


Using readiness to understand implementation challenges in school mental health research

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Abstract

Schools and research partners are increasingly implementing complex, multicomponent interventions and school-wide frameworks to better meet students' social, emotional, behavioral, and academic needs; however, in the research and real-world contexts, implementation is often fraught with many challenges and barriers to success. This study explores implementation barriers encountered during a randomized controlled trial testing effects of one complex intervention strategy—the Interconnected Systems Framework—from the lens of a practical model for conceptualizing organizational readiness—the Interactive Systems Framework for Dissemination and Implementation. Implementation of the Interconnected Systems Framework was explored via focus group and key informant interviews with school and mental health professionals, and research team members responsible for implementing the intervention in randomly assigned study schools. Results from inductive thematic analysis of verbatim transcripts identified three primary implementation challenges: staff turnover, inadequate leadership buy-in, and insufficient time for training/planning. Each challenge is explored from interview participants' perspectives and the extant literature, then connected to recommendations from implementation science to help others avoid similar challenges in their well-intentioned efforts to address the mounting concern for students' wellbeing.

KEYWORDS

innovation, Interactive Systems Framework for Dissemination and Implementation, Interconnected Systems Framework, organizational readiness, school-based implementation, support system

1 | INTRODUCTION

In response to the unmet and compounding social, emotional, and behavioral needs of youth, calls for more systematic alignment of resources to better meet these needs have been intensifying. Multitiered systems of support more efficiently align resources to promote well-being of all students at Tier 1, identify all students with social, emotional, behavioral needs as they emerge, and respond quickly with targeted and tertiary intervention strategies at Tiers 2 and 3, respectively. The Interconnected Systems Framework (ISF) is a three-tiered model of support for students' social, emotional, and behavioral needs implemented by a team of collaborating educators, school-employed mental health professionals (e.g., school psychologists, school social workers, and school nurses), and school-based clinicians from the mental health system. The ISF was developed in the late 2000s and has enjoyed support from national centers, workgroups, and advisory groups with implementation in more than 50 communities and growing (Eber et al., 2020).

Funded by the National Institute of Justice (Interconnecting School Mental Health [SMH] and Positive Behavioral Interventions and Supports [PBISs]: A randomized trial, #2105-CK-BX-0018, 2016–2020), a randomized controlled trial (RCT) was conducted on the ISF as compared with schools implementing PBISs (see www.pbis.org) alone or schools implementing PBIS with additional clinicians from the mental health system without specific guidance on school integration as in the ISF. Results of this first RCT on the ISF are promising, with ISF schools showing improved identification of students in need of more intensive intervention, more interventions delivered to these students, reduced school discipline, and enhanced intervention receipt and reduced school discipline for youth of color, relative to the two comparison conditions (Weist et al., 2021).

In addition to the substantial work and change required to implement the ISF (whether in a study as above, or in practice), it is widely documented that evidence-based practices (EBPs) with promising results in efficacy trials often show fewer positive outcomes in real world settings (Greenhalgh et al., 2004). Given that many schools/districts may be unprepared for the significant work and systems change required to achieve outcomes such as those demonstrated in the above-mentioned RCT, investigation into the organizational readiness of schools implementing the ISF can help us understand barriers to successful implementation and recommend strategies for providing more effective support to interested schools. Although this RCT yielded a number of positive findings (see Weist et al., 2021), impacts of the ISF were likely constrained by a number of challenges that could have been addressed through systematic connection to themes related to readiness.

This study applies a model of organizational readiness from the Interactive Systems Framework for Dissemination and Implementation (Wandersman et al., 2008), which specifies the systems and capacities necessary for moving research-based interventions into effective practice in schools. It specifies and organizes the individual, contextual, and system factors that influence readiness to adopt and implement an innovation (a program, policy, practice, or process that is new to the school). Although there is increasing attention to barriers and facilitators for implementation in school and mental health settings, most of this study is narrowly focused on implementing problem-specific programs and interventions, such as trauma-focused cognitive behavioral therapy (Connors et al., 2021; Eiraldi et al., 2015). In contrast, this study examines an innovation requiring significant systems change and reorganization of resources into a school-wide, multitiered system of support within the demands of a RCT.

We first describe the ISF, then review common barriers to school readiness, to implement effective interventions from the lens of the Interactive Systems Framework for Dissemination and Implementation. To avoid confusion in this study, the Interactive Systems Framework is referred to as “organizational readiness” and the ISF is referred to as “the innovation” hereafter. Next, we describe three challenges identified by focus group participants (i.e., school and mental health professionals implementing the innovation in the RCT) as impacting their organization's readiness to implement effectively. Finally, we conclude with a discussion of proactive strategies to reduce innovation implementation barriers of the innovation, including a recommendation to enhance support system effectiveness by encouraging data-based decision-making and action planning based on the regular assessment of a school's readiness for implementation of the innovation.

1.1 | Innovation rationale

Responding to mounting evidence linking academic achievement to students' social, emotional, and behavioral functioning (Darney et al., 2013), schools are increasingly expanding their focus to include supporting the behavioral and mental health needs of their students (Stephan et al., 2015). PBIS and more comprehensive SMH involving education–mental health system partnerships are promising innovations commonly implemented in schools to promote and address students' social, emotional, and behavioral functioning. Despite similar aims and structures (e.g., tiered continuum of interventions), they often operate in an uncoordinated, idiosyncratic manner with modest results (Domitrovich et al., 2008; Sugai & Horner, 2020). Promoting alignment and integration between PBIS and SMH represents an opportunity to leverage strengths and address key limitations within each approach and should result in improved outcomes for students and schools. The ISF innovation provides specific guidance on how schools can systematically interconnect SMH clinicians and programming with PBIS systems, data, and tiered practices, first articulated in a monograph (Barrett et al., 2013) and more recently expanded upon in an implementation e-book (Eber et al., 2020).

