitive skills that support effective self-regulation (Smith et al., 2017). A large meta-analysis of school-based universal social-emotional learning programs documented an average 11% student population level gain on measures of academic achievement, and similar significant improvements in behavior and emotional functioning (Durlak et al., 2011). Universal programs also foster classroom interactions and social norms that support prosocial interaction and interpersonal acceptance. Although the use of Tier 2 programs within Tier 1 programs occurs, rarely are these two levels of programming coordinated to support the development of social-emotional skills that provide the foundation for prosocial and self-regulated adaptive functioning (Bruhn et al., 2014; Mitchell et al., 2011; Rodriguez et al., 2016).

Yet, the coordination of universal and Tier 2 levels of intervention may be an important factor supporting overall effectiveness by increasing contextual support for skill acquisition and performance. For example, when both levels focus on the same skills, use similar language, and consistently support the same behaviors, universal and small group interventions may support each other and amplify the generalization of gains in students who receive the Tier 2 interventions. The Fast Track Program (CPPRG, 1992), a multicomponent, SEL-based preventative intervention, offers an excellent example of synchronized Tier 1 universal and Tier

2 targeted programming that promoted SEL skills for children at risk for conduct disorders.

Fast Track involved the randomized-controlled trial of a multi-tiered, multi-component intervention for children exhibiting high rates of aggressive behavior at school entry. During the elementary years, Fast Track supported classroom teachers who implemented a universal Tier 1 program, the PATHS Curriculum (Kusché, Greenberg, & CPPRG, 2011), that was coordinated with the Tier 2 Fast Track Friendship Group program (Bierman et al., 2017). The interventions shared a similar set of target skills, with both levels of programming focused on strengthening children's prosocial friendship skills (e.g., collaborating and cooperating with others), emotional competence (e.g., emotion understanding and regulation), self-control (e.g., controlling impulses, calming down, identifying problems), and social problem-solving skills (e.g., negotiation, response generation and evaluation, conflict resolution). Target skills were introduced in the classroom setting (Tier 1), and then practiced with greater depth and intensity in the Friendship Group setting (Tier 2) for the aggressive children at risk for conduct disorders (i.e., those for whom PATHS alone was insufficient to address social-emotional and behavioral concerns). PATHS and Friendship Group each proceeded over multiple elementary school years, with the skills targeted at different grade levels progressing developmentally.

The Fast Track trial demonstrated that the provision of the Tier 1 PATHS program had benefits for all classmates, producing reduced aggression, improved peer relations, and a more positive classroom climate, with benefits were amplified for students who received PATHS for multiple years (CPPRG, 2010). Aggressive students who received the full set of Fast Track intervention components showed significant gains in the targeted social-emotional skills (e.g., emotion recognition, emotional coping, and social problem-solving skills) and improved classroom social-emotional behavior (e.g., reduced aggressive-disruptive behavior, improved

positive peer interaction), as well as improved social competence as reflected in sociometric nominations (CPPRG, 2002). Interestingly, mediation analyses suggested that gains children made in self-regulation and interpersonal skills during the elementary school years significantly predicted reduced risk for delinquency and crime outcomes in adolescence, mediating the Fast Track intervention impact on these outcomes (Sorensen, Dodge, and CPPRG, 2016). Given the multi-faceted nature of the Fast Track intervention, these gains cannot be attributed solely to the social skills training provided, but they are consistent with the expectation of gains associated with the provision of coordinated Tier 1 and Tier 2 programming (for more detail, see Bierman, Greenberg, & CPPRG, 2020).

Future Directions

Gresham and colleagues have argued that social skill training program are often implemented at levels of intensity that are insufficient to promote substantial changes in child social competence and peer functioning (Gresham et al., 2004). Tier 2 social-emotional skill training programs that have been validated with rigorous randomized trials when implemented in school settings document the benefits that might accrue with a more systematic approach than that typically used by schools for Tier 2 programming (see also Clifford et al., 2020). At the same time, increasing the widespread use of more powerful Tier 2 social-emotional learning programs and coordinating them with Tier 1 programming will require addressing a set of key challenges.

