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Elizabeth E. Hubert

The Impact of Socio-Economic Status and Implementation Factors on School Mental Health
Implementation Outcomes

Elizabeth E. Hubert

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Reading Committee:

James J. Mazza, Chair

Clayton R. Cook

Aaron R. Lyon

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University of Washington

Abstract

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Elizabeth E. Hubert

Chair of the Supervisory Committee:

Professor James J. Mazza

Educational Psychology

Up to one-fifth of students have social, emotional, or behavioral difficulties that warrant support. Additionally, schools are the primary location in which students receive this support. Numerous evidence-based practices (EBPs) addressing student mental health have been developed for implementation in school settings; however, the uptake of EBPs in schools for students with mental health difficulties remains low.

The field of implementation science focuses on the mechanisms that connect research and practice. A key component of implementation science is the link between implementation factors and implementation outcomes. This study investigates the relationship among three inner-organizational implementation factors (strategic implementation leadership, implementation climate, implementation citizenship behavior), school socio-economic status (SES), and three intervention outcomes (adherence, competence, and penetration). Strategic implementation leadership constitutes specific behaviors that leaders enact in order to influence

implementers in support of successful implementation. Implementation climate embodies employee perceptions of the utility and value of EBP use in an organization. Implementation citizenship behavior is defined as discretionary behavior exhibited by school staff that supports EBP implementation.

In order to investigate this topic, secondary analysis of data collected from an online survey was conducted. The 125-item survey was distributed to all 212 members of a large network of California educators who provide consultative and behavioral health intervention services to students and staff members in public schools representing rural, urban, and suburban settings. A subset of items from the original survey was analyzed in the present study; 196 of the 212 people solicited responded to the survey.

The three inner-organizational factors (strategic implementation leadership, implementation climate, implementation citizenship behavior) showed moderately strong correlations with each other; however, SES was not correlated with any of these factors. Additionally, three multiple linear regression models were used to determine whether strategic implementation leadership, implementation climate, implementation citizenship behavior, and SES were associated with penetration, adherence, and competence. Finally the interaction between SES and each predictor variable was investigated to see if they were associated with outcomes. For each outcome (penetration, adherence, and competence), the three inner-organizational implementation factors combined accounted for significant variance in the model, and strategic implementation leadership was associated with adherence, competence, and penetration. There were no significant interactions between SES and the three implementation factors under study.

The findings in this study highlight the importance of developing inner-organizational factors to support implementation outcomes. Of the three factors under study, strategic implementation leadership was significantly associated with each implementation outcome lending support for the importance of developing strong implementation leadership within schools. Additionally, the combined salience and strong relationships among the three inner-organizational factors studied herein, lend support for the development of these factors to promote implementation outcomes.

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Chapter One: Introduction

The issue of child mental health services has been ongoing and neglected in the educational system for the past 20 years (Burns et al., 1995). In their paper reporting on children's mental health service use, Burns et al. (1995) uncovered that 70 to 80 percent of children receiving services for a mental health conditions were receiving those services in the school setting. Recent reports have shown that up to 20% of school-age children are in need of social, emotional, or behavioral support necessitating the delivery of effective interventions in individual and group formats in school environments (Rones & Hoagwood, 2000; World Health Organization, 2004).

Research regarding effective school-based interventions for social, emotional and behavioral difficulties has stressed the use of preventive models of services delivery that incorporate Evidence Based Practices (EBPs; Averill & Rinaldi, 2011; Stormont, Reinke, Herman, & Lembke, 2012; Sugai & Horner, 2002). However, a great deal of the studies that show the efficacy of a given intervention have been conducted in tightly controlled research conditions making school professionals reticent to implement interventions that may not be a good fit for the context of their school (Owens et al., 2014). Similarly, Gottfredson and Gottfredson (2002) conducted a survey of 554 schools to determine what evidence-based mental health prevention activities were in place and the levels of implementation for each program. They found that less than half of the programs were implemented at a level similar to that of a research setting (Gottfredson & Gottfredson, 2002). In order to bridge this research to practice gap, a greater knowledge of the relationships among salient implementation factors, the impact of contextual factors such as socio-economic status, and implementation outcomes within school

settings is imperative. Such research would provide educators and stakeholders with areas in which to strengthen implementation efforts (Durlak & Dupre, 2008; Forman et al, 2013).

As part of a proposed school mental health research agenda, Owens and colleagues (2014) discussed the importance of investigating factors within the school organization that have an impact on implementation outcomes. These inner organizational factors (such as administrative support for EBP implementation, EBP implementation climate, and implementation citizenship behavior) have particular salience to EBP implementation because they are part of a microsystem that educators experience and interact with on a daily basis. Because of this proximity to the workforce, inner organizational factors are closely linked to actual implementation behaviors which in turn are linked to implementation outcomes (Aarons, Hurlburt, & Horwitz, 2011).

Additionally, there is a dearth of research investigating the relationship between implementation factors (specifically those found in the inner organizational context) and the level of economic disadvantage in schools (Eiraldi, Wolk, Locke, & Beidas, 2015). There is evidence that supports the notion that for economically disadvantaged schools, a lack of resources or access to EBPs is not what is preventing improved outcomes. Rather, preliminary research suggests that schools serving students in impoverished communities are faced with greater barriers to implementation than students from communities with higher socio-economic status (Atkins, Hoagwood, Kutash, & Seidman, 2010).

This study investigated the relationships among implementation outcomes, socio-economic status, and three inner context implementation factors (strategic implementation leadership, implementation climate, implementation citizenship behavior). The specific implementation outcomes under study included intervention fidelity (adherence and competence)

and penetration. Secondary data analysis from an online survey distributed in October 2015 was used to examine correlational relationships among the three factors and socio-economic status. Additionally, multiple linear regression was used to analyze the relationships among the three implementation factors, SES, and implementation outcomes. Finally, the ways in which SES interacts with each of the three implementation factors in association with the implementation outcomes was examined.

It is hoped that the results of this study will add to the current implementation science literature by investigating the impact that inner organizational factors have on implementation outcomes. Additionally, it is hoped that these study results will shed some light on the apparent disconnect between availability of EBPs in schools with low socio-economic status (SES) and the low levels of implementation of EBPs in these schools.

Chapter Two: Literature Review

Over the past several decades, schools have grown from being a place where educators have focused only on the academic attainment of children to a place where education of the whole child is taking precedence (Atkins et al., 2010). The necessity of educating the whole child has grown out of the knowledge that our students need services that go beyond reading, writing, and arithmetic. Research has shown that one out of every six children in our schools today have a diagnosable mental health disorder and that over one-third of children will have at least one psychiatric disorder by the time they have reached the age of 16 (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). As the need for schools to provide necessary mental health services to students grows, so does the need to implement interventions with success and sustainability.

Addressing Student Mental Health Needs

Students come to school with a myriad of issues that can impede their success in school. Some students have significant barriers that can restrict their ability to learn, and these barriers manifest differently for each child (Stormont et al., 2012). For example, some may take the form of academic difficulties; others may take the form of behavioral or emotional difficulties (Stormont et al., 2012). Up to 20% of students need support for behavioral and emotional problems, and if those students receive mental health services at all, they will most likely be served in the school setting (Rones & Hoagwood, 2000; World Health Organization, 2004). However, many students in schools do not receive the services they need to treat their emotional and behavioral difficulties (Merikangas et al., 2010; Merikangas et al., 2011). This creates a long-term societal problem because untreated mental health symptoms may lead to future diagnosable disorders and/or academic difficulties and interpersonal difficulties (Masten et al.,

2005; Mazza et al., 2009; Nolen-Hoeksema, Girgus, & Seligman, 1992; Stormont et al., 2012). Additionally, mental health problems are related to school dropout and other outcomes such as suicide and incarceration (Dube, et al., 2001; Garcia, Greeson, Kim, Thompson, & DeNard, 2015; Sachs-Ericsson, Rushing, Stanley, & Sheffler, 2016). Not only is identification an issue, but providing a service delivery model that addresses the different needs of students and the severity of mental health difficulties is also a challenge. However, within the past 10-15 years, the focus on using a multi-tiered systems approach that provides services to all students has been empirically supported; the literature identifies this approach as a Multi-Tiered System of Supports or MTSS.

Multi-Tiered Systems of Support for Mental Health in Schools

Prevention and intervention delivery to support mental health through a multi-tiered system of supports (MTSS) addresses the needs of all students through frequent assessment, appropriate evidence-based intervention delivery, progress monitoring, and data-based decision making (Averill & Rinaldi, 2011). MTSS is based upon a public health model of disease prevention and health promotion (Strein, Hoagwood, & Cohn, 2003). Within public health, care is conceptualized as preventing disease and promoting health for all, and providing a continuum of supports for those whom universal prevention efforts are not effective (Haggerty & Mrazek, 1994). MTSS is a framework used in schools to prevent social, emotional, and behavioral problems and to promote emotional/behavioral health (Averill & Rinaldi, 2011). The MTSS framework is conceptualized as a continuum of high quality supports that are provided to students based upon need; decisions to provide supports are based upon rigorous data collection and progress monitoring (Cook, Burns, Browning-Wright, & Gresham, 2010)

Even though MTSS is a complete continuum of supports, the simplest way to conceptualize MTSS is as a three tiered model (Averill & Rinaldi, 2011). Tier 1 consists of universal assessment and preventive interventions delivered to all students. Social, behavioral, and emotional symptoms of all students are assessed at multiple time points throughout the year in order for staff to make decisions about providing higher levels of supports for students in need of them. Tier 2 addresses the needs of selected students who have been identified through Tier 1 assessment and have not demonstrated the expected progress and/or skills expected at the universal level. Students identified as needing support at the Tier 2 level are at risk of developing behavioral issues and need more targeted intervention than what Tier 1 has to offer. Tier 3 provides indicated and individualized interventions to students who need more tailored support than Tier 2 supports. According to the framework, the decision to move a student from Tier 2 to Tier 3 services is only made through the analysis of data collected on student progress in response to Tier 2 interventions; similarly, data analysis informs the decision to decrease supports for a student who is making sufficient progress and to move them from Tier 3 to Tier 2 (Walker et al., 1996).

Defining Evidence-Based Practice

Experts in the fields of education and mental health have stressed the importance of implementing evidence-based practices to address the needs of youth (Anderson, 2006). Anderson (2006) notes that the American Psychological Association Presidential Task Force on Evidence-Based Practice defines Evidence Based Practice in psychology as “the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (p. 273). Anderson (2006) explains that the American Psychological Association (APA) acknowledges many different types of research evidence (e.g., effectiveness,

efficacy, cost-benefit analyses, epidemiology, utilization of treatment) as well as many different types of research designs (e.g., clinical observation, qualitative research, systematic case studies, single case studies, ethnographies, process-outcome studies, effectiveness research, meta-analyses, randomized control trials) and states the importance of evaluating treatment for its efficacy and its clinical utility. According to the APA, conclusions about treatment efficacy may be founded on evidence from a wide-range of methodologies (i.e., clinical opinion, observation, and experimental designs) with the emphasis being placed on the use of randomized control trials.