1.2 | PBIS

Currently, in over 26,000 American schools, PBIS represents one of the most widely used frameworks for improving student academic, social, emotional, and behavioral outcomes (Sugai & Horner, 2020). Based on principles of applied behavior analysis and utilizing a public health approach, PBIS intervention strategies are delivered according to three tiered levels of need: universal strategies for all students that focus on creating a positive school climate, consistently setting and reinforcing behavioral expectations, and employing effective classroom management strategies (Tier 1); targeted or selective strategies to prevent worsening of problem behaviors for students at risk or showing early signs of behavioral issues (Tier 2); and individualized, intensive strategies to reduce the severity of ongoing problem behaviors for students who are most chronically or severely at risk of poor outcomes (Tier 3) (Sugai & Horner, 2002).

A substantial body of evidence documents the effectiveness and feasibility of PBIS (Sugai & Horner, 2020). When schools implement universal Tier 1 PBIS supports, staff and teachers report an increased clarity of purpose and organizational efficiency, predictable coordination of intervention resources, perception of teacher efficacy and trust among staff, and emphasis on getting grades among students relative to staff and teachers in schools not implementing PBIS (Bradshaw et al., 2009). PBIS implementation reduces student problem behavior, office disciplinary referrals, and out-of-school suspensions when compared with schools not implementing PBIS (Bradshaw et al., 2010) with optimal effects realized when schools implement all three tiers of the PBIS model rather than just universal PBIS supports alone (Grasley-Boy et al., 2021). In addition, PBIS implementation relative to schools not

implementing PBIS has demonstrated positive effects on perceptions of school safety, experiences of bullying and peer rejection, and academic performance (Horner et al., 2009; Waasdorp et al., 2012).

As a framework, PBIS's critical strength lies in its strong conceptual foundation in implementation science and its institution of systems and protocols necessary for sustained, scalable implementation (Fixsen et al., 2005; McIntosh et al., 2013), especially at Tier 1 (Sugai & Horner, 2020). However, the majority of PBIS schools struggle to offer a full continuum of support at Tiers 2 and 3, to address the behavioral and emotional needs of students with more complex or severe mental health concerns (Sugai & Horner, 2020).

1.3 | SMH

Comprehensive SMH systems bring together school and community mental health partners to improve both the quantity and quality of mental health services provided. Together, district and community partners provide a continuum of mental health services in the school building(s) that aim to support all students, families, and members of the school community (U.S. Department of Education, 2021). For students with mental health needs, having a community provider within the school can reduce key financial and structural barriers to obtaining care. In fact, students are 3–10 times more likely to seek help for mental health issues when attending a school with SMH clinicians than at schools without SMH (Bains & Diallo, 2016). Synthesis of the extant SMH intervention research suggests SMH services also reduce the stigma of help-seeking relative to baseline (Nabors & Reynolds, 2000), increase early identification of mental health needs (Weist et al., 1999), improve student emotional and behavioral functioning (Sanchez et al., 2018), improve academic outcomes (Suldo et al., 2014), and promote maintenance of treatment gains (Evans, 1999; Pfiffner et al., 2018) compared with randomized control conditions, and enhance school climate and connectedness relative to statistically matched schools without mental health services in the building (DiGirolamo et al., 2021).

Although SMH has significant potential, these services are frequently described as fragmented and inadequate (Greenberg et al., 2003), criticized for lacking a consistent implementation structure, and poor use of data and EBPs (Weisz et al., 2006), and deprioritized because of disconnection from other school-based student supports and services (Conrad & Brendel, 2020). Interdisciplinary collaboration within the school—especially when the clinician is employed by a community-based mental health provider—has been identified as a persistent challenge for SMH clinicians (Mellin, 2009; Weist et al., 2006). SMH clinicians may continue to provide treatment in schools as they would at a community-based center: students are referred due to significant symptom-related distress and impairment, and receive reactive, individual therapy rather than proactive, coordinated care complemented by existing Tier 1 and Tier 2 supports (Splett et al., 2018; Weist et al., 2018).

1.4 | The innovation: The ISF

There has been a strong call for the improved integration of education, behavior, and mental health services in schools to enhance learning, promote health, and improve outcomes for all students (Atkins et al., 2010; U.S. Department of Education, 2021). The innovation outlines a model for coordinating PBIS and SMH systems and staff to improve educational outcomes for all students, especially those at risk of/with mental health challenges who require intervention and support for educational success. As a framework, the innovation emphasizes the following: establishing effective, interdisciplinary collaborative teams; utilizing data-based decision-making; improving EBP selection and implementation; facilitating early identification and intervention through universal mental health screening; monitoring interventions rigorously for fidelity and effectiveness; and providing ongoing coaching and technical assistance at the systems and individual levels, to ensure quality implementation (Barrett et al., 2013).

The innovation is designed to capitalize on the strengths of PBIS and SMH, and to address the limitations experienced by each model alone. The framework supports executive level leaders from school districts and community mental health organizations as they coalesce around a shared vision and mission to support the wellness of staff, students, and families within the school community (Eber et al., 2020; Weist et al., 2018). Executive leaders form a District Community Leadership Team to develop an integrated action plan and MOU among partners that outline the ways in which they will support the installation steps of the innovation within schools (Eber et al., 2020; Splett et al., 2017). By operating within a single system of delivery, school and community providers can offer students greater depth and quality of interventions at Tiers 2 and 3. By teaming together, school staff and SMH providers can support the continuum of care from promotion to treatment and maximize SMH's impact on all students through interventions that promote wellbeing and build coping skills (Reaves et al., 2022).

Capitalizing on the strong implementation structure of PBIS teams, the innovation provides a structure for scaling up SMH implementation, evidence-based intervention selection, and data monitoring through routine interdisciplinary collaboration (see Splett et al., 2017 for examples). Promoting collaboration between school staff and SMH partners supports improved outcomes for students, service providers, and schools (Mellin, 2009). Previous research has demonstrated that integrating universal prevention efforts focused on behavior (PBIS) and mental health/social-emotional learning results in significantly greater improvements in overall student mental health and reductions in externalizing behaviors versus business-as-usual or standalone intervention conditions (Cook, Lyon, et al., 2015).

