Tiered Systems of Adaptive Supports and the Individualization of Intervention: Merging Developmental Cascades and Correlated Constraints Perspectives

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Abstract

Although tremendous advances have been made in the development of evidence-based services and strategies to prevent and treat emotional and behavioral disorders (EBDs) in children, often such programs may be necessary but not sufficient to address the circumstances and needs of a specific student. The purpose of this introductory article and this broader special issue on the adaptation and individualization of evidence-based approaches for students with EBD is to consider innovations for tailoring multifactored interventions within tiered systems of support. In this article, we discuss potential ways that current tiered models may be strengthened using information and research strategies from developmental science to more rigorously link intervention to long-term outcomes of youth. We center this discussion on the concepts of developmental cascades and correlated constraints. We then present Tiered Systems of Adaptive Supports (TSAS) as a framework that is developmentally informed to guide individualized intervention. In this model, Tier 1 focuses on adapting general classroom strategies to support the routine daily functioning of all students; Tier 2 focuses on preventing the negative reorganization of a student's developmental system; and Tier 3 focuses on promoting the positive reorganization of a student's developmental system.

Keywords

correlated constraints, tiered systems, adaptive supports, individualized intervention

The individualization of intervention is fundamental to the delivery of services for youth with disabilities (Ludlow, 2014; United States Department of Education, 2020). In the past two decades, tiered intervention frameworks including Response to Intervention (RTI), Schoolwide Positive Behavioral Interventions and Supports (SWPBIS), and Multitiered Systems of Support (MTSS) have emerged that follow a public health model of intervention to promote the school adjustment and success of students, including students with disabilities. In each of these models, Tier 1 (universal) focuses on supports that are aimed at enhancing the functioning of all youth; Tier 2 (selected) is centered on strategies to support the performance or adjustment of youth who are at increased risk of difficulties and who are not responsive to Tier 1 strategies; and Tier 3 (targeted) involves interventions for youth who are manifesting difficulties and who are not responsive to Tier 1 and Tier 2 strategies.

Although tiered models of support have enhanced the school outcomes of many youth, "these efforts have not adequately addressed the unique learning and behavioral needs of most students with disabilities, particularly those who function at the lowest achievement levels or who have the most serious behavioral difficulties" (Danielson & Rosenquist, 2014, p. 6). The current framing and utilization of tiered models of support may actually contribute to increasing gaps in the school outcomes between general education students and students with disabilities (Farmer, 2020; Fuchs et al., 2018). Our goal is to consider potential limitations in the current framing of tiered models, discuss how knowledge from developmental science may help enhance the impact and outcomes of tiered interventions, and propose an expanded framework for tiered models that focuses on the individualization and adaptation of strategies within and across tiers.

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Why Current Tiered Models May Be Ineffective for Students With Disabilities

Tiered models of intervention in education were developed to reflect public health models of prevention. In some ways, the parallel makes sense. Education is viewed as a public phenomenon intended to be available to all children and youth in the population. Similarly, the focus of public health is broad and is aimed at the general population, as well as subgroups who have different levels of risk. The public health model centers on the prevention of disease or disorder (Mrazek & Haggerty, 1994). Universal strategies (Tier 1) are aimed at preventing disease or disorder in the general population, selected strategies (Tier 2) focus on preventing disease or disorder in subgroups who have elevated risk for a particular disease or disorder, and (Tier 3) targeted strategies are designed to ameliorate the impact of disease or disorder for individuals who have manifested risks or symptoms of the disease or disorder.

Public education and the public health model differ in at least one critical way. The goal of public education is to foster the acquisition of knowledge, competencies, and characteristics of students to prepare them for productive and self-determined functioning in adulthood. Such a mission should be centered on the holistic development of the child and bridges multiple domains including academic, behavioral, cognitive, cultural, emotional, physical, and social. The public health model is not focused on the broad development of the individual, but rather it is centered on clarifying the progression of a specific illness or disorder and using that information to guide the creation of prevention strategies relative to the potential risk for developing the disease or disorder. The shift in goals from preventing a specific disease or disorder to fostering the long-term functioning, growth, and adaptation of all children and youth is not trivial and suggests the need for a different framing of educational tiers.