The Institute of Education Sciences (IES) has also developed guidelines for evaluating educational and behavioral interventions implemented in school settings (Institute of Education Sciences, 2011). IES publishes research reviews of both academic and behavioral interventions on the What Works Clearinghouse (WWC) website (<https://ies.ed.gov/ncee/WWC>) to guide school-based professionals in selecting programs to meet student needs. WWC evaluates the current research regarding the effectiveness of interventions and offers guidance to educators on selecting interventions that meet a high level of scientific rigor and quality. WWC uses criteria such as experimental design, evidence of intervention effectiveness, and the number of studies supporting the evidence of effectiveness. Based upon these criteria, WWC determines if an intervention has sufficient evidentiary support to warrant recommendation for implementation.

Even though organizations such as APA and IES encourage professionals to implement evidence-based practices, coming up with a clear definition of “evidence-based practice” can prove challenging. However, some definitional criteria from APA do exist that act as a guide for professionals in selecting treatments and interventions to address the mental health needs of students in schools. For example, a distinction is made between a “well-established”

intervention and a “probably efficacious” intervention (Chambless et al., 1998). A “well-established” intervention is one that has been shown by two or more between-group studies conducted by two or more investigating teams or a large group of single case studies to be efficacious as compared to another treatment group. In contrast, an intervention that is “probably efficacious” is one that has been shown to be efficacious when compared to a wait-list control group, one that meets criteria as “well-established” with the exception of being investigated by multiple teams, or one that has been shown to be efficacious in a small number of single-case studies. Additionally, through the WWC website, IES guides educators in a careful evaluation of available evidence in support of effective behavioral interventions for use with students in schools. Similarly, the Collaborative for Academic, Social, and Emotional Learning (www.casel.org) reviews current research of social-emotional learning (SEL) curriculum for grades PreK-12 and makes recommendations for the use of effective SEL interventions based on rigorous research criteria. For the purpose of this current project, “evidence-based practice” is conceptualized as any program or intervention that targets student social, emotional and behavioral functioning that is shown by scientific, empirical research to produce beneficial outcomes.

Social/Emotional/Behavioral Interventions and MTSS in Schools

Historically, schools in the United States have relied upon punitive discipline practices to prevent student behavior problems; however, punitive discipline practices do not result in long-term behavior change in students, and they do nothing to promote or teach positive behavior to students (Skiba & Peterson, 2000; Sugai & Horner, 2002). By definition, MTSS is designed to support students in learning new behaviors and encouraging students to employ positive and

adaptive behaviors. Integration of EBPs at all levels of MTSS is vital to the success of the system (Batsche, 2014).

Tier 1 Evidence-Based Practices for Mental Health. At the Tier 1 level, intervention and prevention is targeted to all students (Rones & Hoagwood, 2000; Stormont et al., 2012; Sugai & Horner, 2002). Universal practices at this level are intended to prevent mental health issues and promote positive mental health strengths. Practices at this Tier are effective with 75-90% of students (Stormont et al., 2012). A solid Tier 1 foundation includes universal screening of mental health symptoms for all students multiple times per year in order to inform data-based decisions for students who may need further support (Dowdy et al., 2015). Screening questions that focus both on strengths and challenges that students may be experiencing should be employed in order to give a more complete picture of student well-being (Provencher & Keyes, 2011). Common intervention practices at Tier 1 include school-wide positive behavior expectations taught in all school environments, proactive classroom management strategies, and universal social emotional learning curricula (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Gettinger & Kohler, 2006; Sugai & Horner, 2002).

Tier 2 Evidence-Based Practices for Mental Health. Approximately 10-25% of students will not respond to universal interventions (Stormont et al., 2012). Tier 2 selected interventions are provided for these students in order to remediate identified problems and promote positive outcomes. Tier 2 interventions are often delivered in a small-group format, but also may be delivered individually. A student receiving a Tier 2 intervention is monitored for progress so that data-based decisions can be made regarding whether the intervention is producing the intended results. Based upon this progress monitoring data, school personnel will decide whether the intervention needs to be maintained, terminated, or modified. Through this

process, students move with fluidity among the three tiers of supports in an MTSS framework. Evidence-based interventions at Tier 2 include Behavioral Contracting, Self-monitoring, School-Home Note, and Mentor-Based Supports (Stormont et al., 2012).

Tier 3 Evidence-Based Practices for Mental Health. For students who are non-responsive to Tier 1 and Tier 2 interventions implemented with fidelity (approximately roughly 1-5% of the total population of students), Tier 3 intensive interventions are provided (Stormont et al., 2012). By definition, intervention at this Tier is individualized; hence, interventions are not necessarily selected from an existing menu of options. A functional behavior analysis of student behavior is conducted, and from this analysis, an individualized intervention plan is developed (Browning-Wright & Cafferata, 2008; Steege & Watson, 2009).

Implementation of EBPs for Mental Health in Schools

The field of implementation science strives to provide an understanding of the mechanisms by which evidence-based practices (EBPs) are implemented with fidelity and are eventually sustained (Eccles & Mittman, 2006). Conceptually, implementation science may be thought of as the bridge between what is discovered by research and what occurs in practice (Kelly, 2012). The reason that there is a need for this type of bridge is that research settings are often vastly different than practice settings, and research occurs within very controlled conditions. Further, Fixsen, Blase, Naoom, and Wallace (2009) discuss that in human services (including educational settings), an intervention is entangled with the practitioner and the setting in which it is delivered.

The overall objectives of implementation science are to gain an understanding of the specific factors that affect the successful uptake and sustainment of an intervention or practice in a given context. There are numerous factors that can impede or enhance the uptake of practice.

In their review of 81 studies in the implementation science literature, Durlak and DuPre (2008) identified 23 factors that affect implementation and grouped them into five categories: community-level factors, provider characteristics, innovation characteristics, organizational capacity, and support system factors. They stress that each of these categories and their associated factors are context specific, so that no implementation setting is identical to another. This makes the study of implementation very challenging and detail-oriented.

Much of the current evidence-base for mental health interventions in schools is predicated on tightly controlled implementation of research trials in “ideal” research settings. However, schools are often vastly different than research settings in the amount of control implementers have on the environment, and stringent constraints upon the delivery of the intervention are often not possible. Thus, it is often difficult for school professionals to achieve successful implementation of EBPs due to the need to adapt an intervention for a specific context. Owens et al. (2014) have proposed a school mental health research agenda to help address the context-specific nature of intervention implementation. They discuss the importance of investigating factors within the school organization (such as principal leadership) that have an impact on the success of an intervention’s successful implementation.

Implementation Frameworks

In order to conceptualize the notion of implementation factors and how they affect implementation outcomes, numerous implementation frameworks have been created to describe the process and flow of intervention implementation (Nilsen, 2015). Within these frameworks, many different factors at both the organizational level and individual level influence the uptake and use of EBPs. There have been many reviews of these frameworks to determine how well they guide implementation efforts to achieve desired outcomes (Moullin, Sabater-Hernández,

Fernandez-Llimos, & Benrimoj, 2015; Nilsen, 2015; Tabak, Khoong, Chambers, & Brownson, 2012). Some implementation frameworks consist of a series of stages through which an implementation process proceeds; these stages, however, should not be conceptualized as stand-alone or necessarily linear events. There is often a great deal of overlap and flow among each stage of an implementation process (Blase, Van Dyke, Fixsen, & Bailey, 2012).

The EPIS Framework. The Exploration, Preparation, Implementation, and Sustainment (EPIS) framework, developed for social service and public mental health settings and initially applied in child welfare settings, is suitable for guiding implementation of EBPs in schools, particularly because it emphasizes the importance of numerous inner and outer organizational factors that are unique to an implementation environment (Aarons et al., 2011). Outer organizational factors (e.g., sociopolitical/funding, client advocacy, interorganizational networks, intervention developers, high-level leadership) and inner factors (e.g., organizational characteristics, building leadership, innovation-values fit, individual adapter characteristics, staffing) affect each phase of implementation. The EPIS framework considers the impact of outer and inner organizational factors as an implementation moves through four phases: Exploration Phase, Adoption Decision/Preparation Phase, Active Implementation Phase, and Sustainment Phase (Aarons et al., 2011). Viewing a school-based mental health EBP implementation through the lens of the EPIS framework is helpful in understanding how implementation factors affect successful implementation.

The Inner Organizational Context. The inner context serves as the microsystem in which implementers interact most directly and is most proximal to implementation behaviors. Throughout each of the four implementation phases of the EPIS framework, factors within the inner context have a great effect upon implementation (Aarons et al., 2011). For the purpose of

this study, three factors within the inner organizational context were of focus: administrative support of EBP implementation, implementation climate, and implementation citizenship behavior.

Administrative Support. The effect of principal leadership on student and school success has been a topic of research for some time (Hallinger & Heck, 1996). In their review of 40 studies, Hallinger and Heck (1996) showed that principal leadership consistently affected student learning. Specifically, they found that greatest impact that principal leadership had on student outcomes was mediated by the impact that principals have on school climate.

Principal leadership has been shown to have an influence on student outcomes and climate (Kam, Greenberg & Walls, 2003; Langley, Nadeem, Kataoka, Stein, & Jaycox, 2010). Langley et al. (2010) interviewed providers of Cognitive Behavioral Intervention for Trauma in Schools (CBITS) to determine potential barriers and facilitators to implementation. Providers noted that if they had not had sufficient administrative support, implementation would have been more difficult. Similarly, Kam et al. (2003) showed that in a multi-school implementation of the Promoting Alternative Thinking Skills (PATHs) curriculum, significant effects of the intervention were only found in schools where principal support of implementation was high.

Even though there is evidence of principal support influencing student outcomes there has been little research of strategic implementation leadership in schools. Aarons, Ehrhart, and Farahnak (2014) discuss that strategic implementation leadership is present in a leader who has committed to an imperative of EBP implementation. Specifically, an effective leader of an implementation process, and one who is exhibiting strategic implementation leadership, embodies the following characteristics with regard to EBP implementation: taking a proactive stance, knowledgeable, supportiveness, and perseverance. Aarons et al. (2014) argue that

strategic implementation leadership is a necessary component in developing EBP implementation climate amongst team members and throughout the organization. For the purposes of the present study, this definition of strategic implementation leadership and the Implementation Leadership Scale (Aarons et al., 2014) developed in concert with this definition are being used.

EBP Implementation Climate. The construct of organizational climate is broad and multi-faceted (Aarons & Sawitzky, 2006). Ehrhart, Aarons, and Farahnak (2014) argue that climate to support EBP implementation is a form of strategic climate, which is subsumed under the larger umbrella of organizational climate. Specifically, their conceptualization of EBP implementation climate embodies employee perceptions of the utility and value of EBP use in the organization. For the purposes of the present study, this definition of implementation climate and the Implementation Climate Scale (Ehrhart et al., 2014) developed in concert with this definition are being used.

Novins, Green, Legha, & Aarons (2013) conducted a large scale review of 73 articles dedicated to the examination of implementation factors and their impact on implementation outcomes in the field of EBPs for child and adolescent mental health. They found evidence that sustainment of interventions and improved child outcomes were related to improvements in organizational climate. One of the studies they reviewed investigated the relationships among adherence to the EBT Multisystemic Therapy, organizational climate, and treatment outcomes, climate was associated with changes in youth behavior and with the degree to which therapists adhered to the treatment protocol (Schoenwald, Carter, Chapman, & Sheidow, 2008). In numerous other studies, associations were found between organizational climate and attitudes toward EBP implementation (Aarons & Sawitzky, 2006), organizational climate and

implementation fidelity (Asgary-Eden & Lee, 2012; Klimes-Dougan et al., 2009), organizational climate and provider turnover (Glisson et al., 2008), and organizational climate and child outcomes (Schoenwald, Sheidow, Letourneau, & Liao, 2003).