Although results of the RCT are promising with positive effects on several proximal and distal outcomes (Weist et al., 2021), the implementation demands to achieve these outcomes are significant and fraught with multiple complex and daunting challenges. Mounting evidence suggests a myriad of substantial barriers to implementing and sustaining school-based health and mental health interventions during and after externally funded research periods (Herlitz et al., 2020). Without an organizing framework from which to understand these barriers, they may appear idiosyncratic and subsequently overwhelming to education and mental health leaders impairing their likelihood to adopt and implement with effectiveness. This may be exacerbated during times of major disruption, such as the coronavirus disease 2019 pandemic, with ever-changing circumstances for school and mental health professionals, and escalating risk for youths' mental health and wellbeing (Leeb et al., 2020; Pier et al., 2021). In this study, we aim to provide a better understanding of these barriers such that the once seemingly insurmountable challenges may be more clearly understood as alterable deficits with specific, viable strategies for addressing them. To this end, we next review some of the key barriers and then present a theoretical framework for examining, organizing, and addressing them.

1.5 | Barriers to implementing and sustaining effective school-based interventions

It is well-documented that implementing and sustaining interventions in educational and community settings is fraught with many challenges. For example, in a systematic review of sustaining school-based health interventions after external funding concludes, Herlitz et al. (2020) identified 24 studies where no interventions were sustained in their entirety with fidelity to the original model. Yet, reviews of implementation fidelity overwhelmingly suggest implementation fidelity influences outcomes. In an extensive review of the influence of implementation fidelity on program outcomes, Durlak and DuPre (2008) found that interventions with high fidelity can be up to 12 times more effective at achieving outcomes than those that are poorly implemented. Three prominent barriers to implementing and sustaining school-based interventions with quality are turnover, inadequate administrative support, and limited time (Herlitz et al., 2020).

1.5.1 | Turnover

Frequent turnover is a serious threat to the sustainability of innovations in schools (Anderson-Butcher et al., 2010; Forman et al., 2009) and to the functioning of teams responsible for implementation. Turnover can diminish

innovation-specific knowledge and skills for implementing the innovation, leading to reduced commitment to, consistency in, and quality of implementation (Andreou et al., 2015). Turnover also poses a critical threat to the functioning of collaborative teams. Frequent turnover of any member within the team may negatively affect staff morale, team performance and productivity, organizational effectiveness, and staff commitment to interdisciplinary collaboration (Green et al., 2013). Given how central collaborative teams are to the innovation (Splett et al., 2017), turnover may seriously threaten program success and limit positive outcomes.

1.5.2 | Administrative support

Inadequate support from administration limits the implementation and sustainment of EBP in SMH (Forman et al., 2009; Pinkelman et al., 2015). Administrators are instrumental in recruiting and maintaining broad support for an initiative. When they clearly communicate their support for an innovation, this attitude “trickles down” to staff (McIntosh et al., 2014; Mellin & Weist, 2011). Further, staff implementation fidelity is more strongly correlated with principal's support for the innovation than with the staff's personal characteristics or their capacity to implement (Debnam et al., 2013). Additional barriers—including poor conceptual understanding of the innovation by staff, insufficient planning time, difficulty balancing competing initiatives, and excessive dependence on technical assistance—are often encountered when administrators fail to support an innovation (Debnam et al., 2013).

1.5.3 | Time

Limited time directly mitigates against introducing a new innovation in schools. This is a significant tension, because high-quality training and coaching, associated with improved implementation fidelity (Becker et al., 2013; Cook, Lyon, et al., 2015) and positive student outcomes (Reinke et al., 2014), takes time. In this context, staff may push for briefer training events, without ongoing implementation support, even though these approaches are not associated with meaningful or sustained change (Frank et al., 2020; Joyce & Showers, 2002).

In addition to these three prominent barriers, many other challenges, such as limited funding, perceived complexity of the innovation, differing views on the intervention, and its benefits, can constrain implementation of an innovation, even when it is supported through the resources of a research study (see Durlak & DuPre, 2008; Herlitz et al., 2020). Any one or all of these barriers may seem overwhelming and insurmountable to most school and mental health leaders and researchers. Thus, it is no surprise many innovative school health interventions are not sustained after external funding ends, regardless of effects detected (Herlitz et al., 2020). However, when evidence suggests an innovation, such as the ISF, improves outcomes, understanding the barriers to implementation is critical for informing strategies that address them and increase the likelihood schools can implement with effectiveness. This underscores the need for a systematic approach to examining and organizing the readiness barriers to implementing innovative programming in schools.

1.6 | A framework for supporting successful implementation

The Interactive Systems Framework for Dissemination and Implementation (Wandersman et al., 2008) is a framework for understanding the function and needs of various stakeholders (e.g., researchers, technical assistance centers, practitioners, and funders) interested in successfully bridging the gap between innovation outcomes in research and typical practice. It identifies three systems involved in moving knowledge from research into widespread use as follows: the synthesis and translation system, which integrates information about innovations and makes it accessible for use by implementers; the support system, which supports the work of implementers (e.g.,

school staff), by using processes such as training and technical assistance to build and maintain the implementers' ability to do so successfully; and the delivery system, the people, or institutions (e.g., schools), which carry out the activities necessary to implement an innovation. Successfully moving an innovation into practice requires the following: (1) interaction and communication between these three systems and (2) sufficient organizational readiness to implement an innovation (or capacity to help build that readiness) within the support and delivery systems (Wandersman et al., 2008).