There Are No Universals in Development

The development of youth involves continuous transactions of a dynamic system of factors (Magnusson & Cairns, 1996; Sameroff, 2000). Bronfenbrenner (1996) observed that "development is a process of 'coaction' between on one hand, individual human beings as active, holistically functioning biopsychological organisms and, on the other hand, the equally dynamic multi-level environmental systems in which they live their lives" (p. xvii). Similarly, Gilbert Gottlieb coined the term probabilistic epigenesis to suggest that instead of expecting set patterns of development, it is reasonable to conceive that multidirectional interactions between biology and environment may contribute to functioning and developmental pathways in nonlinear and nonobvious ways (Gottlieb, 1996, 2007).

Therefore, although there may be generalities in development, children and youth can have very different patterns of growth and learning that reflect the contributions of both internal (e.g., biophysical, cognitive, emotional, and self-regulatory) and external (e.g., cultural, ecological, and social) factors operating as a dynamic system (Magnusson & Cairns, 1996). For example, youth of color may experience the same classroom environment differently than majority youth and may need to negotiate multiple and conflicting developmental tasks (Jagers et al., 2019; Rogers & Way, 2018). Likewise, students with disabilities may experience different social opportunities, roles, and relationships relative to nondisabled classmates which may impact their school functioning and adjustment (Farmer et al., 2019). The belief that classrooms can be managed with standardized universal strategies alone and be equally responsive to the needs of all students is based on a misperception that development is universal and ignores heterogeneity in developmental processes and pathways (Farmer, 2020; Jagers et al., 2019; Nasir, 2018).

Limits of RTI Approaches

One feature that is common to almost all current tiered models of intervention in education is the concept of RTI. From a tiered perspective, a RTI approach typically involves starting with a universal intervention (i.e., Tier 1) and moving to successively more intensive and more individualized strategies (Tier 2 and Tier 3) until the student produces the competencies, behaviors, and outcomes that are desired. This approach would seem reasonable if general learning and behavior support needs are universal across students. But as suggested above, students are quite diverse in their developmental experiences and needs and their lack of response to a universal intervention may not necessarily indicate a need for more intensive intervention, but instead (or in addition) may indicate a need for adaptation or tailoring at the universal level.

There seems to be little recognition that individual tailoring and adaptations can be made within any tier and that even with universal approaches, there is a need to tailor strategies to be responsive to high levels of heterogeneity in classroom functioning (Farmer, Gatzke-Kopp, et al., 2016). In addition, students with disabilities, particularly those with or at risk for emotional and behavioral disorders (EBDs), are especially likely to benefit from concurrent and coordinated tiered interventions. Rather than moving to Tier 2 and 3 interventions after Tier 1 interventions "fail," this approach coordinates the implementation of Tier 2 and 3 interventions that offer intensive skill building and individualized supports with Tier 1 interventions that increase positive classroom dynamics and peer supports.

Equifinality, Multifinality, and the Myth of "What Works"

Current tiered models of intervention may be limited by an over reliance on the use of "what works" without sufficient attention to the degree various evidence-based interventions are working in particular contexts or with individual students. Education researchers are expected to develop scripted interventions that are validated with cluster-randomized trials or other experimental designs and, in turn, it is assumed that these strategies will work in the typical classroom if teachers implement them with fidelity (see Slavin, 2020). However, this search for elusive "just add water" interventions that any teacher can pull off the shelf and make work with students with disabilities oversimplifies the heterogeneity of development and the concepts of *equifinality* and *multifinality*. Reflecting a developmental systems perspective, *equifinality* means that the same outcome can result from different cultural, developmental, and ecological factors and experiences while, *multifinality* means that similar cultural, developmental, and ecological factors may lead to distinct outcomes (Causadias & Cicchetti, 2018). On one hand, different youth can get to the same outcome from different circumstances, factors, and processes including different intervention supports. On the other hand, similar youth who receive the same intervention in the same context may have quite different outcomes. Furthermore, contexts can vary from place to place and over time in ways that bring into question the utility of the counterfactual model in experimental research and may limit the generalization and scale-up of evidence-based interventions (Lemons et al., 2014).