Research in schools examining the relationships between implementation climate and intervention fidelity outcomes is extremely limited at this point (Forman et al., 2013). Related research on barriers and facilitators to implementation conducted by Langley et al. (2010) showed that lack of staff buy-in for the use of a specific EBP (Cognitive Behavioral Intervention for Trauma in Schools) led to a decrease in implementation. Similarly, Forman and colleagues (2012) investigated factors that influence a school psychologist's willingness to implement interventions. Although much of the findings were centered on attitudes and beliefs, as opposed to implementation climate, there was some indication that the availability of organizational resources to support and implementation may affect the decision to implement.

Implementation Citizenship Behavior. The broad concept of organizational citizenship behavior (OCB) is defined as the desire by an individual to perform in a way that promotes an organization or business entity to function more effectively regardless of whether a formal reward or recognition will be received by the individual (Organ, Podsakoff, & MacKenzie, 2005). Implementation Citizenship Behavior (ICB) is a type of OCB defined as “discretionary behavior employees perform to support EBP implementation” (Ehrhart, Aarons, & Farahnak, 2015). For the purposes of the present study, this concept of implementation citizenship behavior and the Implementation Citizenship Behavior Scale (ICBS; Ehrhart et al., 2014) are being used. The concept of ICB is fairly new and has not been studied extensively; however OCB has been studied in a myriad of organizational settings.

Organizational Citizenship Behavior has been linked to both individual-level and organizational outcomes (Podsakoff, Whiting, Podsakoff, & Blume, 2009). In their meta-analysis of 168 studies, Podsakoff et al. (2009) found that OCB was positively related to individual-level outcomes such as ratings of employee performance and to allocations of employee rewards and organization-level productivity and customer satisfaction. The studies that were evaluated in this meta-analysis spanned multiple industries.

Much of the investigation of OCB in schools links OCB of faculty to student outcomes or achievement (Burns & DiPaola, 2013; DiPaola & Hoy, 2005; Khalid, Jusoff, Othman, Ismail, & Rahman, 2010). Burns and DiPaola (2013) found that OCB impacted student achievement independent of student socio-economic status. However, OCB did not impact student achievement in all subjects: biology and reading achievement were affected by OCB, but writing and history were not. Another noteworthy finding from this study was that the SES of a school was strongly negatively correlated with student achievement. Khalid et al. (2010) investigated the relationships university lecturers' OCB and academic achievement of university students. Findings indicated that three specific components of OCB (altruism, courtesy and conscientiousness) were predictive of student achievement for students with a high need for achievement. DiPaola and Hoy (2005) uncovered a significant relationship between OCB of high school faculty and student achievement. Their results are contrary to those of Burns and DiPaola (2013) with regard to SES, in that the findings of DiPaola and Hoy (2005) remained significant even after controlling for SES.

Haider, Fernandez-Ortiz, & de Pablos Heredero (2017) showed a link between OCB of cardiac health services providers and EBP implementation of interventions to improve patient acute myocardial infarction. Haider et al. (2017) showed that not only was there a significant

relationship between OCB and EBP implementation, but this relationship was moderated by senior management support of implementation. However, as stated above, the concept of implementation citizenship behavior is new and so far has been only studied in a limited capacity in the mental health arena (Ehrhart et al., 2015).

Socio-economic Status

There exists an ongoing debate concerning the relationship between SES and academic outcomes and whether there are factors that mitigate this relationship. Institutional Research Theory states that neighborhood context affects school composition which in turn affects student achievement (Arum, 2000). Interestingly, though, little research has been conducted to support this mediational relationship. In fact, a recent study by Wodtke (2016) showed that secondary school characteristics (e.g., SES and race of students, teacher-student ratio, per-student expenditures) did not mediate the relationship between neighborhood effects and student achievement. Similar findings have been found in a recent study which showed that even though there was a direct causal relationship between school poverty and neighborhood composition, school poverty was not a significant mediator between neighborhood context and academic achievement in children aged three to seven (Wodtke & Parbst, 2016).

Further, there are inconsistent findings regarding the relationships among SES, school climate, and student achievement. In a comprehensive review of 78 articles reporting on these relationships, there is some evidence of the impact of positive climate on academic achievement, particularly for lower SES students (Berkowitz, Moore, Astor, & Benbenishty, 2017). However, Berkowitz and colleagues (2017) noted that many of the studies reviewed focused only on student report of school climate and there were significant discrepancies among the studies with regard to the definitions and measurement of school climate. Additionally, over half of the

studies analyzed used only correlational analysis to show the relationships between climate and student outcomes, making no claims as to the causality of the relationship.

Research investigating the relationships among SES and implementation factors and outcomes in schools is also quite limited. A review of 28 empirical studies aimed at identifying themes for EBP sustainment in disadvantaged communities showed that positive workplace climate, leadership support of the project, and transformational leadership were indicative of EBP sustainment (Hodge & Turner, 2016). However, less than seven of the studies reviewed investigated implementation of school mental health interventions.

Atkins et al. (2010) discuss that barriers to implementation may be greater in schools where students come from impoverished communities. Specifically, they discuss the impact that a negative school climate has on the effectiveness of mental health service delivery.

Additionally, high staff turnover rates in schools located in impoverished communities make it difficult for administrative leadership in support of EBPs to remain consistent over time leading to low levels of intervention sustainment (Bryk, Sebring, Allensworth, Easton, & Luppescu, 2010). Although schools with economically disadvantaged students may receive additional funding (e.g. Title 1 and school improvement grants), often the use of these additional funds is not well planned and initiatives often lack a coordinated implementation strategy (Domitrovich et al., 2008). This fragmented and chaotic approach taken toward EBP implementation can in turn lead to negative attitudes about EBPs (Aarons, 2004). Further, these schools often have numerous mental health and instructional initiatives thrust upon them with very little attention paid to implementation factors that promote successful implementation outcomes (Ahram, Stemberge, Fergus, & Noguera, 2011; Eiraldi et al., 2015).

The relationship between implementation and socio-economic status of children in schools has been understudied and not well understood. In fact, to date, no one has carried out a systematic exploration of the inter-relationships between SES and implementation factors and outcomes. Eiraldi et al. (2015) present a description of the barriers to implementation in under-resourced schools. They discuss the impact of fiscal limitations on quantity and quality of support staff and others trained in mental health interventions as well as school leadership turnover rates. Finally, they consider the impact of further research on the benefits of interventions to strengthen attitudes toward EBP implementation.

Implementation Outcomes

There are many differing views on how to measure implementation success (Proctor et al., 2011). For example, when implementation involves a direct behavior intervention for a student, one might measure the success of the implementation by measuring the improvement in the child's behavior. While this approach addresses a facet of implementation outcomes, it disregards the implementation processes thereby making replication efforts difficult. For systems-based interventions in schools (i.e. PBIS), focusing on individual student outcomes may be too narrow in gauging the effectiveness of the program. For example, if outcome variables such as staff and participant buy-in are not considered, the sustainability of the intervention may be limited. Proctor et al. (2011) conceptualize a set of eight implementation outcomes (acceptability, adoption, appropriateness, feasibility, implementation cost, penetration, sustainability, and fidelity) and propose a research agenda to gain further understanding of implementation processes and prepare the field for comparative studies of various forms of implementation strategies.

Acceptability focuses on how well the intervention is accepted among stakeholders (Proctor et al., 2011). It is conceptualized as fluid and may change over the different phases of the implementation process. Additionally, acceptability is more specific and targeted than general consumer (either provider or client) satisfaction. Domitrovich et al. (2008) argue that in schools, acceptability is often positively influenced by support given to implementers in the form of pre-intervention training and professional development.

Adoption is the initial action to move forward with the intervention (Proctor et al., 2011). It is usually signaled by a decision maker showing intent to proceed with implementation. Adoption outcomes are influenced by school-level factors and factors in the community and are quite varied across schools and districts (Domitrovich et al., 2008). For example, some schools and/or districts may have more centralized decision structures which may result in adoption outcomes being more protracted as stake-holders strive to achieve buy-in from school staff members who are being asked to implement an intervention.

Appropriateness refers to the degree to which the intervention fits the setting and/or addresses the problem (Proctor et al., 2011). Appropriateness is often entangled with the culture of the staff and their opinions of the change in practice. Lyon et al. (2014) conducted a study in which the appropriateness of a modular psychotherapy intervention used in school-based health centers (SBHCs) was evaluated. Mental health counselors housed in the SBHCs participated in a semi-structured qualitative interview to gather information about their perceptions of the influences that school context has on their psychotherapy practice. The study highlighted the importance of considering intervention fit in the context of both provider and client and indicated the need to assess appropriateness especially because evidence based practices are often translated to the school setting from research or clinical settings.

Feasibility reflects whether or not it is possible to implement the intervention (Proctor et al., 2011). This outcome is usually best perceived “after the fact” when implementation activities are reflected upon. As with appropriateness, feasibility issues in schools are often tied to the fact that many mental health interventions used in schools were developed for use in other contexts. As such, it is vital to consider feasibility when implementing interventions in schools. Lyon et al. (2015) report on the feasibility of a Tier 2 mental health intervention delivered by school-based clinicians. After delivery of a brief (4 session) cognitive behavioral intervention to high school students, session data (session length, timespan of intervention delivery, and clinician adherence to protocol) were analyzed. Analysis showed that most session components were delivered and that most student participants attended all four of the prescribed sessions. Lyon and colleagues (2015) discuss the importance of considering feasibility when implementing EBPs and used provider reports of feasibility to further tailor intervention components to fit the school context.

Implementation cost refers to both long and short term costs (Proctor et al., 2011). Additionally, costs must be balanced with potential benefits that could be realized in the future such as streamlined work processes and lower need for more intensive intervention if the intervention were not put in place. In schools, it can be difficult to justify the costs of implementing interventions for mental health when the results of intervention are often long-term. For example, Waasdorp, Bradshaw and Leaf (2012) discuss the effects of SWPBIS implementation in elementary school on student bullying behavior in middle school. The long-term cost-benefits of this positive outcome are difficult to determine because the benefits may be difficult to measure.

Penetration refers to how well the new practice is integrated into the fabric of the organization (Proctor et al., 2011). This definition is similar to the concept of reach, which is a component of the Reach Efficacy-Adoption Implementation and Maintenance (RE-AIM) framework (Glasgow, Vogt, & Boles, 1999). Reach applies to the percentage of individuals who are affected by the implementation of an intervention within a given population of individuals belonging to the organization (Glasgow et al., 1999). For example, in a school, reach is the percentage of students receiving and benefiting from a social emotional intervention.

Penetration and reach can be an extensive issue in schools that have high staff turnover rates high student mobility (Domitrovich et al., 2008).