1.6.1 | Organizational readiness as $R = MC^2$

Organizational readiness, the extent to which an organization is both willing and able to implement a given innovation, is essential to successful implementation (Greenhalgh et al., 2004; Holt & Vardaman, 2013). Up to half of failed organizational change efforts may be due to inadequate organizational readiness for change (Kotter, 1996, as cited in Weiner, 2009). When readiness is overlooked and organizational readiness is insufficient, an otherwise appropriate intervention may not produce desired outcomes (Pasmore & Fagans, 1992).

Scaccia et al. (2015) offer a practical implementation science formula for organizational readiness, $R = MC^2$, which describes readiness (R) as composed of three distinct components as follows: (1) the motivation (M) to implement an intervention, (2) the general capacity (C) of an organization to implement any innovation, and (3) the innovation-specific capacity (C) needed to successfully implement a particular innovation. Each of the three main readiness components is further divided into subcomponents. Although not exhaustive, these subcomponents are designed to help stakeholders identify specific variables that facilitate quality implementation, which, if low, could benefit from capacity-building efforts. Subcomponents for motivation, general capacity, and innovation-specific capacity are listed in Table 1.

An organization's readiness for an innovation exists on a continuum; organizations (e.g., schools) are not simply "ready" or "not ready," but rather demonstrate differences in readiness as "a matter of degree." Organizations can differ in their level of readiness across the three major components, reporting high readiness in some components and low readiness in others. If any of the components is absent or exceptionally low, the organization cannot be considered ready to implement an innovation. Attempts to implement the innovation will likely fail until most or all areas of inadequate readiness are addressed. In addition to possessing the ability to implement an innovation (i.e., innovation-specific capacity), the delivery system must also be motivated to do so. The support system plays a vital role in helping real-world settings, like schools successfully implement innovations by building readiness in motivation and capacity. Similarly, given the significant challenges school and mental health leaders experience implementing school-based health interventions (Herlitz et al., 2020), such as the ISF innovation, it is likely the organizational framework of $R = MC^2$ could inform the implementation practices of the support and delivery systems to overcome these challenges, which when viewed idiosyncratically may feel insurmountable.

1.7 | Purpose

This study applies the organizational framework of $R = MC^2$ to the implementation of the ISF innovation to inform the development and adoption of strategies that act on the barriers most likely preventing quality and sustained implementation in schools. To this end, we apply the $R = MC^2$ framework to the experience of delivery and support system professionals implementing the ISF innovation in the ISF RCT. We make connections between their experiences and the theoretical framework of organizational readiness to demonstrate the added value of such considerations and provide valuable recommendations for practitioners implementing an innovation, as well as researchers facing challenges achieving intended outcomes. As the first study to apply $R = MC^2$ and the Interactive Systems Framework for Dissemination and Implementation to a school-based health innovation, our findings and recommendations have great potential to help educators and mental health leaders more systematically address the mounting risks for children and youths' wellbeing.

TABLE 1 Summary of readiness components and subcomponents

Component	Subcomponent	Definition
General capacity	Innovativeness	Openness to change in general.
	Resource utilization	Ability to acquire and allocate resources including time, money, effort, and technology.
	Culture	Norms and values of how things are done in the setting.
	Climate	The feeling of being part of the setting.
	Leadership	Effectiveness of the organization's leaders.
	Process capacities	Ability to plan, implement, and evaluate.
	Staff capacities	Having enough of the right people to get things done.
	Internal operations	Effectiveness at communication and teamwork.
Innovation-specific capacity	Innovation-specific knowledge and skills	Sufficient abilities to do the innovation.
	Champion	A well-connected person who supports and models this innovation.
	Supportive climate	Necessary supports, processes, and resources to enable this innovation.
	Interorganizational relationships	Relationships among organizations that support this innovation.
	Intraorganizational relationships	Relationships within the organization that support this innovation.
Motivation	Simplicity	This innovation seems simple to use.
	Priority	Importance of this innovation compared with other things the setting does.
	Relative advantage	This innovation seems better than what the setting is currently doing.
	Compatibility	This innovation fits with how the setting does things.
	Ability to pilot	Degree to which this innovation can be tested and experimented with.
	Observability	Ability to see that this innovation is leading to desired outcomes.

2 | METHOD

2.1 | Description of larger study

The RCT, which is reflected upon for this study, was funded by the National Institute of Justice (see Acknowledgments) and involved 24 elementary schools, 12 in South Carolina, and 12 in Florida (see Table 2 for school demographic information). At both sites, four schools were randomly assigned to PBIS alone, four were assigned to PBIS plus SMH (i.e., with no support for interconnection), and four were assigned to the innovation condition. The study involved an

TABLE 2 Demographics of schools enrolled in the Interconnected Systems Framework randomized controlled trial

Sample characteristics	N	%
Locale urbanicity		
City	4	50
Suburb	2	25
Town	0	0
Rural	2	25
Title 1		
Yes	6	75
No	2	25
Total students		
≤600	3	37.5
601–800	4	50
≥801	1	12.5
Student teacher ratio		
≤15:1	3	37.5
>15:1	5	62.5
Student race/ethnicity		
≤49% White	3	37.5
50%–74% White	3	37.5
≥75% White	2	25
Free lunch count		
≤49%	1	12.5
50%–74%	2	25
≥75%	5	62.5

Note: Region divisions were identified via the U.S. Census Bureau's regional divisions map retrieved from https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf. All other demographic characteristics were extracted from the U.S. Department of Education's National Center for Education Statistic's Common Core Data (2017–2018) website: <https://nces.ed.gov/ccd/schoolsearch/>.

intervention versus comparison phase in the 2016–2017 and 2017–2018 school years, with follow-up assessment of students in middle school in 2018–2019. It is currently in the analysis and dissemination phase with papers reporting effects on proximal and distal outcomes under Peer Review. To provide context for the current investigation of study schools' organizational readiness to implement the ISF innovation, a description of the RCT follows.

