Provider Factors Associated with Motivation for Training in an Effectiveness-Implementation Trial of Autism Evidence-Based Practices

Cognitive Science Honors Thesis

Olivia Michael

A13235470

John Muir College

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Kassandra Martinez- graduate student **Date**

6/7/2022

Dr. Lauren Brookman-Frazee- faculty advisor **Date**

6/3/2022

Dr. Terry Jernigan- faculty advisor **Date**

UC San Diego Cognitive Science

CASRC Child and Adolescent Services Research Center

Abstract

Many studies have shown the efficacy, cost-effectiveness, and improved outcomes associated with the use of evidence-based practices (EBPs) in mental health settings (Drake et al., 2001, Brookman-Frazee et al., 2012). Provider characteristics associated with implementation outcomes are a necessary focus of research to improve the methods to scale up these EBPs for multiple service systems, as providers play an essential role in the successful implementation of EBPs (Brookman-Frazee et al., 2018, Brownson, Colditz, & Proctor, 2012). The present study examines therapist-level factors (i.e., demographics, EBP attitudes, organizational climate) associated with the provider's initial motivation for training in one of two mental health interventions for autism ("An Individualized Mental Health Intervention for Autism Spectrum Disorder" (AIM HI; Brookman-Frazee et al., 2021) and "Classroom Pivotal Response Teaching" (CPRT; Suhrheinrich et al., 2019). Data were collected from 490 providers from 74 programs/districts. Providers were 89.2% female and 28.2% Hispanic and 229 were trained in AIM HI, while 261 providers were trained in TEAMS CPRT. Results showed a positive correlation between EBP attitudes and provider motivation (r = .41, p <.001) and implementation climate and provider motivation (r = .27, p <.001). Providers' years of experience and motivation (r = -.12, p = .01) were negatively correlated. No significant differences in motivation by provider race/ethnicity (F = .39, p = .68) nor by study were found (t = 1.34, p = .18).These results point to the importance of examining and addressing therapist-level factors, such as EBP attitude, organizational climate, and years of experience, prior to implementation of EBPs, which might play a role in provider training completion and intervention fidelity across multiple service systems.

Introduction

Service Systems for Autism Treatment

As the prevalence of autism spectrum disorder (ASD) continues to increase, the need for effective interventions and resources for children and their families is growing (World Health Organization, 2021). Due to the complexity of autism, families seek out early and intensive interventions to address the challenging behaviors and co-occurring mental health needs of their children (Croen et al., 2006). Without these behavioral interventions, long-term outcomes for children with autism are much poorer than those who have access to these supports (Posar & Visconti, 2019). To gain access to these interventions, many families rely on multiple publicly funded service systems such as mental health (MH) or education (ED) (Brookman-Frazee et al., 2009). Despite the availability of these service systems, many families of children with autism are still significantly more at risk for having unmet care needs and are more likely to report providers' lack of autism-related skills to treat their child (Chiri & Warfield, 2011).

In the school setting, the number of children with autism served by schools has grown fivefold since 2000, making it increasingly difficult to provide every child with the treatment that they need (National Center for Education Statistics, 2016). This increase combined with a reported lack of funding, knowledge, and training, appropriate resourcing, and class sizes all contribute to even further barriers to providing effective treatment for children with autism in the school setting (Hodgetts et al., 2014). The community mental health system also plays a particularly important role in treatment, with about 21% of therapist's caseloads being children seeking treatment of behavioral and co-occurring psychiatric problems associated with autism ((Brookman-Frazee et al., 2010). Similar to the school setting, there are also gaps in community

MH services including a lack of specialized knowledge of autism and tools for working with this population (Brookman-Frazee et al., 2009).

Due to the various barriers present in these service settings, there has been a push to develop and implement evidence-based mental health interventions (Brookman-Frazee et al., 2021; Suhrheinrich et al., 2019). Evidence-based mental health interventions (EBPs) in the MH and ED settings are typically comprehensive packages of intervention strategies for MH providers or teachers that have been found to improve social communication, play, and engagement and effectively reduce challenging behaviors for children with autism (Wong et al., 2015). Although there has been a considerable amount of research on the development of these EBPs, many of these practices are not routinely used in community-based care (Drake et al., 2003). Additionally, when these practices are introduced, there is variability in training completion and fidelity of MH providers and teachers participating in the EBPs (Suhrheinrich et al., 2013; Brookman-Frazee & Stahmer, 2018). This has prompted further research on the fit of interventions for specific communities and ways to increase successful uptake and sustained deliveries of EBPs in community-based care (Brookman-Frazee & Stahmer, 2018; Dingfelder & Mandell, 2010).