Fidelity refers to the degree to which the intervention is delivered according to protocol, the dose delivered, and how well the intervention is delivered (Proctor et al., 2011). Fidelity, is the implementation outcome most heavily focused upon in the literature. Gresham (1989) discusses the impact of treatment fidelity on the success of interventions for students in schools and argued that the success (or failure) of an intervention plan cannot be measured accurately if treatment fidelity data is not gathered, analyzed, and subsequently reported. He also discussed the importance of component analysis of interventions to inform the creation of treatment fidelity monitoring systems. He argued that the problem with not paying attention to treatment fidelity is really one of internal validity; when treatment fidelity is not monitored, it is impossible to determine what variables were responsible for an intervention's success. Cross et al. (2015) discuss to two key components of fidelity: adherence to delivery of intervention components as intended by the developer and competence of the person delivering the intervention. However, Durlak and Dupre (2008) discuss fidelity through the lens of the importance of adherence to key components in an intervention. They stress that adaptation of an intervention in various settings

is often inevitable but that the theoretically important components of an intervention should be left unaltered and should be monitored throughout.

Study Purpose

Because schools are the primary location in which students receive emotional and behavioral support services (Burns et al., 1995; Farmer, Burns, Phillips, Angold, & Costello, 2003), understanding the implementation barriers and facilitators to intervention implementation success is imperative. Although, resources are available to students, particularly in schools that receive Title 1 funding, students are not reaching social and behavioral goals as expected (Domitrovich et al., 2008). There is limited empirical support that investigates the relationships among strategic implementation leadership in support of EBPs, implementation climate in support of EBPs, implementation citizenship behavior, and implementation outcomes. Further, there is limited empirical support regarding the relationships among the socio-economic status of students, strategic implementation leadership in support of EBPs, implementation climate in support of EBPs, and implementation citizenship behavior. The proposed study addressed three primary research questions:

Research Question #1. What are the relationships among school EBP implementation factors (strategic implementation leadership, implementation climate, implementation citizenship behavior) and socioeconomic conditions?

Hypothesis #1. It is hypothesized that respondents' perceptions of implementation climate supporting EBPs, respondent perceptions of strategic implementation leadership in support of EBPs, respondent perceptions of implementation citizenship behavior, and socioeconomic conditions of the community will be correlated. In the social services sector, associations between transformational leadership and team innovation climate were found

(Aarons & Sommerfeld, 2012). Similarly, associations have been found between organizational citizenship behavior and leadership in the medical sector (Haider et al., 2017).

Because implementation of EBPs in schools located in under-resourced communities may often take a fragmented approach, negative attitudes toward EBPs may develop (Aarons, 2004). Similarly, due to uncoordinated implementation efforts in under-resourced schools, implementation factors are often ignored (Ahram et al., 2011; Eiraldi et al., 2015). Predicting whether or not SES will be correlated with the implementation factors is more difficult. However, due to the evidence of barriers to implementation in under-resourced schools (Eiraldi et al., 2015), the lack of funding that under-resourced schools receive impacting implementation (Domitrovich et al., 2008), and the positive relationship between SES and climate (Aarons & Sommerfeld, 2012), it is hypothesized that the three implementation factors and SES will be positively correlated.

Research Question #2. What are the unique effects of school EBP implementation climate, implementation citizenship behavior, strategic implementation leadership, and SES on implementation outcomes (adherence, competence, and penetration)?

Hypothesis #2. Although research into the impact of implementation climate, strategic implementation leadership, and implementation citizenship behavior is limited at this point, it is hypothesized that all will be associated with implementation outcomes. This hypothesized relationship between climate and outcomes is based on evidence in the mental health service sector that has shown an association between these constructs (Novins et al., 2013). In schools, links between administrative support of evidence-based practices and outcomes have been found (Kam et al., 2003). Because links between OCB and implementation outcomes have been found

in medical settings (Haider et al., 2017), it is plausible that similar links will be found in school settings between implementation citizenship behavior and implementation outcomes.

Research Question #3. What is the moderating relationship of SES with school EBP implementation climate, with implementation citizenship behavior, and with strategic implementation leadership when examining implementation outcomes (adherence, competence, and penetration)?

Hypothesis #3. It is hypothesized that SES will moderate the effect of each of the implementation factors such that it will suppress the effect of each on implementation outcomes. This hypothesis is based on the fact that schools in under-resourced communities are often dealing with multiple competing priorities and have difficulty carrying out a coordinated effort in implementing interventions; this disjointed approach can lead to uncoordinated leadership, climate, and implementation citizenship behavior that are not conducive to EBP uptake (Aarons, 2004).

Chapter Three: Methods

Study Overview

The current study employs secondary analysis of data collected from an online survey. This section describes the participants, recruitment, measures, and procedures, and concludes with a description of the analyses.

Participants. Participants in this study were members of a large network of California educators; the mission of the network is to provide a collaborative environment in which information and resources about evidence-based positive practices are shared in order to promote improved student outcomes. Special education directors within the state of California nominate school employees to membership within the organization based upon an employee's commitment to consultation within a school district. The organization has 212 members, all of whom received invitations to participate in the study.

Ninety-nine percent of the respondents indicated that they provided consultative and intervention services to students and staff members in public schools. Most respondents indicated that they spent the majority of their time performing tasks for special education eligibility and re-evaluation assessments and that they worked in public schools. Participants worked in schools in neighborhoods within various zip codes in California, representing rural, urban, and suburban settings.

A total of 196 survey responses out of the 212 members were received (92%). Of the respondents, 80% identified as female and 20% identified as male. Degrees held by the respondents included Master's degree (77%), Education Specialist (10%), Doctor of Philosophy (4%), Doctor of Psychology (3%), Bachelor's degree (1%), and Other degree (4%). Thirty-five percent of respondents were between the ages of 30 and 39, 30% were 40-49, 23% were 50-59,

7% were 60-69, and 2% were 20-29. The racial/ethnic breakdown was as follows: 76% White/Non-Hispanic; 11% Hispanic/Latino; 6% Black/African American; 5% Asian; 2% American Indian/Alaskan Native; 2% Other; 1% Native Hawaiian/Pacific Islander; and 4% Unreported. Due to missing data, the number of participants was less than 196 in some of the analyses. See Table 1 for demographic data of participants.

Procedures. The University of Washington Human Subjects Division determined that this research qualified for exempt status under Category 2 of the federal regulations governing human subjects research. In October 2015, an email was sent to all network members inviting them to participate and stating that the survey was intended to assess participants' "perceptions of factors related to universal (Tier 1) level of supports in schools" and "perceptions of barriers and facilitators related to consulting with teachers and other educators on the implementation of individualized interventions (e.g., Tier 2 or Tier 3 interventions)." Reminder emails were sent to potential participants on a weekly basis for the month following the initial email solicitation. Participants who completed 80 percent or more of the survey were entered into a raffle in which two \$150 Amazon gift cards were awarded within three months after the survey was terminated.

Measures. The 125-item survey covered a broad range of implementation topics and is presented in its entirety in the Appendix. With participation from the original developers, the Implementation Climate Scale (Ehrhart et al., 2014), Implementation Citizenship Behavior Scale (Ehrhart et al., 2015), and Implementation Leadership Scale (Aarons et al., 2014) were modified. Each was included in the survey in its modified form. For the purpose of this study, data analysis is limited to socio-economic conditions of the community, respondent perceptions of implementation climate, respondent perceptions of strategic implementation leadership,

respondent perceptions of EBP implementation citizenship behavior, and three measures of implementation outcomes: adherence, penetration, and competence.

Implementation Climate Scale (ICS; Ehrhart et al., 2014). A modified version of Implementation Climate Scale (ICS) was used to gather information about implementation climate. The ICS has shown strong evidence of reliability ($\alpha = .88$ to $.94$) when used to assess EBP implementation in mental health agencies (Ehrhart et al., 2014). The 18-item measure uses a five-point Likert Scale; responses range from “not at all” to “very great extent”. For this analysis, all but three of the individual items are summed to create an implementation climate total score. The three items that were not included in the total score have limited relevance in the school context, as they relate to the construct of rewards for evidence practice (Lyon et al., 2018). Lyon et al. (2018) have found that with the removal of these items, the reliability of the measure as a whole increases to $\alpha = .93$.

Implementation Citizenship Behavior Scale (ICBS; Ehrhart et al., 2015). To measure implementation citizenship behavior, a modified form of the 6-item Implementation Citizenship Behavior Scale (ICBS; Ehrhart et al., 2015) was used. The ICBS measures employee citizenship behaviors that support EBP implementation in two areas: helping others to implement EBPs and keeping informed of EBP policies, news, and communication related to EBPs. Like the ICS, the ICBS uses a five-point Likert scale with items rated from “not at all” to “very great extent”. For this analysis, responses to items on this scale are summed to create an implementation citizenship behavior total score. The internal consistency of the total score of the original measure is excellent ($\alpha = .93$; Ehrhart et al., 2015). Lyon et al. (2018) have determined that the modified version of the measure has an even higher reliability of $\alpha = .99$.

Implementation Leadership Scale (ILS; Aarons et al., 2014). Strategic implementation leadership was measured via a modified version of the Implementation Leadership Scale. A five point Likert scale (0 = “not at all” to 4 = “very great extent”) is used for the 12 items of the measure. For this analysis, responses to items on this scale are summed to create an administrative support total score. Aarons et al. (2014) have shown that the original measure’s internal consistency is high ($\alpha = .95$ to $.98$). The modified version of the ILS used in this study has been shown to have an excellent internal consistency ($\alpha = .99$; Lyon et al., 2018).

Implementation Outcome Questions. Six questions related to EBP implementation success were included in the survey and measured penetration, adherence, competence, and effectiveness. For the purpose of this paper, implementation outcomes were examined by responses to five survey items – three focusing on adherence, one focusing on competence, and one focusing on penetration. The sixth question from the survey concerned perceived effectiveness of the intervention and was beyond the scope of this investigation. Each of these questions was asked in regard to the implementation of universal EBPs in the respondent’s school. The first adherence question asked “Of the appropriate times to implement this program, to what extent do staff implement is as it was planned or designed.” The second adherence question asked “To what extent do you use or implement this program ‘by the book’.” The third adherence question asked “To what extent do staff add, skip, ignore, or reorder parts of this program.” These questions were asked with regard to a particular universal (Tier 1) program implemented in the respondents’ schools. Respondents rated these three items on 8-point Likert scales (0 = “never” to 7 = “always). For the purposes of this analysis, responses to the three adherence items are summed to create a total adherence score, with the third item being reversed scored. The competence question asked “When staff use or implement this program, how well

(with what level of skill) do they deliver it?” Respondents rated this item on an 8-point Likert scale (0 = “no skill at all” to 7 = “with perfect skill”). Finally, for the penetration questions, respondents were asked “Of the school’s population, please give your best estimate of the percentage of students this program has reached since it was first introduced.” Response options were presented in 10 point increments from 0 to 100 percent.

Statistical Analyses for Research Questions

Statistical analyses using correlation and multiple linear regression was implemented to answer the primary research questions. As part of the analysis procedures, assumptions that underlie correlation and regression were examined. In order to easily interpret the results, all predictor variables were standardized. Correlational and regression analyses were conducted using IBM SPSS Statistics Version 19.0. Missing data was handled using multiple imputation. Secondary analyses included correlational analyses and multiple linear regressions using sequential predictor entries.