2.2 | Innovation delivery system

The eight elementary schools assigned to the innovation condition constitute the delivery system for the innovation in this study. As all schools were already implementing PBIS, schools assigned to the innovation condition were

instructed and supported to (1) expand their PBIS teams to include the SMH clinician, (2) implement universal mental health screening, (3) develop protocols for regular review of school wide data, interpretation of screening results to connect students to interventions, as well as monitoring fidelity and individual student intervention progress to inform decisions, and (4) implement evidence-based SMH interventions across all tiers. Readiness to implement the innovation was assessed via initial ratings of PBIS implementation fidelity and a baseline assessment of innovation implementation fidelity.

2.3 | Innovation support system

For schools implementing the innovation, the support system included professional development, technical assistance, and ongoing support for implementing the framework, provided by the research team and district-employed coaches. Specifically, these schools received intensive training from content experts, including two full days of training at the beginning of each school year, bimonthly training and implementation support from a national leader in innovation, and additional on-site support and training from study principal investigators and school-level coaches. School-level coaches were hired by the school district and community mental health agencies, to provide on-site coaching and support to the schools, and included both a full-time, district-hired coach/program specialist and a part-time community mental health coach using grant funding. These coaches engaged as members of the district- and school-level innovation teams, cultivated relationships within each school, assisted with implementation of core elements of the innovation (e.g., providing guidance on EBP selection and data-based decision-making, coordinating and participating in team meetings, and assisting with action plan development and evaluation), communicated with stakeholders, and ensured that staff received appropriate training and technical assistance for selected interventions. Coaches received ongoing supervision and support from the innovation technical assistance director weekly and were critical members of the district and community leadership workgroups.

Within the two school districts, district and community mental health leadership were convened at least quarterly throughout the study period. Leadership teams were tasked with assisting schools with installation steps before adoption of the innovation, supporting implementation within schools, as well as developing a plan to sustain and scale the innovation efforts within their district beyond the research project. The team comprised the organization's point of contact for the study, the coaches, and an administrator from each of the innovation schools. These team members had authority over the necessary organizational resources and policies to support successful implementation at the school level, which is a crucial component of installing the innovation (McIntosh et al., 2014). For example, they created the structures needed for a single set of teams within the schools.

2.4 | Participants and data collection procedure

Three 90 min focus groups were conducted with delivery and support system professionals (13 total participants; 10 females) from three elementary schools in South Carolina randomly assigned to implement the ISF innovation in the RCT. District-level coaches recruited participants from delivery and support system staff responsible for implementing the ISF innovation in South Carolina study schools. Professional positions represented included the following: school psychologists, administrators (principals and assistant principals), school counselors, mental health clinicians, school-level innovation coach, and school-based academic and behavioral coaches. Each school had two years of experience implementing the innovation before the focus group. Questions addressed in the focus groups were designed to solicit information about the team's perception of their school's organizational capacity to implement the innovation and how this facilitated or created barriers to successful implementation. Focus groups were conducted by two researchers in three of the four interviews, with one interview conducted by a single researcher. Two of the three interviewers were involved in the implementation of ISF the previous year and were

familiar with the participants. Eleven questions were asked in each focus group. Seven questions focused on the school's general capacity, addressing the culture, climate, structure, innovativeness, resource utilization, leadership, staff capacity, and process capacity of the school in general. Four questions focused on innovation specific capacity, addressing the specific knowledge and skills needed to implement the innovation, how program champions support the innovation, innovation implementation supports and structures, as well as interorganizational relationships in place to support the innovation. Focus groups were conducted in each school team's individual school building, recorded, and transcribed.

Five semistructured key informant interviews were conducted by the second author with research and implementation support staff in South Carolina and Florida (three coinvestigators, the innovation technical assistance director who worked closely with school-level innovation coaches, and project manager) to reflect on readiness-related challenges and successes at both sites.

2.5 | Analysis

All focus group and interview recordings were transcribed verbatim and analyzed with an inductive thematic analysis approach (Braun & Clarke, 2006) where transcripts were read and reread looking for meanings and patterns related to implementation challenges and perceived deficits in organizational readiness. The identified codes across both focus group and interview transcripts were preliminarily grouped into categories by the second author who then presented them to all coders and key informant interview participants for verification. Consensus focused on ensuring internal homogeneity and external heterogeneity of categories (Patton, 1990), in addition to ensuring the categories were consistent with their experiences. Finally, the categories were organized into a thematic map that connected them to components of readiness identified in Table 1. This facilitated interpretation of the categories within the organizational readiness literature and identification of related recommendations to address them (see Table 3).

3 | RESULTS

Three primary categories of implementation challenges and organizational readiness deficits emerged and are described below with representative quotes. In describing the challenges, we also identified their perceived impact on implementation. Their connection to relevant components of organizational readiness and strategies for improvement are specified in Table 3 and described further in the Section 4.

3.1 | Challenge 1: High turnover among project staff and partners

Consistent with other studies (Anderson-Butcher et al., 2010; Andreou et al., 2015; Forman et al., 2009), high turnover of individuals responsible for the innovation implementation—including SMH clinicians, school and mental health agency administrators, innovation team members, and support system coaches—was a significant concern during the study. Study schools in the ISF innovation condition experienced significant turnover among district, community, and school-level leadership as the project progressed from initial buy-in through implementation years, including changes in both districts' superintendents, a majority of principals, and several leadership-level individuals within the community mental health agencies directly involved with innovation implementation.