First, it has become clear that supporting sustained, high-quality implementation of systematic, evidence-based MTSS programming requires focused effort and infrastructure support (Lochman & Gresham, 2009). Tier 2 programming is sometimes characterized as programming that is continuously available and requires low-effort teacher implementation

facilitated by a team (Bruhn et al., 2014). Yet, each of the effective Tier 2 programs highlighted in this paper was implemented by a master's level school mental health professional (counselor, social worker, or psychologist) with the support of training workshops and ongoing supervision/consultation. To our knowledge, the studies that have documented effectiveness of social-emotional skills training for students with or at risk for EBD use small groups that are led by mental health professionals or dedicated teachers with specialized training and support; they are not implemented by the student's classroom teacher. Effective programs are also intensive with multiple small group sessions, often accompanied by consultation meetings with parents and teachers (Gresham et al., 2006). Identifying the individuals who can provide these services in schools and designing the training and sustainable support structures is a key challenge for their widespread use in schools (Magg, 2006). Adequately supporting these individuals may require a realignment of personnel and resources which, in turn, will require commitment and motivation from administrative leadership. Conceptually, effective Tier 2 programs should reduce the need for more expensive Tier 3 programs, but more evidence may be needed to motivate the realignment of resources necessary to effectively scale up evidence-based Tier 2 programming.

In addition, more effectively coordinating and linking Tier 1 and Tier 2 programing to support student acquisition of foundational social-emotional and self-regulation skills will require a high level of organizational support. Programming is often fragmented across providers of Tier 1 programming (typically classroom teachers), and within potential providers of Tier 2 programming (including counselors, special education teachers, school psychologists). Without this organizational support, the efforts and programming to support high risk children across the classroom, school-wide, and home contexts are often piece-meal and poorly aligned, reducing

their value. There is a need for coordination, the use of common or complementary strategies, language, and goals across these domains (Weist et al., 2014). Coordinating Tier 1 and Tier 2 programs requires careful decision making to select programs and invest in the staffing, training, and coaching support necessary to implement those programs effectively. In addition, systems for screening, ongoing data collection and progress monitoring, and processes to support data-based decision-making are needed (Mitchell et al., 2011). Investing in organized systems to support this kind of MTSS, with Tier 1 social-emotional programming coordinated with the systematic use of evidence-based Tier 2 programming could have long-term benefits, creating a supportive and inclusive climate that benefits all students as well as those at high risk for school maladjustment (Magg, 2006).

A third critical need is to design and evaluate effective strategies for adapting intervention components to optimize the positive response of students with diverse needs. In recent reviews of Tier 2 social-cognitive skill training programs for students with EBD, Kern et al. (2020) and Majeika et al. (2020) both documented substantial adaptations that are commonly made to tailor programs for individual students. Tailoring was often undertaken to intensify intervention efforts in skill domains that seemed most relevant for individual children and to adjust contextual supports for skill performance. Both reviews concluded that tailoring was likely necessary and effective. However, without a structured system that provides evaluation metrics and decision rules, tailoring can reduce intervention effectiveness (Bierman, Nix, Maples, Murphy, & CPPRG, 2006). Hence, a critical research need involves the development of guidelines to support the effective tailoring of Tier 2 social-emotional skill training programs.