Correlational Analyses. Zero-order correlations were computed to address Research Question #1 - assessing the relationships among respondents’ perceptions of school implementation climate, respondent perceptions of strategic implementation leadership, respondent's perceptions of implementation citizenship behavior, and socioeconomic conditions of the community (determined by average household income).

Statistical model:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Regression Analyses. Multiple linear regressions with sequential predictor entry were used to analyze Research Questions #2 and #3. All p -values are corrected using the Bonferroni procedure in order to account for inflated Type 1 error rate generated by the use of multiple models. To correct for the use of three regression models, the following correction was made:

$$\begin{aligned} & \text{Adjusted Per-Comparison Type I error rate} \\ & = \text{desired Experimentwise rate/number of Comparisons} \\ & = 0.05/3 = 0.0167 \end{aligned}$$

Research Question #2 & #3. Sequential predictor entry was used in order to test the incremental variance accounted for by each predictor as it was added to each model. The implementation climate total score, implementation citizenship behavior total score, strategic implementation leadership total score, and SES were entered into Block 1 of the model. Block 2 consisted of three interactions: implementation climate by SES, implementation citizenship behavior by SES, strategic implementation leadership by SES.

The final models are as follows:

$$\begin{aligned} \text{Adherence} = & b_0 + b_1*\text{Climate} + b_2*\text{Citizenship} + b_3*\text{Leadership} + b_4*\text{SES} \\ & + b_5*\text{Climate}*\text{SES} + b_6*\text{Citizenship}*\text{SES} \\ & + b_7*\text{Leadership}*\text{SES} \end{aligned}$$

$$\begin{aligned} \text{Competence} = & b_0 + b_1*\text{Climate} + b_2*\text{Citizenship} + b_3*\text{Leadership} + b_4*\text{SES} \\ & + b_5*\text{Climate}*\text{SES} + b_6*\text{Citizenship}*\text{SES} \\ & + b_7*\text{Leadership}*\text{SES} \end{aligned}$$

$$\text{Penetration} = b_0 + b_1*\text{Climate} + b_2*\text{Citizenship} + b_3*\text{Leadership} + b_4*\text{SES}$$

$$+ b_5 * \text{Climate} * \text{SES} + b_6 * \text{Citizenship} * \text{SES}$$
$$+ b_7 * \text{Leadership} * \text{SES}$$

In the models above, each outcome variable is equal to the conditional mean (b_0), plus the unique effects of Climate (b_1), Citizenship (b_2), and Leadership (b_3), plus the Climate by SES interaction, Citizenship by SES interaction and Leadership by SES interaction (b_5 - b_7).

Chapter Four: Results

Preliminary Analysis

Prior to performing analyses as described above, preliminary procedures to handle missing data were completed. The percent of missing data varied across variables and cases, and it was determined that using case-wise deletion was untenable due to resulting substantial reduction in viable cases. Thus, multiple imputation of predictor variables was performed and analysis as prescribed by the data analytic plan in Chapter Three was followed on the imputed data set. The basic premise of multiple imputation is that missing data can be approximated such that the imputed values do not bias parameter estimates and that the uncertainty of these estimates is reasonable (Graham, Olchowski, & Gilreath, 2007). Multiple imputation with a sufficient number of imputations is preferable to full information maximum likelihood because MI more effectively tolerates power falloff (Graham et al., 2007). Per Graham et al. (2007), the number of iterations was set at 20, which was dictated by the fraction of missing data. Multiple imputation was carried out using IBM SPSS Version 19.0 and pooled results of the 20 imputations were used in subsequent analysis.

Correlations

Means, standard deviations, and zero-order correlations among all variables are presented in Table 2. Of the four predictor variables (SES, Climate, Citizenship, and Leadership), SES was not correlated with Climate, Citizenship, nor Leadership. Climate and Citizenship had a moderately strong correlation ($r = 0.78, p < 0.01$), as did Climate and Leadership ($r = 0.72, p < 0.01$), and Citizenship and Leadership ($r = 0.65, p < 0.01$).

Regression Models

Tests of the three a priori regression hypotheses were conducted using a Bonferroni-adjusted alpha level of 0.0167 per test (.05/3).

Penetration. As shown in Table 3, Block 1, which included SES, climate, citizenship, and leadership predictors, accounted for 21% of the variance in penetration, $F(4,109) = 7.07$, $p < 0.001$, $R^2_{\text{adjusted}} = 0.18$. In Block 1 of the model, leadership was uniquely associated with penetration ($b = 1.02$ ($SE = 0.43$), $t(109) = 2.41$, $p = 0.016$, $sr^2 = 0.04$). Specifically, for every standard deviation in leadership, penetration was predicted to increase by 1.02 points, holding all else constant. When Block 2 is added in, the three interaction terms (SES by climate interaction, SES by citizenship interaction, and SES by leadership interaction) did not account for a significant variation in penetration, $R^2_{\text{change}} = 0.02$, $F_{\text{change}}(3,106) = 0.63$ $p = 0.588$ ($R^2_{\text{total}} = 0.22$ and $R^2_{\text{adjusted}} = 0.17$).

Results from the final model with all predictors entered, indicated that the mean penetration for average SES, climate, citizenship, and leadership was 4.21 points ($SE = 0.28$), which was significantly different than zero, $t(106) = 15.29$, $p < 0.001$. In the final model, with the Bonferroni adjustment, climate, SES, citizenship, and leadership was not uniquely associated with penetration (slope coefficient t -test p -values = 0.398, 0.264, 0.022, and 0.032, respectively). Further, no significant two way interactions were found between SES and climate, SES and citizenship, nor SES and leadership (slope coefficient t -test p -values = 0.442, 0.654, and 0.171, respectively).

Adherence. As shown in Table 4, Block 1, which included SES, climate, citizenship, and leadership predictors, accounted for 28% of the variance in adherence, $F(4,135) = 12.94$, $p < 0.001$, $R^2_{\text{adjusted}} = 0.26$. When Block 2 was added in, the three interaction terms (SES by climate interaction, SES by citizenship interaction, and SES by leadership interaction) did not

account for a significant variation in adherence change, $R^2_{\text{change}} = 0.02$, $F_{\text{change}}(3,132) = 1.49$ $p = 0.223$ ($R^2_{\text{total}} = 0.30$ and $R^2_{\text{adjusted}} = 0.26$).

Results from the final model with all predictors entered, showed that the average adherence was 3.68 points ($SE = 0.10$) for average SES, climate, citizenship, and leadership, which was significantly different than zero, $t(132) = 35.64$, $p < 0.001$. With the Bonferroni adjustment, climate, income, and citizenship were not uniquely associated with adherence (slope coefficient t -test p -values = 0.687, 0.993, and 0.389, respectively). However, leadership uniquely predicted adherence ($b = 0.52$ ($SE = 0.17$), $t(132) = 3.17$, $p = 0.002$, $sr^2 = 0.06$). Specifically, for every standard deviation in leadership, adherence increased by 0.52 points, holding all else constant. No significant two way interactions were found between SES and climate, SES and citizenship, nor SES and leadership (slope coefficient t -test p -values = 0.238, 0.041, and 0.860, respectively).

Competence. As shown in Table 5, Block 1, which included SES, climate, citizenship, and leadership predictors, accounted for 39% of the variance in competence, $F(4,120) = 19.18$, $p < 0.001$, $R^2_{\text{adjusted}} = 0.37$. When Block 2 was added in, the three interaction terms (SES by climate interaction, SES by citizenship interaction, and SES by leadership interaction) did not account for a significant variation in competence change, $R^2_{\text{change}} = 0.01$, $F_{\text{change}}(3,117) = 0.66$ $p = 0.581$ ($R^2_{\text{total}} = 0.40$ and $R^2_{\text{adjusted}} = 0.36$).

Results from the final model with all predictors entered, showed that the average competence was 3.60 points ($SE = 0.10$), for average SES, climate, citizenship, and leadership, which was significantly different than zero, $t(117) = 36.09$, $p < 0.001$. With the Bonferroni adjustment, neither income, climate, nor citizenship were uniquely associated with competence (slope coefficient t -test p -values = 0.968, 0.931, and 0.545, respectively). However, leadership

was uniquely associated with competence ($b = 0.77$ ($SE = 0.16$), $t(117) = 4.97$, $p < 0.001$, $sr^2 = 0.13$). Specifically, for every standard deviation in leadership, competence increased by 0.77 points, holding all else constant. No significant two way interactions were found between income and climate, income and citizenship, nor income and leadership (slope coefficient t -test p -values = 0.376, 0.781, and 0.821, respectively).

Chapter Five: Discussion

Summary of Findings

This study employed secondary analysis of data that was collected from a survey delivered to members of a large network of educators in California public schools. The primary function of the survey was to obtain a better understanding of respondents' perceptions of factors and outcomes associated with the implementation of Tier 1 evidence-based social, emotional, and behavioral interventions for students in schools. The purpose of the present study was to analyze this survey data to investigate the respondent perceptions of the relationships among specific implementation factors present in the inner-organizational context (strategic implementation leadership, implementation climate, implementation citizenship behavior) and determine whether they were associated with three implementation outcomes (penetration, adherence, competence). Additionally, this study was designed to examine whether SES was associated with implementation outcomes and to investigate the moderating role of SES in relation to each inner-organizational variable and each of the three implementation outcomes (penetration, adherence, competence). Correlational analyses and multiple linear regression with sequential predictor entry were used to investigate these relationships.

Correlational Findings. As hypothesized, the inner-organizational factors (implementation climate, implementation citizenship behavior, and strategic implementation leadership) showed moderately strong correlations with each other. This finding mirrors results found in the social services sector in which transformation leadership and team innovation climate were related and in the medical sector in which citizenship behavior and leadership were associated (Aarons & Sommerfeld, 2012; Haider et al., 2017). Similarly, in public sector mental health clinics, transformational leadership has been positively associated with climate that

empowers employees and negatively associated with climate that is demoralizing to employees (Brimhall et al., 2016). Finally, prior research has shown a consistent positive relationship between leadership and school climate, but not specifically implementation climate (Kam et al., 2003; Langley et al., 2010). It is exciting that this study has extended this relationship to implementation climate. It is also noteworthy that this study extends the relationships among the three inner-organizational variables outside of the medical and social services sectors and into the school environment. These findings may play a role in guiding implementation efforts with regard to strengthening inner-organizational factors to support implementation outcomes for schools in the future.

Surprisingly, no significant correlation between SES and each of the inner-organizational factors under study was found. These results are contrary to prior studies which found relationships between SES and Climate (Aarons & Sommerfeld, 2012) and between school resources and implementation factors (Domitrovich et al., 2008). The findings in the current study are instead more similar to the research synthesis by Berkowitz et al. (2017), in which inconsistent relationships among climate and SES were found. However, as discussed earlier in this paper, the relationships between SES and implementation factors are understudied, contradictory in nature, and require extensive further investigation. The lack of correlation between SES and the factors under study in this paper lends support to the conclusion that the presence of strategic implementation leadership, implementation climate, and implementation citizenship behavior are not related to the SES of a school. Thus, development of these three inner-organizational factors should not be contingent upon or hindered by the SES of a community.