High turnover is largely attributed to low general capacity factors such as poor organizational climate and culture (Glisson & James, 2002). When these general capacity factors are perceived as being low, individuals report high stress, a lack of support, and low levels of job satisfaction innovation and commitment

TABLE 3 Summary of readiness analysis and suggestions for improvement

Challenge	Readiness analysis	Strategies for improvement
High staff turnover	Poor organizational climate and culture leading to low staff capacity, structure, and innovation-specific knowledge and skills	<ul style="list-style-type: none"> • Organizational-level interventions, school and district leadership training to improve climate (Aarons & Sawitzky, 2006; Green et al., 2014) • Workforce incentives to reduce clinician turnover (Mellin & Weist, 2011) • Protected time for innovation-related responsibilities (Kramer et al., 2000) • Train additional staff as potential replacements (Andreou et al., 2015) • Rotate team member roles to build capacity (Strickland-Cohen et al., 2014) • Plan refresher trainings in subsequent years (Strickland-Cohen et al., 2014) • Manualize intervention instructions, roles, procedures (Forman et al., 2009)
Insufficient buy-in and support from school, district, and community leadership	Low organizational innovativeness and motivation leading to low motivation, implementation climate supports, and leadership	<ul style="list-style-type: none"> • Build motivation for innovation in initial school, district, and community leadership trainings (Anderson-Butcher et al., 2010) • Prioritize building strong District-Community Leadership Team (McIntosh et al., 2016; Splett et al., 2017) • Institutionalize support via written policy, innovation-related performance standards and expectations (Strickland-Cohen et al., 2014) • Provide regular updates on innovation progress and impact (Forman et al., 2009) • Encourage active innovation involvement by school leaders (e.g., principals; Strickland-Cohen et al., 2014; Forman et al., 2009)
Insufficient time for training and planning	Low implementation climate supports leading to low innovation-specific knowledge and skills	<ul style="list-style-type: none"> • Build buy-in with school and district leadership (Ringeisen et al., 2003) • Include expectations for training participation in MOUs (Strickland-Cohen et al., 2014) • Structure trainings to strengthen motivational factors (Andreou et al., 2015) • Extend implementation timelines for innovations that call for system transformation (Eber et al., 2020)

(Aarons & Sawitzky, 2006). When turnover is frequent, innovation team members may feel that they are constantly “starting over” with new people. General staff capacity and innovation-specific knowledge and skills may suffer. Stakeholders expressed these sentiments, including one (school-level school psychologist) who shared:

“We’ve had a lot of changes this year, it’s been a very transitional year, and I think with that there’s a lot of rebuilding of systems; sometimes it ends up stronger, sometimes maybe it ends up not being as

strong as it was previously, and so I think we're in a building year right now, and so I wouldn't say we're as strong as maybe we have been in the past, or that we're where we need to be."

3.2 | Challenge 2: Insufficient buy-in and prioritization from leadership

Throughout the study, there was emphasis on building and maintaining buy-in from district and school-building leadership. Maintaining this buy-in was challenged by turnover experienced in key positions. For example, one stakeholder (school-level literacy coach) shared that the leadership turnover and staff changes created confusion for implementing the ISF stating:

"people are still deciding they can do them their own way. In some cases, that's accepted, and in other cases it's not accepted, so even though different people are choosing different paths, this person may be reeled back in, whereas this person may not be; maybe there's a trust of this person and there's not here, but that's not even apparent to me sometimes as to why certain people are allowed to do things."

As described previously, a District-Community Leadership Team (DCLT) was developed at each of the two study sites and intended to provide overall guidance on implementation, and building and maintaining buy-in among education and mental health staff and stakeholders. However, the DCLTs did not systematically communicate how the innovation was linked to their agency's or school's overall priorities via a mission statement or strategic plan, which may have provided mixed messages about whether the innovation would continue after the project period.

As innovation-related goals were not included as part of a larger district strategic plan, some school, district, and/or agency leaders may not have viewed involvement in the study as a priority. This lack of priority for installing an integrated system from executive-level leadership led to challenges with staffing and accountability. For example, regarding staffing challenges, a school-level administrator reported

"They're (district leadership) the ones who decide what programs, and which initiatives we have, and when to take them away without telling us, or take personnel away from us which they've done before without giving us a heads-up. So, there's always that little bit of fear there, or ok, then don't buy-in because they're gonna change this in a few months, or you won't have the person that was in charge of helping us implement this anymore, so those decisions, I'm not kidding you, are sometimes like one day, and the next day gone without really a rhyme or reason to even school leadership."

When staff were clearly not implementing the ISF innovation, coaches provided feedback and support but were not viewed as staff with authority to guide the change process with ongoing accountability. Coaches reported feeling powerless to push them to implement concepts taught in training, as they perceived they were not granted the authority from district leadership to hold school staff accountable.

3.3 | Challenge 3: Insufficient time for training and planning

Within the current study, three in-person days of professional development were conducted each year. Additional training was provided to clinicians via webinars, as well as both virtual and on-site technical assistance. Although this level of training and implementation support is comparable to many EBPs, stakeholders shared the need for additional training to improve implementation. For example, one school leader stated:

“And I think a lot of the times, sometimes people don't get the adequate training that they need to go along with the resource, and so taking a step back and going, “if we have this resource, why aren't they using it?” There has to be a reason, so is there additional training that needs to happen.”

There is a strong relationship between staff training and implementation success. School staff who receive high-quality training are more likely to implement an innovation with greater fidelity (Becker et al., 2013; Cook, Lyon, et al., 2015), sustain implementation (Frank et al., 2020), and achieve better student outcomes (Reinke et al., 2014) compared with school staff who do not receive sufficient training. Training is necessary for providing not only the knowledge and skills necessary to implement an innovation, but for creating the desire to do so successfully (Leeman et al., 2015). For example, one school principal shared their thoughts regarding effects of training on buy-in and motivation to implement the ISF saying “when you ask people what they're truly gonna use and need, it's not just given to them, that that's, you know, that solves a little bit of that problem.”

Moving through the various stages of concern associated with successfully implementing a new innovation takes time often not afforded by grant schedules; however, prematurely transitioning from training to expectations of full implementation without adequate time for exploration and planning activities may compromise staff members' motivation and ability to benefit from continued technical assistance. Another school principal shared about what generally happens after trainings with insufficient time and activities to cultivate motivation and capacity to implement saying: “Every time we get a new reading series or something, it's never fully implemented. We'll get this and this, and it's just enough to get you going, but hardly ever is it just everything you need.”