Development at the population level is predictable and fairly lawful, yet the potential for novel events and the omnipresent possibility of developmental reorganization at any time in the life course limits our ability to chart the pathways and outcomes of individuals (Cairns, 2000; Elder, 1996). We need to rethink intervention research and delivery to include developmental process information. This does not mean throwing out current research perspectives, but it does mean extending and expanding what we view as being evidence of effective impact. It also does not mean getting rid of tiered systems, but it does suggest a need for more adaptive approaches that optimize student responses at each level of intervention. Effective intervention adaptation, in turn, depends on developing practical and validated data collection systems to inform data-based decision making (Bierman et al., 2006; Lyon et al., 2013) and identifying and validating decision rules to guide tailoring decisions (Collins et al., 2004). In addition, effective tailoring depends on accurate differentiation of the core therapeutic components of an intervention that drive its efficacy and must sustain facets of intervention delivery that can be effectively modified to enhance the engagement and response of subgroups or individuals (Chu & Leino, 2017).

The "gold standard" of cluster-randomized control trials and other experimental designs should be augmented with equally important evidence that can inform the design of these kind of data-based decision-making systems. This includes identifying proximal measures that reflect positive RTI (or lack thereof), exploration of the degree to which and mechanisms by which an intervention impacts the organization of factors within a specific student's developmental system and the trajectory of her or his functioning and school adaptation over time. If an evidence-based intervention does not promote the positive organization of the student's developmental system and if the trajectory of functioning does not improve over time, it is likely that the intervention requires tailoring to improve impact. Using person-oriented analysis with teacher ratings of students' adjustment (e.g., academic and behavioral social), it is possible to identify subtypes of youth with similar interpersonal competence configurations or patterns (ICPs) that are related to trajectories of key developmental process variables such as school belonging, teacher–student relationships, peer acceptance, peer affiliations, and social roles (Chen et al., 2020; Estell, Cairns, et al., 2002; Estell, Farmer, et al., 2002; Farmer et al., 2008). These ICPs and associated developmental trajectories are predictive of important outcomes such as academic failure, substance use, teen parenthood, delinquency, and school dropout (Bergman et al., 2009; Cairns & Cairns, 1994; Farmer et al., 2003; Gest et al., 1999). Using ICPs to identify differential risk and by monitoring students' trajectories of functioning on important developmental process variables, it should be possible to adapt intervention to promote positive outcomes for students with EBD.

How Developmental Information May Enhance Tiered Interventions

There are three key concepts of developmental science and a systems perspective of human development that are particularly relevant for enhancing tiered models of intervention: person-in-context perspectives, developmental cascades, and correlated constraints. Collectively, these concepts form the theoretical foundations for the creation of Tiered Systems of Adaptive Supports (TSAS) for students with EBD.

Person-in-Context Perspectives

Building from ecological systems and transactional models, bidirectional influence between individuals and the environments in which they are embedded plays a critical role in development (Bronfenbrenner, 1996; Sameroff, 2000). This person-in-context perspective posits that development is a process of continual alignment and adaptation between features of the individual and features of the context (Cairns, 1979; Farmer, Chen, et al., 2016). Because they work together as a dynamic system, the various developmental

subsystems tend to constrain each other to promote continuity in patterns of individual functioning (Magnusson & Cairns, 1996). Yet, changes in one or more subsystems in the individual or the environment may promote the reorganization of the entire system and change developmental trajectories in significant ways that influence long-term outcomes (Cairns, 2000; Cairns & Cairns, 1994; Masten, 2001).

Developmental Cascades

Consistent with transactional and systems perspectives, functioning in one developmental subsystem or domain is likely to influence adaptation and functioning in subsequent domains (Magnusson & Cairns, 1996). This transactional process of influence has important implications for understanding children's long-term adjustment and outcomes. The term "*developmental cascades* refer to the cumulative consequences for development of the many interactions and transactions occurring in developing systems that result in spreading effects across levels, among domains as the same level, and across different systems or generations" (Masten & Cicchetti, 2010, p. 491). This means difficulties in a specific domain may spread to other behaviors or functional characteristics within the same domain or contribute to difficulties in other domains. Much of the research on developmental cascades has centered on how problems in one domain contribute to later difficulties in other domains. For example, several studies have found distinct patterns and sequencing of social adaptation, cognitive functioning, externalizing and internalizing behavior, academic achievement, and general school adjustment (e.g., Bornstein et al., 2010; Okano et al., 2020; Racz et al., 2017; Tan et al., 2018). Clarifying the onset and patterns of the developmental course of specific difficulties may enhance the creation and use of selective interventions to alter the sequencing and spread of difficulties to prevent the development of disorder in youth with elevated risk.