Regression Findings. As hypothesized, the combination of implementation climate, implementation citizenship behavior, strategic implementation leadership, and SES accounted for significant variance in all three outcome variable models: penetration, adherence, and competence. The moderately strong correlation among the three inner-organizational factors, suggests that their combined salience was related to the three outcomes. Prior research indicated that this finding could be expected. Hallinger and Heck (1996) found a mediational effect of a principal's influence on school climate and principal leadership on student outcomes, reflecting that these inner-organization factors act together to influence student success. Similarly, Haider et al. (2017) revealed a moderating relationship between leadership implementation support and organizational citizenship behavior in medical settings with regard to EBP implementation. Of note, the bulk of prior research showing predictive relationships between implementation factors and outcomes has taken place in settings other than schools, thus the current findings bring previously undiscovered support for the combination of inner-organizational implementation constructs of climate, leadership, citizenship behavior and their relationship to penetration, competence, and adherence.

Neither SES, implementation climate, nor implementation citizenship behavior was uniquely associated with penetration, adherence, or competence. Because SES was not correlated with any of the implementation outcomes, it is not surprising that it was not associated with penetration, adherence, or competence. However, the lack of significant results linking implementation climate and implementation citizenship behavior to each outcome was unexpected. One possible explanation for the lack of significant results is that additional factors that were not factored into the current study interfered with the ability to detect significant relationships. For example, Domitrovich et al. (2008) discuss that schools with high staff

turnover rates and high student mobility can have significant difficulty with achieving penetration outcomes. Additionally, lack of school staff buy-in has been shown to be related to a decrease in EBP implementation adherence (Langley et al., 2010). Finally, Klimes-Dougan and colleagues (2009) reported findings in which implementation of a Tier 2 intervention in schools resulted in higher intervention fidelity by teachers who reported low motivation and job satisfaction. Because none of these constructs were factored into the model, these or other undetected constructs may have been present and could have accounted for the citizenship and climate being not uniquely associated with penetration, competence, and adherence outcomes.

A second explanation for the lack of significant findings may be due to the unique setting in which interventions are delivered in schools possibly precluding the extension of research findings from medical, mental health agency, and public sector settings to school settings. Prior research in mental health agencies has shown that higher organizational climate is linked to higher EBP implementation (Novins et al., 2013). Organizational citizenship behavior in medical settings has been shown to be related to EBP implementation (Haider et al., 2017). In community mental health agencies higher usage of an evidence-based behavior management parenting program was higher in agencies with greater organizational climate (Asgary-Eden & Lee, 2012). The lack of similar findings in the current study may be indicative of schools being more decentralized and staff acting more autonomously than traditional medical and mental health settings. Traditionally, social, emotional, and behavioral interventions for students in schools are delivered in individual classrooms. School staff who exhibit implementation citizenship behaviors may have less organization implementation impact due to the silo-ed nature of school classrooms and learning environments. The relatively isolated nature of individual staff members in a school may lend itself to the inability of citizenship behaviors to be observed

readily by colleagues thus hindering the ability for implementation efforts to be propagated by other staff members. Similarly, implementation climate characteristics that are present in a school organization as a whole may not be permeate into the fabric of each individual classroom and may not be sufficient to provide for those staff members to competently deliver interventions, deliver interventions with adherence, or reach great numbers of students due to staff members primarily working individually in classrooms.

In each of the three models, strategic implementation leadership was uniquely associated with penetration, adherence, and competence. This finding extends the current substantial literature base that clearly establishes a link between strong principal leadership, student/school success, and facilitation of mental health intervention implementation in schools (Hallinger & Heck, 1996; Kam et al., 2003; Langley et al., 2010). The findings in this study further defines the concept of general leadership as a mechanism that aids in intervention fidelity outcomes and places the emphasis on the importance of strategic implementation leadership for the success of school mental health implementation outcomes. One possible explanation for the link between leadership and competence relates to the qualities embodied in an effective implementation leader (which include taking a proactive stance, knowledgeable, supportiveness, and perseverance) enabling staff to implement an intervention with sufficient skill. An effective implementation leader provides opportunity for staff to receive corrective performance feedback on their delivery of EBPs thereby increasing a staff members self-efficacy and ability to deliver an intervention with increased competence. Explaining the link between leadership and penetration, one can look to the ability for a strategic implementation leader to be a driving force in the dissemination of an intervention throughout the organization and by taking a supportive stance as staff proceed in a rollout, assisting staff in navigating implementation barriers and

striving to reach more students. The relationship between leadership and adherence may be explained by the proactive stance taken by a strategic implementation leader who eliminates competing priorities to keep the target intervention high on the priority list for staff.

Additionally, implementation leaders provide appropriate in-service trainings and coaching for staff, thereby enabling staff adherence to intervention components that are key to the intervention's success. As a whole, strategic implementation leadership appears to act as a catalyst to provide an environment in which staff are supported in their work to implement EBPs and provides a strong administrative role model whom staff can follow in their EBP implementation endeavors.

Implications for Practice

This study lends support for the importance of strengthening inner-organizational factors to promote implementation outcomes. Results of this study suggest an interplay among implementation citizenship behaviors, implementation climate, and strategic implementation leadership that, when combined, influence implementation outcomes. Strengthening these inner-organizational factors will lead to improvements in penetration, competence, and adherence.

Because of the significant findings relating strategic implementation leadership to each of the three outcomes under study, a strong emphasis should be placed on creating effective leaders who prioritize strategic implementation leadership and will act as champions within their organization to spearhead effective implementation. Strategic implementation leaders take a proactive stance on, are knowledgeable about, and persevere to support implementation of EBPs (Aarons et al., 2014). School administrator training programs need to be providing sufficient education to their trainees about the use of EBPs in schools to support student mental health and the importance of evidence-based interventions to promote overall student achievement and

well-being. Additionally, administrator training programs need to be educating their new school leaders on methods to initiate and sustain a school culture that is supportive and encouraging of EBP use. Finally, efforts need to be made to train existing school administrators on the benefits of being an EBP implementation leader and provide coaching to help seasoned principals and administrators understand the value of becoming a strategic implementation leader. The Leadership and Organizational Change for Implementation (LOCI) intervention shows promise in improving general and strategic leadership in mental health agencies (Aarons, Ehrhart, Farahnak, & Hurlburt, 2015). LOCI is a training program that focuses on leadership development using didactic training sessions and coaching to develop transformational and transactional leadership behaviors as well as strategic leadership to support EBP implementation. Investigation into the tailoring of LOCI for use with school leadership could be valuable in the development of strategic implementation leadership.

Because strategic implementation leadership operates in tandem with implementation climate and implementation citizenship behavior, these two inner-organizational factors should be strengthened as well in schools. The first step in bolstering these factors will be to educate school employees about the EBPs that are effective for the students they serve (Evans, Koch, Brady, Meszaros, & Sadler, 2013). Next, work needs to focus on educating staff to recognize the benefits of implementing EBPs. Thus, education about EBPs that are effective and the benefits of implementing EBPs should go hand in hand. Next, it will be important to educate staff and leadership about the qualities of implementation citizenship behavior and facets of a strong implementation climate that coincide with strategic implementation leadership to support effective implementation outcomes. These should include staff helping others to implement, teach others about, and share in implementation responsibilities for EBPs and keeping informed

about EBPs as well as employee behaviors that are facilitative of EBP implementation. Finally, it will be important for staff to have a strong understanding of the context in which an EBP is being implemented and adhere to delivery of the key components of the intervention in tandem with this knowledge of context.

The findings from this study showed that SES was not correlated with the three inner-organizational factors and did not moderate the relationship between these factors and outcomes. Given the discrepant findings within the existing literature, it is clear that more research needs to be done to further investigate the nuances of SES with regard to implementation. However, results from the current study suggest that strengthening strategic implementation leadership, implementation citizenship behaviors, and implementation climate should be possible in all schools regardless of SES.

Limitations

There are several limitations to the current research. One of the limitations of the study was the size of the sample ($N = 196$). Due to respondents not completing all items of the survey, values for predictors were estimated using multiple imputation. Although, multiple imputation is a valid tool to use for missing data, having an initial complete sample would have been preferable. A second limitation of the study was that the study relied upon respondent perception of implementation factors and outcomes, and it is possible that some participants may have used their “best guess” in estimating intervention adherence, competence, penetration, and/or the presence of key implementation factor constructs. Additionally, the study relied upon single informant methods of ratings of these factors only and lacked a more robust system of using multi-informant methods. Although survey data is inherently based upon respondent perception, there is always a question of what an unbiased, uninvolved researcher would have observed. The

study lacked direct observational data, which would have been valuable in measuring constructs such as adherence to intervention delivery and the number of students a given intervention reached (penetration).

Finally, average household income of the zip code for each school was used as a proxy for school SES. This is possibly a limited view of school makeup, as it does not reflect the actual makeup of the student body. Using the actual SES makeup of a given school would have been a better metric. Additionally, having an indication of the available resources (e.g., Title 1 funds, other external funding) in each school would have been a helpful piece of data to factor in to the analysis.

Future Directions

The results from this study may be used in future, large-scale investigations of similar constructs and may pave the way for more detailed investigation of how the three factors under study interact to predict competence, adherence, penetration, and other implementation outcomes. An investigation of the predictive nature of the key constructs within strategic implementation leadership, implementation climate, and implementation citizenship behavior and how they relate to implementation outcomes will be helpful in understanding the interplay among the factors and specific elements of each factor that are most salient in producing implementation outcomes. Further, using objective methods of data collection, such as independent observation of intervention adherence and number of students reached, will also extend the research by limiting the potential bias present in the survey data collection methods of this study.

Additionally, due to the contradictory nature of this and prior research regarding the impact of SES on implementation, more research regarding the nuances of SES and resource

allocation would perhaps provide clarity to the mechanisms by which SES could affect implementation outcomes. As mentioned previously, SES can have an effect on staff mobility, staff engagement in the school setting, and staff self-efficacy. Further, this study paves the way for more detailed investigations regarding setting and context and how they may affect the salience of each inner-organizational factor.

Overall Summary

The field of implementation science is just beginning to clearly describe and operationalize implementation outcomes and implementation factors. With the help of implementation frameworks and definitions of key implementation constructs, current researchers in the field are paving the way for significant discoveries. The current study contributes to the field by investigating the relationship among inner-organizational factors and implementation outcomes. Although this study was impacted by a small sample size and missing data, it demonstrated that a significant associative relationship among strategic implementation leadership and three implementation outcomes (penetration, adherence, and competence) exists. Similar relationships were not found among implementation climate and implementation citizenship behavior, however all three inner-organizational factors, when taken together with SES, did account for significant variance in each of the regression models. The findings from the current study impact the field of implementation science by increasing the knowledge of how inner-organizational factors impact implementation outcomes, specifically in schools. Additionally, the findings from the current study highlight the importance of strong administrative leadership in schools, and pave the way for shaping the role that administrators play in implementation of EBPs in schools, specifically in their ability to provide strategic implementation leadership in their setting.