Conclusion

Accumulating research demonstrates that systematic skill training programs that target the self-regulation and emotional skills that underly effective social-emotional functioning can be effectively implemented by school personnel in school settings and significantly improve the school adjustment of students with or at risk for EBDs. At the same time, very few schools are using these systematic, evidence-based social-emotional skill training programs and coordinating them effectively with Tier 1 programming. Current Tier 2 efforts are dominated by the use of programs like Check in, Check out that focus on reducing disruptive behaviors and discipline referrals. Systematic and effective strategies for remediating social-emotional and self-regulatory skill deficits and improving peer relations exist but are not organized in a manner that allows for efficient use in typical school settings, nor tested for their efficacy in MTSS systems. Schools can provide an important context for the provision of Tier 2 services. Adopting a transdiagnostic approach with a Tier 2 framework and improving the synergy between Tier 1 and Tier 2 social-emotional learning supports may extend the reach and impact of a MTSS that services a diverse set of students (Eiraldi, Wolk, Locke, & Beidas, 2015). To do so, several challenges must be addressed in future research and practice, including challenges associated with staffing and resource support, organizational support, and effective, databased systems for tailoring and decision-making.

References

Anzman-Frasca, S., Francis, L. A., & Birch, L. L. (2015). Inhibitory control is associated with psychosocial, cognitive, and weight outcomes in a longitudinal sample of girls. *Translational Issues in Psychological Science, 1*, 203–216.

Bierman, K. L. (2004). *Peer rejection: Developmental processes and intervention strategies.* New York, NY: Guilford Press.

Bierman, K. L., Greenberg, M. T., Coie, J. D., Dodge, K. A., Lochman, J. E., & McMahon, R. J. (2017). *Social and emotional skills training for children: The Fast Track Friendship Group Manual.* New York, NY: Guilford Press.

Bierman, K. L., Greenberg, M. T., & the Conduct Problems Prevention Research Group [CPPRG] (2020). Multi-tiered social-emotional learning: PATHS and friendship group in the Fast Track Program. In T. W. Farmer, M. Conroy, E. M. Z., Farmer, & Sutherland (Eds.), *Handbook of research on emotional & behavioral disorders: Interdisciplinary developmental perspectives on children and youth* (pp. 254-260). Routledge: London.

Bierman, K. L., Nix, R. L., Maples, J. J., Murphy, S. A., & CPPRG. (2006). Examining the use of clinical judgment in the context of an adaptive prevention design: The Fast Track Program. *Journal of Consulting and Clinical Psychology, 74,* 468-481.

Bierman, K. L. & Powers, C. J. (2009). Social skills training to improve peer relations. In K. H. Rubin, W. Bukowski, & B. Laursen (Eds.) *Handbook of peer interactions, relationships, and groups* (pp. 603-621). New York, NY: Guilford Press.

Blair, C., & Raver, C. C. (2012). Individual development and evolution: Experiential canalization of self-regulation development. *Developmental Psychology, 48*, 647–657.

Bruhn, A. L., Lane, K. L., & Hirsch, S. E. (2014). A review of tier 2 interventions conducted

within multitiered models of behavioral prevention. *Journal of Emotional and Behavioral Disorders, 22,* 171-189.

Clifford, M. E., Nguyen, A. J., & Bradshaw, C. P. (2020). Both/and: Tier 2 interventions with transdiagnostic utility in addressing emotional and behavioral disorders in youth. *Journal of Applied School Psychology, 36,* 173-197.

Collaborative for Academic, Social and Emotional Learning (2013). *The 2013 CASEL Guide: Effective social and emotional learning programs - Preschool and elementary school edition*. Chicago, IL: Author.

Conduct Problems Prevention Research Group. (2010). The effects of a multiyear social-emotional learning program: The role of student and school characteristics. *Journal of Consulting and Clinical Psychology, 78,* 156–168.

CPPRG (2002). Evaluation of the first 3 years of the Fast Track prevention trial with children at high risk for adolescent conduct problems. *Journal of Abnormal Child Psychology, 30,* 19–35.

DeLaet, S., Doumen, S., Vervoort, E., Colpin, H., Van Leeuwen. K … & Verschueren, K. (2014). Transactional links between teacher–child relationship quality and perceived versus sociometric popularity: A three-wave longitudinal study. *Child Development, 85,* 1647–1662.