Correlated Constraints

The correlated constraints model also builds from dynamic systems and transactional perspectives of development. However, unlike the developmental cascades model where the emphasis is on the sequencing of difficulties in the course of development, the correlated constraints model focuses on how subsystems are organized within the broader developmental system of the individual and how these subsystems coactively operate to contribute to trajectories of functioning and outcomes (Bronfenbrenner, 1996; Magnusson & Cairns, 1996). From this approach, the emphasis is on identifying configurations or patterns of variables that represent the relational functioning of the individual across different subsystems or domains and clarifying how they are related to developmental trajectories and outcomes (Bergman, 2009;

Cairns, 2000). As the developmental system tends to be conservative and fosters alignment among the various domains, problems in a single domain are not likely to result in long-term outcomes if the system becomes organized in a way that compensates for the difficulty (i.e., the other subdomains work to support functional adaptation). However, if the subsystems reorganize in relation to the problem domain then difficulties are likely to emerge in other domains and a developmental system of maladaptive risks can emerge that supports problematic outcomes. For example, students in the Carolina Longitudinal Study who had average or high functioning across the academic, behavioral, and social domains during elementary school were found to have low risk for high school dropout (Cairns & Cairns, 1994). However, students with risk in just one domain only had marginally elevated risk for dropout, whereas elementary students with multiple risks, particularly when risks were reinforced by social roles and peer affiliations, were much more likely to not complete high school and to experience other early adulthood difficulties (Cairns & Cairns, 1994; Farmer et al., 2003, 2004; Gest et al., 1999).

Complementary Perspectives for Guiding Intervention

When considered together, the developmental cascades and correlated constraints models are complementary perspectives that can help guide our thinking about the ways in which adaptation or tailoring might improve the efficacy of interventions at each tier. The developmental cascades model focuses on the sequence and developmental timing of the emergence of EBD while the correlated constraints model centers on clarifying how developmental subsystems are organized and coordinated with each other to collectively contribute to the establishment and maintenance of emotional and behavioral problems.

The developmental cascades model yields critical information about the sequencing of the development of risk and potential impact on other subsystems. This information is helpful for intervention aimed at preventing risk from spreading to other domains and manifesting in EBD. Therefore, it serves as an important conceptual framework for selective (i.e., Tier 2) intervention (Farmer, Gatze-Kopp, & Latendresse, 2020) in which the goal of intervention is to stop the developmental cascade or spread of risk from one subsystem to another.

The correlated constraints perspective suggests that when multiple risks are present in one domain or, perhaps more concerning, extend across multiple subsystems, the child is likely to be manifesting disorder and is at risk for poor long-term outcomes. In such a case, the child's developmental system can be viewed as a system of correlated risks that operate to sustain each other (Farmer & Farmer, 2001). From this vantage, adjustment difficulties can become

canalized and appear to be intractable because the student is embedded within a system of risks (Farmer, Gatze-Kopp, & Latendresse, 2020). In such cases, intervention efforts that target a single subsystem in isolation are likely to be unsuccessful, but adaptation is possible when changes in the system promote, or are supported by, changes within other subdomains in the system (Cairns, 2000). Therefore, a correlated constraints perspective provides important insights for targeted (i.e., Tier 3) intervention. For students who have correlated risks across multiple subsystems (i.e., youth with EBD), intervention should be carefully coordinated to foster the positive reorganization of the developmental system by ameliorating risks and fostering strengths across the different domains in a systematic way (Farmer et al., 2007; Sutherland et al., 2018). Often coordinating concurrent interventions across levels of support is a useful way to approach this goal, with Tiers 2 and 3 strategies providing intensive individual supports and Tier 1 strategies fostering more positive supports in the classroom and peer group contexts.