4 | DISCUSSION

Experiences during the RCT demonstrated that systems-level innovations in schools, such as more problem-specific intervention programming (Herlitz et al., 2020), face numerous challenges to achieving relatively smooth adoption and implementation. By looking at the implementation challenges (i.e., staff turnover, inadequate school, district, and community leadership buy-in, and insufficient time for training/planning) through a readiness lens, barriers that might appear idiosyncratic (e.g., a vocal skeptic in a key school team or district leadership role, high rates of turnover, difficulty fitting sufficient trainings into the grant and school calendars, and lack of accountability to fidelity) could be linked to predictable deficits in readiness. In the middle column of Table 3, the challenges reported by stakeholder participants are examined and connected to the components of readiness, including motivation, and general and innovation-specific capacities specified in the $R = MC^2$ heuristic. In research reviewed previously, similar barriers and facilitators to implementing EBPs in school and mental health settings were identified (see Connors et al., 2021 and Eiraldi et al., 2015). Yet, in this study, the barriers to implementing a multitiered, school-wide framework requiring systems change in at least two partnering agencies are identified by stakeholders from both the prevention delivery and support systems.

When examined from a readiness lens, these challenges can be organized and linked to components of readiness that have been studied and addressed in the extant literature. For example, challenges posed by high staff turnover not only impact staff capacity to get things done but also impact the norms and values of how things are done in the setting (General capacity per Table 1), and the knowledge and skills to do any specific innovation such as the ISF (Innovation-specific capacity per Table 1; Flaspohler et al., 2012). In the readiness analysis of stakeholder-identified challenges, many instances of general capacity issues are identified (e.g., low organizational climate and culture; organizational innovativeness; school, district, and community leadership buy-in; and staff capacity) along with innovation-specific capacity (e.g., knowledge and skills, and innovation climate) and motivation (e.g., priority). Although these challenges may seem insurmountable when considered independently, connecting them to components of readiness provides a range of empirically-supported strategies to address them. In the final column of Table 3, we extend the readiness analysis of the stakeholder-identified challenges to corresponding empirically supported strategies.

In addition to the strategies offered in Table 3 in direct relation to the corresponding deficits in readiness, we also identified several overarching recommendations for improving readiness to implement a systems-level framework such as the ISF innovation. Although not exhaustive, these recommendations are based on our review of the pattern of readiness deficits identified by delivery and support system stakeholders where emphasis on general capacity deficits and motivational issues seemed to outweigh concerns for innovation-specific capacities. These include an initial focus on generating support from school, district, and community leadership; establishing accountability for innovation implementation as intended through Memoranda of Understanding (MOU); and enhancing the effectiveness of the support system through systematic evaluation of readiness.

4.1 | Focus on generating support from leadership

Previous research on the role of leadership support in innovation implementation highlights how preimplementation leadership training can promote motivation for the innovation (Greenhalgh et al., 2004; McIntosh et al., 2016). Within this training, the authors note that it is important for school and district leadership to understand the innovation's compatibility with their schools' values and perceived needs. Educational leadership preparation programs frequently neglect to draw attention to the importance of SMH and the critical role school and district leaders can play in developing and sustaining SMH partnerships that benefit their students (Papa, 2018). Therefore, considerable time might be necessary to help educational leaders understand the connection between student social, emotional, and behavioral functioning and academic success. Demonstrating alignment between a school's perceived needs, values, existing structures, and the goals of an innovation preimplementation is essential for the school to see the innovation as a good fit.

Innovations that are perceived as simple to use are more easily adopted; therefore, initial messaging and training should attempt to reduce the perceived complexity of the innovation by presenting manageable steps that can be adopted incrementally. It is critical to convey the relative advantage of implementing an innovation that requires additional effort from school staff, by sharing anticipated benefits in effectiveness based on work with other schools. Principals in particular have identified learning about successful implementation examples from other administrators as pivotal to their believing that innovation implementation was feasible and positive outcomes possible for their own school (McIntosh et al., 2016).

Utilizing strategies outlined in the monograph for the ISF innovation (Barrett et al., 2013) and its second volume (Eber et al., 2020), district and community leaders can coalesce around the steps for exploration, adoption, and installation of the core features of the innovation. Early commitment and prioritization of the new way of work is critical for success. For example, as implementation begins, having principals articulate to school staff how the innovation aligns with district strategic goals and enhances work they are already doing within PBIS promotes buy-in and motivation. In addition, simultaneous to implementation and ongoing coaching, having regular communication, sharing successes, challenges, and data between school-level teams and district-community leadership allows for maintaining support and motivation, as well as the continuous quality improvement of the innovation, to take place.

4.2 | Establish accountability for the innovation through MOUs

When leadership support for an innovation is inconsistent, the support system may find it difficult to ensure there is accountability for complying with the training and implementation expectations of an innovation (Debnam et al., 2013). In the ISF innovation, developing a strong MOU between the school district and mental health partner specifying the roles and responsibilities of each organization and their staff with regard to training requirements, meetings, and innovation implementation is an essential component of collaborative work between multiple

systems before beginning implementation (Splett et al., 2017). Both the first and second volumes of the ISF innovation monograph (Barrett et al., 2013; Eber et al., 2020) emphasize the importance of a MOU and provide guiding questions to facilitating its development within the DCLT's readiness preparations, including consideration of perceived barriers to working together on blended innovation teams (e.g., how staff time is funded and confidentiality). The process of developing an MOU can serve as an initial assessment of each partner's readiness for implementing the innovation; resistance to terms that would support quality innovation implementation may indicate that partners are lacking in either capacity or motivation for the innovation.

By specifying procedural details within the MOU, schools and mental health partners can proactively establish a more supportive implementation climate by addressing how some of the existing responsibilities of innovation team members and coaches will be reallocated to accommodate their new innovation-related roles. Once established, MOUs provide grounds for accountability to innovation fidelity and increase the perceived priority of innovation-related tasks, even in the face of turnover by staff, program champion, or leadership as implementation unfolds.