Derella, O. J., Johnston, O. G., Loeber, R., & Burke, J. D. (2019). CBT-enhanced emotion regulation as a mechanism of improvement for childhood irritability. *Journal of Clinical Child and Adolescent Psychology, 48,* S146-S154.

Dodge K. A., Godwin J., & the Conduct Problems Prevention Research Group (2013). Social-information-processing patterns mediate the impact of preventive intervention on

adolescent antisocial behavior. *Psychological Science, 24,* 456-465.

Domitrovich, C. E., Durlak, J. A., Staley, K. C., & Weissberg, R. P. (2017). Social-emotional competence: An essential factor for promoting positive adjustment and reducing risk in schoolchildren. *Child Development, 88,* 408-416.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82,* 405–432.

Eiraldi, R., Wolk, C. B., Locke, J., & Beidas, R. (2015). Clearing hurdles: The challenges of implementation of mental health evidence-based practices in under-resourced schools. *Advances in School Mental Health Promotion, 8,* 124-140.

Farmer, T.W., Chen, C., Hamm, J.V., Moates, M.M. Mehtaji, M., Lee, D., & Huneke, M.R. (2016). Supporting teachers' management of middle school social dynamics: The scouting report process. *Intervention in School and Clinic, 52,* 67-76.

Farmer, T.W., Dawes, M., Hamm, J.V., Lee, D., Mehtaji, M., Hofman, A.S., & Brooks, D.S. (2018). Classroom social dynamics management: Why the invisible hand of the teacher matters for special education. *Remedial and Special Education, 39,* 177-192.

Farmer, T. W., Gatzke-Kopp, L., Latendresse, S. J. (2020). The development, prevention, and treatment of emotional and behavioral disorders: An interdisciplinary developmental systems perspective. In T. W. Farmer, M. Conroy, E. M. Z. Farmer, & K. S. Sutherland (Eds.) *Handbook of research on emotional & behavioral disorders: Inter-disciplinary developmental perspectives on children and youth* (pp. 3-22). London: Routledge.

Greenberg, M.T., (2006). Promoting resilience in children and youth: Preventive interventions and their interface with neuroscience. *Annals of the New York Academy of Sciences, 1094*, 139-150.

Gresham, F. M., Cook, C., Crews, S., & Kern, L. (2004). Social skills training for children and youth with emotional and behavioral disorders: Validity considerations and future directions. *Behavioral Disorders, 30*, 32–46.

Gross, J. J., & Thompson, R. A. (2007). *Emotion Regulation: Conceptual Foundations.* In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3-24). New York, NY: Guilford Press.

Hamre, B. K., Pianta, R. C., Downer, J. T., DeCoster, J., Mashburn, A. J., … & Hamagami, A. (2013). Teaching through interactions: Testing a developmental framework of teacher effectiveness in over 4,000 classrooms. *The Elementary School Journal, 113*, 461-487.

Hughes, J. N., & Im, M. H. (2016). Teacher-student relationship and peer disliking and liking across grades 1-4. *Child Development, 87*, 593-611.

Jaycox, L. H., Langley, A. K., & Hoover, S. A. (2018). *Cognitive behavioral intervention for trauma in schools (CBITS).* Santa Monica, CA: RAND Corporation.

Jones, D. E., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health, 105*, 2283-2290.

Kern, L., Gaier, K., Kelly, S., Nielsen, C. M., Commisso, C. E., & Wehby, J. H. (2020). An evaluation of adaptations made to Tier 2 social skill training programs. *Journal of Applied School Psychology, 36*, 155-172.

Kusché, C. A., Greenberg, M. T., & CPPRG. (2011). *Grade level PATHS (Grades 1-2).* South Deerfield: Channing-Bete Co.

La Greca, A. M. & Landoll, R. R. (2011). Peer influences in the development and maintenance of anxiety disorders. In W. K. Silverman & A. Field (Eds.), *Anxiety disorders in children and adolescents: Research, assessment, and intervention* (2nd ed., pp. 323-346). London: Cambridge University Press.