Students who experience difficulties across multiple domains (i.e., manifest EBD) are likely to require intensive intervention for extended periods. This does not mean poor outcomes are inevitable. The developmental cascades model is sometimes viewed as suggesting that risk accumulates in a linear sequence and is resistant to intervention once disorder manifests. For example, it has been proposed that late onset conduct problems are temporary and malleable, whereas sustained early onset conduct problems are considered to be predictive of adulthood difficulties (Moffitt, 1993). Although the early/late onset model describes epidemiological trends, developmental research suggests that this distinction reflects a false dichotomy (Gatzke-Kopp et al., 2013). For example, a prospective study of males examined life course trajectories of antisocial behavior in childhood, adolescence, and adulthood (Stattin et al., 2010). Although adolescent limited offenders did not differ much in adulthood from nonoffenders as suggested by Moffitt's work, there was an equally large childhood-onset desister group who were relatively well adjusted in adolescence and adulthood. There was also a group of males who started offending in adolescence and who had sustained problems into adulthood. These findings support a correlated constraints perspective and suggest that developmental reorganization, for good or ill, can occur at any point in the life course.

Re-Imagining Tiered Models as TSAS

From RTI to Responsive Interventions

Students differ from each other and they differ from themselves from time-to-time and moment-to-moment. It is common to have teachers say that a particular intervention works for some students, but not for others. Or a teacher may indicate that an intervention used to work for a particular student, but does not work anymore or only works sometimes. This is the real world.

To give teachers the sense that an intervention will work unfailing without modification or adaptations is unrealistic. An intervention that has been found to work in cluster-randomized control trials and certified by the What Works Clearinghouse (WWC) does work. However, it works in a probabilistic manner. This means it will have an outcome in a positive and desired direction more frequently than expected by chance when compared to the counterfactual. It does not necessarily mean that it works for all students, all the time, or even that it will work for most students. It just means that it is better than the counterfactual.

Following an RTI approach, if an intervention does not work it is easy to attribute the failure to the need for a more intensive intervention. This may not always be the case. It is possible that the intervention is necessary, but not sufficient. It is also possible that a particular intervention is not a good fit. A lack of fit may be due to cultural, developmental, or ecological factors that are not adequately addressed by the intervention. This does not always mean that a more intensive intervention is needed. It means teachers, special educators, and other related service providers need to understand the background, strengths, competencies, and needs of the student as well as school and community factors that contribute to diverse learners' adjustment in the classroom (Farmer et al., 2019; Juvonen et al., 2019). Conceptually, this can be done by shifting from an RTI format to adaptive intervention delivery and context management formats that are responsive to cultural, developmental, and ecological factors (Farmer, Hamm, et al., 2020; Hymel & Katz, 2019; Talbott et al., 2020; Trach et al., 2018). To do so effectively, school-based intervention research needs to expand beyond a focus on adherence and group effect sizes to also consider and validate practical strategies for monitoring proximal RTI, tailoring options to improve engagement and impact for individuals who are not benefiting and decision rules to guide the choice of optimal tailoring options (Collins et al., 2004; Lyon et al., 2013).

Refocusing the Aims of the Different Tiers

The TSAS model of intervention is a reframing and expansion of current tiered models, particularly MTSS where the focus is on the integration of academic, behavioral, and social factors. As we have suggested previously (Farmer et al., 2007; Farmer & Farmer, 2001), the TSAS model extends beyond school to include informal and formal community contexts and agency supports consistent with systems-of-care approaches and services. A brief, but not exhaustive summary of the TSAS framework is outlined in Table 1.

Table 1. The Tiered System of Adaptive Supports Framework for Students With EBD.