Providers Role in EBPs

Within research on the successful implementation of EBPs, the role of the provider has become a focus of interest. As provider fidelity in EBPs implementation is directly related to child outcomes, testing methods of improving implementation outcomes of providers is crucial to ensuring positive child-level outcomes (Mandell et al., 2013). Due to the differences in roles that providers assume in MH and ED settings, it is important to consider both service settings when thinking of ways to improve provider fidelity. For example, in MH settings sessions tend to

be more personalized while ED sessions tend to take place in the classroom setting. To consider the effect of these differences, the following research study will look at two mental health evidence-based interventions for autism; An Individualized Mental Health Intervention for autism (AIM HI) and Classroom Pivotal Response Teaching (CPRT). As AIM HI and CPRT share many common methods, these studies are excellent for setting comparisons that are needed to determine factors limiting successful uptake and sustained deliveries of EBPs in community-based care (Brookman-Frazee & Stahmer, 2018; Wood et al., 2015).

In the clinic-based MH setting, AIM HI is a package of well-established, partially parent-mediated, and child-focused evidence-based practices aimed to reduce challenging behaviors in children with autism (Brookman-Frazee et al., 2021). While in the school setting, CPRT is a naturalistic behavioral intervention adapted from pivotal response training for use during classroom activities to target social, communication, behavior, and learning skills (Suhrheinrich et al., 2019). These interventions have taken part in large-scale trials conducted in the targeted community service settings which have shown high levels of support for the overall effectiveness for improving child outcomes when providers complete training and deliver the interventions with fidelity (Brookman-Frazee et al., 2012). However, data from the AIM HI and CPRT effectiveness trials indicate that, even when interventions are systematically adapted, there is a strong community partnership, and best practices are used, there is still variability in training completion and fidelity of providers (Suhrheinrich et al., 2013). This could indicate that factors beyond intervention characteristics, such as provider characteristics before training begins, play a role in later completion and fidelity of providers in both the MH and ED settings.

Provider Characteristics at Baseline

Many types of provider characteristics could potentially play a role in treatment. Past research has found that doctoral-level training, lower burnout, and increased clinical experience all contributed to better attitudes toward EBP use in treatment (Reding et al., 2013). On the other hand, ethnicity, caseload discrepancy, amount of EBP supervision, EBP training count, and time since EBP training were not associated with better attitudes toward EBP use in treatment (Reding et al., 2013). This is of significance as one of the most well-examined provider characteristics that influence barriers in the adoption of EBPs is provider attitudes (Aarons et al. 2010). Studies on this topic suggest that provider attitudes before EBP training, especially openness to the use of EBP and perceptions of EBP appeal, are linked to fidelity after training (Aarons et al., 2010). When thinking about the connection to motivation, research shows that a more favorable attitude may increase the motivation to work toward the underlying goal (Brügger & Höchli, 2019). Although attitudes seem to predict underlying motivation, little research has been done to examine the provider characteristics before training that directly influence provider motivation to train in and implement EBPs. By determining what factors may influence provider motivation before an intervention, key insights can be made about ways to best engage providers, shift attitudes, and provide the support that is needed for training completion and fidelity.

Motivation is the process by which goal-directed activities are both initiated and sustained (Cook & Artino, 2016). Self‐determination theory proposes that optimal performance results from intrinsic interests or extrinsic values that have become internalized (Cook & Artino, 2016). As intrinsic and extrinsic values play such an important role in goal achievement, it is important to consider what intrinsic or extrinsic characteristics MH and ED providers possess that may play a role in their motivation to implement EBPs pre-training. For example, past research has found that providers initially have a high motivation to engage in EBP training due

to their internal motivation to learn and grow in their ability to treat challenging clients (Marques et al., 2016). However, in many cases, this initial high internal motivation to engage in EBP training does not transfer to implementing the EBPs following training, perhaps due to perceived barriers (Lyon et al., 2013; Marques et al., 2016). Whereas external factors to the provider such as the client's openness to EBPs, the client's use of resources, and the client's relationship with the provider have also been found to influence provider motivation to engage in EBP (Marques et al., 2016). Beyond this, external pressure from organizational leadership and the insurance companies plays a role in increasing providers' initial motivation to learn EBPs (Marques et al., 2016; Aarons, 2006). By understanding what influences provider motivation before training (i.e., intrinsic interests or extrinsic values) important insights can be made about tailoring EBP training to ensure that it best fits with provider goals and sustained engagement in the intervention.