Langley, A. K., Gonzalez, A., Sugar, C. A., Solis, D., & Jaycox, L. (2015). Bounce Back: Effectiveness of an elementary school-based intervention for multicultural children exposed to traumatic events. *Journal of Consulting and Clinical Psychology, 83*, 853-865.

Lengua, L. J., Honorado, E., & Bush, N. R. (2007). Contextual risk and parenting as predictors of effortful control and social competence in preschool children. *Journal of Applied Developmental Psychology, 28*, 40-55.

Lewis-Morrarty, E., Dozier, M., Bernard, K., Terracciano, S. M., & Moore, S. V. (2012). Cognitive flexibility and theory of mind outcomes among foster children: Preschool follow-up results of a randomized clinical trial. *Journal of Adolescent Health, 51*, S17-S22.

Lochman, J. E., Boxmeyer, C. L., Powell, N. P., Qu, L., Wells, K., & Windle, M. (2012). Coping Power dissemination study: Intervention and special education effects on academic outcomes. *Behavioral Disorders, 37*, 192-205.

Lochman, J. E., Boxmeyer, C., Powell, N., Qu, L., Wells, K., & Windle, M. (2009). Dissemination of the Coping Power program: Importance of intensity of counselor training. *Journal of Consulting and Clinical Psychology, 77*, 397-409.

Lochman, J. E., Powell, N., Boxmeyer, C., Qu, L., Wells, K., & Windle, M. (2009). Implementation of a school-based prevention program: Effects of counselor and school characteristics. *Professional Psychology: Research and Practice, 40*, 476–497.

Lochman, J. E., & Gresham, F. M. (2009). Intervention development, assessment, and adaptation: Importance of developmental models. In M. Mayer, R. Van Acker, J. Lochman, & F. M. Gresham (Eds.), *Cognitive behavioral interventions for students with emotional/behavioral disorders* (pp. 29-57). New York, NY: Guilford Press.

Lochman, J. E., Powell, N., Boxmeyer, C. L., Ford, H., & Minney, J. A. (2014). Beyond disruptive behaviors: Applications of the Coping Power program. In J. Ehrenreich-May & B. Chu (Eds.), Transdiagnostic mechanisms and treatment for youth psychopathology (pp. 293–312). New York, NY: Guilford Press.

Magg, J. W. (2006). Social skills training for students with emotional and behavioral disorders: A review of reviews. *Behavioral Disorders, 32,* 4-17.

Majeika, C. E., Bruhn, A. L., Sterrett, B. I., & McDaniel, S. (2020). Reengineering Tier 2 interventions for responsive decision making: An adaptive intervention process. *Journal of Applied School Psychology*, *36,* 111-132.

Mikami, A. Y. & Hinshaw, S. P. (2006). Resilient adolescent adjustment among girls: Buffers of childhood peer rejection and attention-deficit/hyperactivity disorder. *Journal of Abnormal Child Psychology, 34*, 825-839.

Mitchell, B. S., Stormont, M., & Gage, N. A. (2011). Tier two interventions implemented within the context of a tiered prevention framework. *Behavioral Disorders, 36*, 241–261.

Morsette, A., Swaney, G., Stolle, D., Schuldberg, D., van den Pol, R., & Young, M. (2009). Cognitive behavioral intervention for trauma in schools (CBITS): School-based treatment

on a rural American Indian reservation. *Journal of Behavior Therapy and Experimental Psychiatry, 40*, 169-178.

Pfiffner, L. J., Rooney, M., Haack, L., Villodas, M., Delucchi, K., & McBurnett, K. (2016). A randomized controlled trial of a school-implemented school–home intervention for attention-deficit/hyperactivity disorder symptoms and impairment. *Journal of the American Academy of Child & Adolescent Psychiatry, 55*, 762-770.