4.3 | Enhance effectiveness of the innovation support system with $R = MC^2$

Lastly, by incorporating organizational readiness, there is a substantial opportunity to enhance the ability of innovation support system coaches to anticipate likely implementation barriers and build a school context supportive of quality innovation implementation. According to the Interactive Systems Framework (Wandersman et al., 2008), successful implementation of an innovation such as the ISF requires schools to have sufficient organizational readiness for change, which entails not just capacity specific to the innovation—a frequent focus of support staff—but also general capacity and motivation (Scaccia et al., 2015).

Under the current innovation implementation design, technical assistance and training provided by innovation coaches before and during implementation is focused on developing innovation-related knowledge and skills and supporting implementation of innovation-specific actions (e.g., reviewing universal mental health screening results). Implementation progress is actively monitored by coaches and innovation fidelity is biannually assessed by the school-based team, who then develop an integrated action plan to identify priorities for further quality improvement. Innovation coaches are primarily focused on promoting fidelity of the innovation implementation; factors that facilitate quality implementation, such as the general functioning of the school or motivation for implementing the innovation, may be noted through experience but are not formally assessed, monitored, or identified by the team as improvement targets. When motivation and/or general capacity are low, implementation challenges, including those described above (e.g., inadequate prioritization from leadership, turnover, insufficient time for training, or coaching), may arise. Innovation teams and coaches react to those challenges as best they can to continue to make progress on the innovation implementation, with varying degrees of success. At the extreme, barriers may result in delayed or poor-quality implementation, with an expectation that innovation-related outcomes and observable impact will be limited.

The purpose of the support system is to build and maintain the ability of school-based teams to effectively implement the innovation with quality. It has been clearly established that implementation quality matters for producing desired outcomes and that adequate organizational readiness is necessary for quality implementation (Durlak & DuPre, 2008). As multiple components (i.e., general capacity, innovation-specific capacity, and motivation) interact to determine an organization's readiness, the support system's effectiveness at facilitating quality implementation will naturally be diminished if its focus is limited to only one component—usually innovation-specific capacity. Expanding the view of the support system beyond innovation-specific capacity to include other contributors to readiness may allow them to better anticipate and proactively address barriers to quality innovation implementation with the help of the innovation team.

Under this readiness-enhanced innovation support system model, innovation coaches are tasked with helping their school-based innovation teams regularly and systematically assess, monitor, and improve all facets of their

school's readiness to implement the innovation, including innovation-specific capacity, general capacity, and motivation. Consistent with their biannual practice of assessing innovation fidelity, coaches would invite innovation teams to reflect on readiness-assessment results, come to a consensus on indicators for targeted improvement, and use an action-planning process to improve prioritized readiness components. Readiness results could be used by innovation coaches to inform the delivery of site-specific technical assistance (TA) to support successful implementation. Taking a proactive stance towards assessing, addressing, and monitoring potential threats to innovation implementation may help to reduce the frustration that results from recurrent reactive crisis management and help to strategically develop the capacities likely to facilitate high-quality innovation implementation, positive outcomes, and long-term sustainability (Anderson-Butcher et al., 2010).

Although additional research is necessary to determine the most effective strategies for customizing support to build organizational readiness (Greenhalgh et al., 2004; Leeman et al., 2015), Flaspohler et al. (2012) identified the ongoing assessment of a school's readiness for SMH-related innovations as crucial to promoting their successful adoption and implementation. Prior research warns that neglecting to address factors that affect adoption seriously jeopardizes the success of any project seeking to introduce a new idea into an organization and assessing readiness is one way of understanding and anticipating likely barriers and facilitators of innovation adoption in a given school district (Greenhalgh et al., 2004). Using the $R = MC^2$ readiness heuristic and its associated Readiness Diagnostic Scale (Domlyn et al., 2021) proactively identifies potential barriers to successful implementation, as well as strategies to address identified barriers. The Wandersman Center has formalized a Readiness Building System that uses $R = MC^2$ to build readiness using: (1) a readiness diagnostic scale, (2) feedback reports, (3) prioritization of readiness subcomponents, and (4) a readiness action plan and change management strategies to build readiness (Wandersman Center, 2019).

5 | CONCLUSION

Realizing improvements in student social, emotional, behavioral, and academic realms is more probable through the effective integration of mental health and education systems, structures, and staff in schools (Cook, Lyon, et al., 2015; Stephan et al., 2015; U.S. Department of Education, 2021). The ISF innovation provides a promising procedural blueprint for guiding integration between PBIS and SMH; however, successful implementation and positive outcomes may be limited without also providing dedicated capacity-building efforts (Ringeisen et al., 2003). Capacity building is important for supporting the adoption and implementation of EBPs in schools, as it is widely believed that the gap in outcomes between research and practice can be attributed to differences in capacity (Anderson-Butcher et al., 2010; Flaspohler et al., 2012).

When implementation support is provided to schools, it frequently focuses on the development of capacities specific to the innovation. However, capacity-building efforts attending only to innovation-specific capacities are less likely to overcome the significant, unanticipated implementation barriers often faced in schools (Forman et al., 2009). A school's ability to implement an EBP with quality is also influenced by contextual factors, including the school's general capacity (e.g., organizational climate, innovativeness, leadership buy-in, and resource utilization) and motivation to adopt an innovation (Bruening et al., 2018; Flaspohler et al., 2012).

To effectively support quality implementation of the innovation, the support system must expand its focus beyond the "what" (fidelity) and "how" (innovation-specific capacity) of implementation; it must also assess the general functioning of the context and the strength of its "why" (motivation). Organizational readiness provides a useful and comprehensive framework by which the support system can systematically measure, strategically address, and continuously monitor potential implementation facilitators and barriers. By attending to readiness in its entirety, coaches and school-based teams invested in student success can take a proactive approach to innovation implementation and foster an environment ready, willing, and able to demonstrate the positive outcomes that result from quality implementation.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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