Table 1.
Demographics of Sample

Characteristic	<i>N</i>	%
Gender:		
Female	155	79.1
Male	39	19.9
Degree Held:		
Master's	151	77.0
Education Specialist	19	9.7
Doctor of Philosophy	6	3.1
Doctor of Psychology	8	4.1
Bachelor's	1	0.5
Other	8	4.1
Age:		
20-29	4	2.0
30-39	68	34.7
40-49	58	29.6
50-59	45	23.0
60-69	14	7.1
Race/Ethnicity:		
White/Non-Hispanic	148	75.5
Hispanic/Latino	22	11.2
Black/African American	12	6.1
Asian	10	5.1
American Indian/Alaskan Native	4	2.0
Native Hawaiian/Pacific Islander	2	1.0
Other	4	2.0
Unreported	7	3.6

Table 2.
Descriptives and Zero-Order Correlations

Measure	<i>N</i>	<i>M</i>	(<i>SD</i>)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
<i>Outcomes</i>													
1. Penetration	118	4.30	(3.15)	--									
2. Adherence	148	3.70	(1.40)	.63 **	--								
3. Competence	132	3.61	(1.40)	.56 **	.66 **	--							
<i>Block 1 Predictors</i>													
4. SES	186	82166.76	(33644.94)	-.07	.01	.04	--						
5. Climate	192	2.29	(0.93)	.30 **	.45 **	.52 **	.00	--					
6. Citizenship	176	1.91	(0.98)	.41 **	.45 **	.52 **	-.01	.78 **	--				
7. Leadership	161	2.02	(1.00)	.41 **	.51 **	.63 **	-.01	.72 **	.65 **	--			
<i>Block 2 Predictors</i>													
8. Climate*SES		--		.04	.04	-.07	-.10	-.05	-.03	.04	--		
9. Citizenship*SES		--		.06	.11	-.05	-.09	-.03	-.01	.02	.84 **	--	
10. Leadership*SES		--		-.05	.06	-.05	-.04	.03	.02	.06	.80 **	.73 **	--

Note . Penetration = percent of students program has reached; Adherence = total score of teacher's adherence to intervention delivery; Competence = total score of teacher's competence in intervention delivery; Climate = composite of 15 Implementation Climate items from the Implementation Climate Scale questionnaire; Citizenship = composite of 6 items from the Implementation Citizenship Behavior Scale; Leadership = composite of 12 items from the Implementaiton Leadership Scale; SES = Average Household Income of the area in which the school is located.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3.
Model Results for Penetration

	Block 1				Block 2				
	R^2_{total}	R^2_{adj}	b	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	b	sr^2
<i>Model Fit</i>	0.21 ***	0.18			0.02	0.22	0.17		
<i>Coefficients</i>									
Intercept			4.19 ***					4.21 ***	
SES			-0.36	0.00				-0.25	0.00
Climate			-0.70	0.00				-0.60	0.00
Citizenship			1.24	0.00				1.23	0.00
Leadership			1.02 *	0.04				0.93	0.00
SES*Climate								0.52	0.00
SES*Citizenship								0.27	0.00
SES*Leadership								-0.72	0.00

Note. $N=114$. Block 1 F -change test $df = 4, 109$; Block 2 $df = 3, 106$. Climate, citizenship, income, and leadership were standardized. Penetration = percent of students program has reached; Climate = composite of 15 Implementation Climate items from the Implementation Climate Scale questionnaire; Citizenship = composite of 6 items from the Implementation Citizenship Behavior Scale; Leadership = composite of 12 items from the Implementation Leadership Scale; SES - Average Household Income of the area in which the school is located.

* $p < 0.017$, ** $p < 0.003$, *** $p < 0.001$. (adjusted per Bonferroni procedure)

Table 4.
Model Results for Adherence

	Block 1				Block 2				
	R^2_{total}	R^2_{adj}	b	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	b	sr^2
<i>Model Fit</i>	0.28 ***	0.26			0.02	0.30	0.26		
<i>Coefficients</i>									
Intercept			3.68 ***					3.68 ***	
SES			0.00	0.00				0.00	0.00
Climate			0.09	0.00				0.08	0.00
Citizenship			0.16	0.00				0.16	0.00
Leadership			0.52 **	0.06				0.52 **	0.06
SES*Climate								-0.30	0.00
SES*Citizenship								0.45	0.00
SES*Leadership								-0.03	0.00

Note. $N=113$. Block 1 F -change test $df = 4, 135$; Block 2 $df = 3, 132$. Climate, citizenship, income, and leadership were standardized. Adherence = total score of teacher's adherence to intervention delivery; Climate = composite of 15 Implementation Climate items from the Implementation Climate Scale questionnaire; Citizenship = composite of 6 items from the Implementation Citizenship Behavior Scale; Leadership = composite of 12 items from the Implementation Leadership Scale; SES - Average Household Income of the area in which the school
 * $p < 0.017$, ** $p < 0.003$, *** $p < 0.001$. (adjusted per Bonferroni procedure)

Table 5.
Model Results for Competence

	Block 1				Block 2				
	R^2_{total}	R^2_{adj}	b	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	b	sr^2
<i>Model Fit</i>	0.39 ***	0.37			0.01	0.40	0.36		
<i>Coefficients</i>									
Intercept			3.60 ***					3.60 ***	
SES			0.01	0.00				0.00	0.00
Climate			0.02	0.00				-0.02	0.00
Citizenship			0.10	0.00				0.12	0.00
Leadership			0.75 ***	0.13				0.77 ***	0.13
SES*Climate								-0.23	0.00
SES*Citizenship								0.07	0.00
SES*Leadership								0.04	0.00

Note. $N=123$. Block 1 F -change test $df = 4, 120$; Block 2 $df = 3, 117$. Climate, citizenship, income, and leadership were standardized. Competence = total score of teacher's competence in intervention delivery; Climate = composite of 15 Implementation Climate items from the Implementation Climate Scale questionnaire; Citizenship = composite of 6 items from the Implementation Citizenship Behavior Scale; Leadership = composite of 12 items from the Implementation Leadership Scale; SES - Average Household Income of the area in which the school

* $p < 0.017$, ** $p < 0.003$, *** $p < 0.001$. (adjusted per Bonferroni procedure)

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Appendix

Implementation Science Survey

Implementation Science Survey

Welcome and instructions

PLEASE READ THESE INSTRUCTIONS BEFORE COMPLETING THE SURVEY.

We want to thank you for agreeing to complete this survey. The purpose of this survey is to assess your perceptions of factors influencing the implementation of evidence-based practices targeting students' social, emotional, and behavioral functioning. This survey is split up into two parts.

The first part will assess your perceptions of factors related to universal (Tier 1) level of supports in schools. For example, School-wide Positive Behavior Interventions and Supports (SWPBIS) is a widely implemented Tier 1 program that promotes positive behavior and orderly, safe, and productive learning environments. The second part of the survey will assess your perceptions of barriers and facilitators related to consulting with teachers and other educators on the implementation of individualized interventions (e.g., Tier 2 or Tier 3 interventions).

You will be entered into a raffle for two \$150 Amazon gift cards (paid by the University of Washington research team). There is no less than 1/200 chance of winning, and each entry has an equal chance of winning. The drawing will be conducted within 2 months of survey completion by research staff supervised by the study investigator in Seattle, Washington. The two winning codes will then be emailed through the PENT listserv and winners can contact the Diagnostic Center South at vjohnson@dcs-cde.ca.gov or (323) 222-8090 to obtain the gift cards, which will be mailed to you within 4 weeks.

1. Please generate a code that you will need to remember, consisting of 3 letters and 6 digits.

Implementation Science Survey

Thank you! Your code is [Q1].

PLEASE PRINT THIS PAGE FOR YOUR RECORDS.

You have been entered into a raffle for two \$150 Amazon gift cards. There is no less than 1/200 chance of winning, and each entry has an equal chance of winning. The drawing will be conducted within 2 months of survey completion by research staff supervised by the study investigator in Seattle, Washington. The two winning codes will then be emailed through the PENT listserv and winners can contact the Diagnostic Center South at vjohnson@dcs-cde.ca.gov or (323) 222-8090 to obtain the gift cards, which will be mailed to you within 4 weeks.

Implementation Science Survey

School Information

This survey should take you no more than 20-30 minutes to complete.

Remember, participation is voluntary and you can skip any questions you don't want to answer.

IMPORTANT:

We are interested in collecting school location information so that we can understand the larger context in which the school is located. The data will be collected and reported at an aggregate level and will not be used to implicate any individual school. Also, we will not use any of the information to locate the exact school or contact anyone from the school.

Please complete the school location information for the school that you spend the most time at each week. If you split your time evenly across schools, please select the school which you have the most history and familiarity with.

2. Location - please provide your school's zip code:

3. What type of school do you work in?

- Public
- Private
- Military
- Prefer not to answer

* 4. Please provide the percentage of students receiving free and reduced lunch.

- 0 to 15%
- 16 to 30%
- 31 to 45%
- 46 to 60%
- 61 to 75%
- 76 to 90%
- 91% or more
- Don't know
- Prefer not to answer

* 5. Please provide the estimated percentage of non-White students in the school.

- 0-10%
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- 51-60%
- 61-70%
- 71-80%
- 81-90%
- 91-100%
- Don't know
- Prefer not to answer

Implementation Science Survey**Your Information**

Please provide your information.

* 6. What is your gender?

- Male
- Female
- Other
- Prefer not to answer

7. How many years have you been in your profession?

* 8. What is your ethnicity? (check all that apply)

- White/Non-Hispanic
- Hispanic or Latino
- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- Other
- Prefer not to answer

* 9. What is the highest degree you have earned?

- Bachelor's
 Master's
 Educational Specialist (EdS)
 PsyD
 PhD
 Other
 Prefer not to answer

Other (please specify)

10. What is your age?

11. How do you spend your time working in this school? (rank order from most to least)

☰	<input type="text"/>	Consultation with teachers
☰	<input type="text"/>	School administrative and steering team participation
☰	<input type="text"/>	Special education eligibility and re-evaluation assessments (testing, report write up, and meeting to discuss results)
☰	<input type="text"/>	Direct mental health therapy/counseling with students
☰	<input type="text"/>	Providing academic counseling
☰	<input type="text"/>	Delivering remedial academic interventions with students
☰	<input type="text"/>	Screening and progress monitoring
☰	<input type="text"/>	Family outreach and support
☰	<input type="text"/>	Program coordination and implementation
☰	<input type="text"/>	Other

12. If you selected "other" above, please describe your role:

Implementation Science Survey

Perceptions and Support for Social, Emotional and Behavioral Evidence-based Practices

This section will assess your perceptions of the degree to which different aspects of the school organizational climate are supportive of evidence-based practice implementation.

Throughout the remainder of this survey, the term 'evidence-based practices' will be used. This term refers to any program or intervention that is supported by scientific, empirical research to produce beneficial outcomes. For the purposes of this survey, we are focusing on evidence-base practices that target social, emotional and behavioral functioning.

* 13. Please answer the following survey questions as accurately and honestly as possible.