Pfiffner, L. J., Rooney, M. E., Jiang, Y., Haack, L. M., Beaulieu, A., & McBurnett, K. (2018). Sustained effects of collaborative school-home intervention for attention-deficit/hyperactivity disorder symptoms and impairment. *Journal of the American Academy of Child & Adolescent Psychiatry, 57*, 245-251.

Pollak, S. D., & Sinha, P. (2002). Effects of early experience on children's recognition of facial displays of emotion. *Developmental Psychology, 38*, 784-791.

Powers, C. J., Bierman, K. L, & The Conduct Problems Prevention Research Group (2013). The multifaceted impact of peer relations on aggressive–disruptive behavior in early elementary school. *Developmental Psychology, 49*, 1174-1186.

Ratcliffe, B., Wong, M., Dossetor, D., & Hayes, S. (2014). Teaching social-emotional skills to school-age children with Autism Spectrum Disorder: A treatment versus control trial in mainstream schools. *Research in Autism Spectrum Disorders, 8*, 1722-1733.

Rimm-Kaufman, S. E., Curby, T. W., Grimm, K. J., Nathanson, L., & Brock, L. L. (2009). The contribution of children’s self-regulation and classroom quality to children’s adaptive behaviors in the kindergarten classroom. *Developmental Psychology, 45*, 958–972.

Rodriguez, B. J., Loman, S. L., & Borgmeier, C. (2016). Tier 2 interventions in positive behavior support: A survey of school implementation. *Preventing School Failure: Alternative Education for Children and Youth, 60*, 94-105.

Roorda, D. L., Koomen, H. M. Y., Spilt, J. L., & Oort, F. J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research, 81*, 493–529.

Shin, S. H., McDonald, S. E., Conley, D. (2018). Profiles of adverse childhood experiences and impulsivity. *Child Abuse and Neglect*, 85.118-126.

Smith, S. W., Cumming, M. M., Merrill, K. L., Pitts, D. L., & Daunic, A. P. (2015). Teaching self-regulation skills to students with behavior problems: Essential instructional components. *Beyond Behavior, 24*, 4 – 13.

Smith, S. W., Daunic, A. P., Algina, J., Pitts, D. L., Merrill, K. L., Cumming, M. M., & Allen, C. (2017). Self-regulation for students with emotional and behavioral disorders: Preliminary effects of the I Control curriculum. *Journal of Emotional and Behavioral Disorders, 25*, 143–156.

Sorensen, L. C., & Dodge, K. A. (2016). How does the Fast Track intervention prevent adverse outcomes in young adulthood? *Child Development, 87*, 429-445.

Stein, B. D., Jaycox, L. H., Kataoka, S. H., Wong, M., Tu, W., Elliott, M. N., & Fink, A. (2003). A mental health intervention for schoolchildren exposed to violence: A randomized controlled trial. *JAMA*, *290*(5), 603-611.

Sugai, G., & Horner, R. H. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child & Family Behavior Therapy, 24*, 23-50.

Thomas, D. E., Bierman, K. L., Powers, C. J., & CPPRG (2011). The influence of classroom aggression and classroom climate on the development of aggressive behavior problems. *Child Development, 82,* 751-757.

Ve´ronneau, M., Vitaro, F., Brendgen, M., Dishion, T. J., & Tremblay, R. E. (2010). Transactional analysis of the reciprocal links between peer experiences and academic achievement from middle childhood to early adolescence. *Developmental Psychology, 46*, 773–790.

Waas, G. A. (2006). Peer relationships. In G. A. Waas (Ed.) *Children's needs III: Development, prevention, and intervention,* 325-340. Washington, DC: National Association of School Psychologists.

Wagner, M., Kutash, K., Duchnowski, A. J., Epstein, M. H., & Sumi, W. C. (2005). The children and youth we serve: A national picture of the characteristics of students with emotional disturbances receiving special education. *Journal of Emotional and Behavioral Disorders, 13,* 79-96.