Tier	Goal	Sample-specific aims	Sample strategies
1: Universal	Adapt general classroom strategies to support the routine daily functioning of all students	1. Make recurring daily activities predictable and reinforcing 2. Promote and reinforce students' engagement in activities to enhance their success 3. Manage the social context to promote students' productive interactions and relationships with classmates	1. Develop individual routines for starting/ending activities 2. Pace instruction with strategies (e.g., opportunities to respond and behavior momentum) that foster engagement and success 3. Be attuned to social dynamics and use natural peer group processes to promote positive relations and to complement SEL programs and strategies
2: Selected	Prevent the negative reorganization of the student's developmental system	1. Identify risk in a specific domain and use data-based strategies to ameliorate the risk 2. Leverage data about student's developmental functioning to monitor the potential spread of difficulties to other domains 3. Leverage data about student's developmental functioning to strengthen competencies and to build new ones in relevant developmental subsystems	1. Identify practice elements of EBPs that align with the risk and focus on increasing skills and competencies in risk domain 2. Be attuned to the student's functioning in other domains and create supports to sustain success in these domains 3. Foster new competencies, strengths, and relationships to support functioning in the risk domain and to prevent risks developing in other domains
3: Targeted	Promote the positive reorganization of the student's developmental system	1. Identify configurations of risks and strengths that reflect the student's overall functioning 2. Identify malleable risks and coordinate their amelioration with other domains 3. Enhance new competencies with experiences, roles, and relationships that strengthen and reinforce them 4. Use formal and informal supports in the school and community to reframe the opportunities, roles, experiences, and relationships of the student to complement intervention efforts	1. Identify practice elements of EBPs that align with malleable risks and intervene to enhance skills in the relevant domains in a coordinated manner 2. Monitor how changes in one domain impact behavior and other domains to foster the spread of correlated strengths 3. Foster new competencies, roles, and relationships to support new patterns of functioning across multiple domains and monitor risks to reduce negative impact on the developmental system in both the school and community

Note. EBD = emotional and behavioral disorder; SEL = social and emotional learning; EBPs = evidence-based programs.

TSAS universal intervention. TSAS Tier 1 strategies are grounded in an adaptive dynamic systems perspective that recognizes the heterogeneity of students in classrooms and the diversity of their support needs. In the TSAS model, the concept of universal strategies does not mean "one size fits all." Rather, the word "universal" reflects its use in the term "universal design for learning." Universal design for learning (UDL) involves being responsive to the diverse needs of children and youth by proactively and flexibly designing and delivering a range of strategies to reach the maximum number of students by being aware of the needs of specific learners and planning how to effectively address them (King-Sears, 2020). Although TSAS was not designed for UDL, it is consistent with its aims and principles. The goal of Tier 1 in the TSAS model is to create routine supports for the commonplace aspects of the daily functioning of all students by being aware of each student's needs and making planned, systematic adaptations to ensure their productive

engagement in everyday classroom activities (Farmer et al., 2019; Farmer, Gatze-Kopp, & Latendresse, 2020; Farmer, Hamm, et al., 2020).

As outlined in Table 1 (also see Farmer et al., 2007, 2019; Farmer, Hamm et al., 2020), Tier 1 of the TSAS model centers on creating adaptable universal supports that promote the everyday functioning of all students in the class, including students with EBD. For example, consider a student with ADHD who has significant self-regulation difficulties that make it difficult to follow whole-class instructions. To address this, a routine for starting class may be established where the student works independently on an engaging but easily completed skill preparation task while the teacher gets the rest of the class started. Then the teacher gives individual and explicit instruction for the student for the class activities. After the student has been successful in independent work, the teacher can engage the student in whole-class instruction with carefully paced

strategies (e.g., opportunities to respond and behavioral momentum). The teacher should monitor social dynamics and the physical placement of the student in the classroom to take into consideration peers who support the student's positive behavior and peers who elicit problem behavior from the student. Coordinating these efforts with selected or targeted strategies such as friendship group social and emotional learning (SEL) training (Bierman et al., 2020) can foster real-world use of new skills and competencies learned in more intensive settings. The overarching goal is to create an everyday context in which the student can be successful. This is not intensifying intervention, rather it is leveraging intervention through individualization. These adaptations can be critical for youth with EBD.

TSAS-selected intervention. TSAS Tier 2 strategies focus on youth who experience risk in a specific domain of functioning, but who otherwise demonstrate adequate competencies and strengths in most domains. Building from a systems perspective and consistent with a cascade model of development and prevention, the goal of selected intervention is to prevent the negative reorganization of the student's developmental system (Farmer & Farmer, 2001). To do this, it is necessary to increase the skills and competencies of the student in the domain of difficulty. But it is also necessary to monitor other domains and prevent the spread of difficulty into these domains by creating experiences, opportunities, and relationships that strengthen them. For example, for a student who struggles academically, Tier 2 intervention would go beyond efforts to ameliorate the academic problems by also supporting social strengths and relationships as well as positive patterns of behavior (Farmer et al., 2007).