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	Prefer not to answer
This school provides evidence-based practice trainings or in-services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This school provides conferences, workshops, or seminars focusing on evidence-based practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This school provides evidence-based practice training materials, journals, etc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People in this school think that the implementation of evidence-based practices is important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One of this school's main goals is to use evidence-based practices effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using evidence-based practices is a top priority in this district	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This school actively recruits staff who have had formal education supporting evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	Prefer not to answer
This school actively recruits staff who have previously used evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This school actively recruits staff who value evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff who use evidence-based practices are more likely to accumulate compensated time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This school selects staff open to evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This school selects staff who are flexible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This school selects staff who are adaptable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff who use evidence-based practices are held in high esteem in this school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff who use evidence-based practices are seen as experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff who use evidence-based practices are more likely to be promoted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This school provides financial incentives for the use of evidence-based practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff who use evidence-based practices are more likely to get a bonus or raise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Implementation Science Survey

* 14. Please answer the following attitude or belief questions to the best of your ability.

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	Prefer not to answer
I like to use new types of methods/interventions to help students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to try new types of methods/interventions even if I have to follow a teaching/training manual.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know better than academic researchers how to care for students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to use new and different types of methods/interventions developed by researchers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research-based teaching methods/interventions are not useful in practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional experience is more important than using manualized methods/interventions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would not use manualized methods/interventions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would try a new method/interventions even if it were very different from what I am used to doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Implementation Science Survey

* 15. If you received training in a teaching method/intervention that was new to you, how likely would you be to adopt it if:

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	Prefer not to answer
it was intuitively appealing?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it "made sense" to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it was required by your supervisor/administrator?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it was required by your school?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it was required by your district?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it was required by your state?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it was being used by colleagues who were happy with it?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
you felt you had enough training to use it correctly?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Implementation Science Survey

Implementation Citizenship

This section will ask you to respond to items assessing the degree to which people in the building go above and beyond to implement effective practices for students.

* 16. Please indicate the extent to which people in the school do the following:

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	Prefer not to answer
School staff assist others to make sure they implement evidence-based practices properly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff help teach evidence-based practice implementation procedures to new team members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff help others with responsibilities related to the implementation of evidence-based practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff keep informed of changes in evidence-based practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff keep up with the latest news regarding evidence-based practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School staff keep up with school communications (announcements, memos, and so on) related to evidence-based practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Implementation Science Survey

Perceptions of Implementation Leadership

This section will ask you to respond to items assessing the degree to which the administrator (principal) at the school is knowledgeable, supportive, and prepared to implement evidence-based practice targeting students' social, emotional, and behavioral functioning.

* 17. Please indicate the extent to which you agree with each statement.

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	Prefer not to answer
Our school administrator has developed a plan to facilitate implementation of evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator has removed obstacles to the implementation of evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator has established clear department standards for the implementation of evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator is knowledgeable about evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator is able to answer my questions about evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator knows what he or she is talking about when it comes to evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator recognizes and appreciates employee efforts toward successful implementation of evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	Prefer not to answer
Our school administrator supports employee efforts to learn more about evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator supports employee efforts to use evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator perseveres through the ups and downs of implementing evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator carries on through the challenges of implementing evidence-based practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our school administrator reacts to critical issues regarding the implementation of evidence-based practice by openly and effectively addressing the problem(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Implementation Science Survey**Training and Other Supports for Evidence-Based Programs or Practices**

This section is intended to assess the resources the school has received and the types of exposure/trainings staff have received regarding the implementation of evidence-based practices, particularly at the universal-level (that is, Tier 1) for all students that target their social, emotional, and behavioral functioning.

You may skip any questions you prefer not to answer.

* 18. Have the professionals (teachers, paraprofessionals, coaches, etc.) in the school received training in any of the four programs:

- (a) School-wide Positive Behavior interventions and Supports (BEST Behavior, PBS, Project ACHIEVE, etc.)
- (b) Social-Emotional Learning Curriculum (Second Step, PATHS, Caring School Community, etc.)
- (c) Good Behavior Game or PAX, and/or
- (d) Proactive Classroom Management (e.g., Responsive Classroom, CHAMPS, etc.)

- Yes
- No
- Prefer not to answer

Implementation Science Survey**Training and Other Supports for Evidence-Based Programs or Practices**

19. Professionals in the school have received specific training in School-wide Positive Behavior Interventions and Supports (SW-PBIS).

- Yes
- No
- Prefer not to answer

Implementation Science Survey**Training and Other Supports for Evidence-Based Practices**

20. Professionals (teachers, paraprofessionals, coaches, etc.) in the school have received training in delivering a Social-Emotional Learning Curriculum (e.g., Second Step, PATHS, Caring School Community, Strong Kids, etc.).

- Yes
- No
- Prefer not to answer

Implementation Science Survey**Training and Other Supports for Evidence-Based Practices**

21. Professionals in the school have received training in the Good Behavior Game or PAX.

- Yes
- No
- Prefer not to answer

Implementation Science Survey**Training and Other Supports for Evidence-Based Practices**

22. Professionals (teachers, paraprofessionals, coaches, etc.) in the school have received training in Proactive Classroom Management System (e.g., Responsive Classroom, CHAMPS, Positive Discipline, etc.).

- Yes
- No
- Prefer not to answer

Implementation Science Survey**Training and Other Supports for Evidence-Based Practices**

23. Professionals (teachers, paraprofessionals, coaches, etc.) in the school received training in another evidence-based practice that was not covered above.

- Yes
- No
- Prefer not to answer

If yes, please name the evidence-based practice:

Implementation Science Survey**Funding Support for Evidence-Based Practices**

* 24. Please check all the types of funding support the school received to support implementation of evidence-based practices.

- Federal grants [government (e.g., SAMSHA, or USDOE) or national agency or foundation (e.g., NEA)]
- Title 1 resources (funds provided to schools with high proportion of poor children)
- School improvement grant (state or regional funds to help struggling schools turnaround and reform)
- Levy funds from a local or state initiative
- District level resources dedicated to implementation
- Other funding source
- Prefer not to answer

Implementation Science Survey

Copy of page: Fidelity of implementation

This section assesses the degree to which certain evidence-based universal programs or interventions are implemented with fidelity.

We are asking you to provide an aggregate or holistic estimate, which includes yourself, of the implementation of the particular program in your school.

- * 25. Of the appropriate times to implement this program, to what extent do staff implement it as it was planned or designed?

Never	Rarely	Sometimes	Occasionally	About half the time	Often	Very often	Always	Prefer not to answer
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- * 26. Of the school's population, please give your best estimate of the percentage of students this program has reached since it was first introduced.

- 0 to 10%
- 11 to 20%
- 21 to 30%
- 31 to 40%
- 41 to 50%
- 51 to 60%
- 61 to 70%
- 71 to 80%
- 81 to 90%
- 91 to 100%
- Prefer not to answer

- * 27. To what extent do you use or implement this program 'by the book' (i.e., in exactly the same way and with the same intensity as you learned it in the initial training)?

Never	Rarely	Sometimes	Occasionally	About half the time	Often	Very often	Always	Prefer not to answer
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 28. To what extent do staff add, skip, ignore, or reorder parts of this program?

Never	Rarely	Sometimes	Occasionally	About half the time	Often	Very often	Always	Prefer not to answer
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 29. When staff use or implement this program, how well (with what level of skill) do they deliver it?

No skill at all	Minimal skill	Partial skill	Some skill	Moderate skill	Good skill	With near perfect skill	With perfect skill	Prefer not to answer
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 30. To what extent is this program resulting in its desired effects?

Not at all	Very slight extent	Slight extent	Okay extent	Moderate extent	Good extent	Great extent	Very great extent	Prefer not to answer
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Implementation Science Survey

Part Two - Barriers and Facilitators to Consultation

In this section, you will be asked to answer specific questions about barriers and facilitators you've experienced when consulting with others to implement individualized interventions for students with social, emotional, and behavioral problems (e.g., Tier 2, such as Check in/Check out or Tier 3 interventions, such as a function-based behavior intervention plan).

Implementation Science Survey

31. Do you consult with teachers and other staff on the implementation of individualized interventions?

Yes

No

32. To what extent do you find each of the following consultation strategies to be effective in facilitating the implementation of individualized interventions for students with social, emotional, and behavioral problems?

(Note: If you don't use a particular strategy, check the box that says "I don't use this strategy")

	I don't use this strategy	Not at all effective	Minimally effective	Somewhat effective	Moderately effective	Very effective
Providing performance-based feedback	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing incentives (e.g., offer to cover to class, relief of a duty, gift cards, letters of commendation, etc.) to implement the intervention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Modeling the implementation of specific features of the intervention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distributing educational materials to support implementation (e.g., providing an intervention script that outlines precisely how to implement it with fidelity)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing the implementer with choices about which intervention or how to implement the intervention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showing research evidence that demonstrates how the intervention works	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	I don't use this strategy	Not at all effective	Minimally effective	Somewhat effective	Moderately effective	Very effective
Using testimonials from others who have experienced success with the intervention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-correcting problems by checking in with the implementer immediately before implementation begins and reminding him/her what successful implementation entails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Giving rationales for how the intervention will make life better for the implementer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating a learning collaborative (e.g., professional learning community)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing ongoing training (i.e., introducing new content over time)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing ongoing consultation (for content already covered in training)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shadow other experts (i.e., directly observe experienced people use the intervention)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use train-the-trainer strategies (i.e., train individuals who will then train others)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make training dynamic (i.e., use interactive method and vary the information delivery methods to cater to different learning styles and work contexts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>33. What other strategies (not listed above) have you experienced success with to help increase a consultee's delivery of interventions with fidelity?</p> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>						

34. Identify the frequency with which you personally encounter some of the following barriers that impede a consultee's willingness/ability to adopt and implement individualized interventions with fidelity.

	Never experienced this barrier	Rarely experienced	Sometimes experienced	Often experienced	Almost always experienced
Person has an unfavorable attitude toward the intervention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person says they don't have enough time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person is stressed and overwhelmed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person dislikes the student who is the target of the intervention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person has alternative motive (e.g., ultimately wants the student removed for their setting)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person doesn't comprehend how to implement the intervention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person is insufficiently trained to understand behavior and related interventions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person does not believe it is part of his/her job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is no expectation by leadership to implement behavioral interventions with fidelity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person does not embrace the child as his or her own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person does not believe that the intervention will work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person believes that what she or he is currently doing is sufficient and effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person is generally disinterested in implementing something new	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never experienced this barrier	Rarely experienced	Sometimes experienced	Often experienced	Almost always experienced
Person is in a late stage of career and appears unwilling to change practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Implementation Science Survey

35. In the schools in which you consult with teachers, to what extent do you believe you're effective at:

	Not at all effective	Slightly effective	Somewhat effective	Moderately effective	Very effective
making sure the intervention is feasible to implement?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
increasing their perceived acceptability of intended intervention?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ensuring that the intervention is appropriate and fits well with teachers' classroom environments?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
increasing the fidelity with which they implement the intended intervention as planned?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. In the school I spend the most time consulting, I....

	Strongly disagree	Disagree	Agree	Strongly agree
Am visible in the school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have been a consistent figure in the school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have an office that is easily accessible to school staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reach out to members of the school community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Act like I belong in the school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understand how the school operates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make an effort to build relationships with teachers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Show up for after school or evening events at the school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understand school policies and procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am embraced as a member of the school community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am included in school communications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am familiar with the local community in which the school is embedded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collaborate with others in the school on multiple efforts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>