As outlined in Table 1 (also see Farmer et al., 2007, 2019; Farmer, Hamm et al., 2020), Tier 2 TSAS interventions are aimed at preventing the negative reorganization of the developmental system of a student. Using the example above of the student with ADHD and self-regulation problems, the difficulties that are manifested center around academic issues. The student has difficulty learning and doing well on assignments. But the student is athletic, generally friendly, and liked by some classmates. Generally, the student does not have behavioral difficulties, but sometimes becomes frustrated during class and can become angry when it is difficult to complete assignments. Also, the student sometimes gets upset if others laugh at a wrong answer. In this scenario, it is critical to help the student with self-regulation skills, ideally using coordinated Tier 1 and Tier 2 programming, such as the Fast Track project use of the PATHS Curriculum (Tier 1) and Friendship Group program (Tier 2; Bierman et al., 2020). It is also critical to continue pacing the student during instruction while bolstering academic strategies that are responsive to the self-regulation difficulties. Likewise, it is necessary to monitor the social context to prevent teasing and bullying and ensure the student maintains positive social roles and relationships that support positive patterns of behavior (Farmer et al., 2019; Farmer, Hamm, et al., 2020). Research is needed to provide teachers with the tools, information, and/or consultation support to guide them in these sorts of assessments and tailoring of interventions, with decision trees that offer the guidance needed to link intervention adaptation to relevant developmental process variables (Bierman et al., 2006; Farmer, Chen, et al., 2016; Farmer et al., 2018).

TSAS-targeted intervention. TSAS Tier 3 strategies focus on youth who have demonstrated symptoms or the manifestation of disorder and who are characterized by risk across multiple domains of functioning in school and/or community ecologies. From a TSAS perspective and reflecting the concept of correlated constraints, the goal of targeted intervention is to foster the positive reorganization of the student's developmental system (Farmer & Farmer, 2001). This means ameliorating difficulties across multiple domains, building and supporting new competencies, and creating informal and formal opportunities, social roles, and relationships that help to maintain and expand positive skills and characteristics. This is a process that must be done with careful monitoring and coordination. The aim is to identify malleable factors that can most readily be strengthened, to change behavior in ways that reinforce new competencies while prompting positive changes in other domains, and working with other malleable domains to ameliorate risk or to prevent negative impact on the system (Farmer et al., 2007).

As outlined in Table 1, targeted intervention is likely to involve multiple agencies and professionals working in a coordinated system of care framework. For example, consider a girl in fifth grade who is two grades behind same age peers, who is frequently absent from school, who bounces from foster home to foster home, and who often bullies classmates and frequently gets into fights. There is a need for social interventions that focus on self-regulation as well as anger management and alternatives to aggression. But there is also a need to make school a reinforcing environment and one where the student can experience and expect daily success. Furthermore, there is a need to promote positive relationships in the community that may include strengthening and supporting the foster care placement. It is also likely to be beneficial to help the student establish a positive relationship with other community adults such as a coach, a volunteer mentor, or a skills instructor who can connect with her in a domain (e.g., academics, arts, music, sports, and yoga) where she has natural interests and abilities and can experience success. Such efforts should be carefully coordinated and designed to reinforce and support each other with adaptations being made based on the student's progress, needs, and evolving circumstances.

Reframing Service Delivery

The critical importance of data. Although interventions to intensify academic instruction often involve data-based decision making and adaptations (e.g., Danielson & Rosenquist, 2014; Fuchs et al., 2014), many behavioral and social interventions are designed to be implemented with fidelity in a structured and scripted manner with little room for modification. Yet, social and behavioral functioning typically occurs within dynamic contexts and requires interventions that take into consideration the contributions of the ecology. Consistent with a dynamic systems perspective, there is a need to recognize that efforts to intervene with a specific developmental domain (e.g., academic, behavioral, and social) are likely to influence and be influenced by other domains of functioning or developmental subsystems (Lyon et al., 2013; Maggin et al., 2016). It is necessary to not only assess the impact of the intervention on the specific domain of interest, but to also monitor the potential impact on other subsystems at both the context and individual levels. Ongoing progress monitoring is necessary to keep abreast of the interplay between the intervention, the dynamics of the context, and the adaptation of individual students.

Directed consultation (DC) is an intervention support and progress monitoring system designed to integrate practice elements of evidence-based programs (EBPs) into daily activities within classroom and school ecologies (Farmer et al., 2018). It involves four linked components conducted in an iterative and recursive fashion: scouting reports; tailored general training; ongoing support; and implementation consultation which are described in detail in other works (see Farmer et al., 2018; Motoca et al., 2014).

Although it is necessary to have a systematic approach to assess and intervene with the context as a foundation for intervention, it is critical to have an equally systematic but responsive approach to assess the needs of specific students and to tailor interventions to their characteristics and circumstances (Bierman et al., 2006). To address this, systematic progress monitoring (see Farmer, Gatzke-Kopp, et al., 2016; Farmer et al., 2018; Farmer & Farmer, 2001; Sutherland et al., 2018) and the scouting report (see Farmer, Chen, et al., 2016) can each be conducted at the individual level.

To adapt interventions to the specific needs, resources, and strengths of students with EBD and the contexts they are embedded in, it is necessary to include both systematic progress monitoring and scouting report data. Specific approaches for doing this will depend on a variety of factors. Yet, such efforts should be guided by two related aims: the positive organization of a system of developmental factors; and improvement in patterns or trajectories of developmental process variables over time (Farmer & Farmer, 2001). Additional research is needed to clarify the level and type of data collection that is necessary to guide decision making for specific issues and circumstances as well as how to use such data to link to practice elements of EBPs.

The fundamental necessity of experts. Beyond reframing tiered systems to include a focus on adapting interventions, there is a related need to rethink the view that if teachers just implement evidence-based practices with fidelity, everything will work. Evidence-based practices are important, but they do not replace expertise. Expecting that general educators can simply follow an evidence-based practice to meet the needs of students with EBD in their classroom is likely to be unsuccessful. They need the guidance of experts to assist with data collection, intervention selection, and the modification of interventions in relation to data on changes in various developmental subsystems. Expertise to do this requires understanding the practice elements of EBPs (e.g., Sutherland et al., 2019), a strong knowledge about developmental processes across critical domains of functioning (e.g., academic, behavioral, ecological, emotional, health, psychological, and social), and the ability to use data about the student's functioning to bring together information about practice elements and developmental processes to guide the implementation and adaptation of interventions for students with intensive needs (Farmer et al., 2018; Maggin et al., 2016; Sutherland et al., 2018).

The need for intervention specialists. Building on the need for experts who can use data to guide developmentally and ecologically responsive multifactored interventions, there is a need to prepare special educators, school psychologists, and/or school social workers to work as intervention specialists in school settings. Although intervention specialists may take on some direct service responsibilities, they should be primarily responsible for: developing the various supports in the tiers of a TSAS; creating a data use structure to monitor the use and adaptation of specific evidence-based programs; providing teachers with consultative support within a directed consultation framework; building linkages with formal and informal supports in the community; overseeing general classroom management and behavior support activities; leading the development of individualized intervention plans for students with EBD; and directing a team of professionals within a systems-of-care framework to support individual students (Farmer & Farmer, 2001; Farmer, Chen, et al., 2016; Motoca et al., 2014; Talbott et al., 2020).

Conclusion

Many advances have been made in the past several decades that enhance services for students with EBD. These advances include prevention perspectives; MTSS that integrate interventions across the academic, behavioral, and social domains; social emotional learning initiatives and programs; evidence-based programs; and systems-of-care services. These approaches can be enhanced and more fully integrated using a systems perspective to leverage information about

natural developmental processes to adapt and combine strategies to create comprehensive data-driven interventions that are responsive to the cultural, developmental, and ecological factors that are critical to the success of individual students. By developing relevant data collection and use structures, preparing experts in the development and treatment of EBD to serve as intervention specialists, and creating TSAS, we should be able to build upon RTI approaches and enhance our capacity to more effectively individualize interventions. A critical aspect of the TSAS model is that practice elements of EBPs are not tier specific and can be used across various tiers for different purposes as long as data show that the strategy is meeting the goal of the specific tier (e.g., Tier 1—supporting the student's functioning in daily activities; Tier 2—preventing the negative reorganization of the student's developmental system; Tier 3—promoting the positive reorganization of the student's developmental system). In sum, merging developmental cascades and correlated constraints perspectives to create adaptive services that are responsive to students' circumstances and needs should increase the likelihood that they will experience positive outcomes as they move through their school years and transition into adulthood.

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