One important distinction to make is that there are some considerable and characteristic differences between MH and ED settings and the providers who work in the settings. In schools, teachers attempting to use these programs in classrooms report barriers related to the fit of the model for their teaching setting and for a broad range of students with different learning needs, which is in direct contrast to MH service settings that tend to be in more controlled settings (Stahmer, Collings, & Palinkas, 2005). Other system-wide factors such as support from MH administrators vs ED administrators, availability of community resources, and encouragement from outside voices such as insurance companies vary by service system (Marques et al., 2016). Factors such as provider burnout, perceptions about EBPs, and time and energy to learn EBPs may also account for provider-level differences in MH vs ED settings (Marques et al., 2016). For this reason, it is essential to conduct an analysis that considers both MH and ED settings and

determine what individual factors play a role in the initial motivation that providers have for implementing EBPs.

The Current Project

The proposed project intends to determine what factors play a role in pre-training motivation for providers. This information will help to inform future researchers on how to best tailor EBP training to encourage sustained provider engagement and increase long-term fidelity. In addition, by comparing providers from two different service settings, information on provider motivation across different environments will serve to inform how EBP training should take place across service settings. This study specifically has the following aims:

1) Define the descriptives on provider motivation (PMI).

2) Determine which provider characteristics (demographics and professional background, EBPAS, Implementation Climate) are associated with PMI.

3) Determine the differences in PMI by study (AIM HI, CPRT).

Based on what is already known about provider motivation, it is predicted that the descriptive statistics of pre-training motivation across both service settings to engage in EBP training will be low. Secondly, provider characteristics (i.e., race/ethnicity, years of practice, provider attitudes about EBPs, and implementation climate) will play a statistically significant role in pre-training motivation to engage in EBP training. Lastly, there will be a statistically significant difference in provider motivation levels at baseline depending on if the provider is housed in an MH or ED setting.

Methods

Procedure

The current study involves secondary data analysis of data collected within two paired Hybrid Type 3 implementation-effectiveness trials: TEAMS (**T**ranslating **E**vidence-Based Interventions for **A**SD: A **M**ulti-level Implementation Strategy) AIM HI and TEAMS CPRT. The research protocol was reviewed and approved by the UC San Diego Institutional Review Board. Data collection was coordinated between these two studies and pooled for analyses. While the overall project assessed provider ratings of motivation, EBP attitudes, and implementation climate at baseline, 6 months post-training, and 6 months follow up, the current analyses are focused on ratings of provider motivation at baseline or pre-training. Programs and districts were recruited over 3 years. Potentially eligible providers were recruited through presentations at staff meetings or team meetings. All providers who chose to participate were given information about the study from the research team and provided with consent obtained prior to data collection. When the baseline data was collected, a $25 gift card per assessment was given to all providers. For detailed information about the TEAMS trial, please see Translating Evidence-based Interventions for ASD: Multi-Level Implementation Strategy (TEAMS).

Participants

A total of 590 providers participated in the study with an average of 8 providers per program or district. The sample included 74 programs/districts and 148 agency/district leaders. In total, 490 providers completed the PMI at baseline. Of these providers, 229 were trained in AIM HI, while 261 providers were trained in TEAMS CPRT. Providers were 89.2% female and 28.2% Hispanic. See Table 1 for more therapist demographic information.

For TEAMS AIM HI, programs were eligible if they provided publicly funded outpatient or school-based psychotherapy services to children in the San Diego, Sacramento, or Los Angeles areas. Therapists were eligible for the AIM HI study if they were: (1) employed as staff or a trainee in an enrolled program, (2) anticipated to provide services for at least the next 7 months (i.e. practicum or internship not ending in next 7 months), (3) had an eligible child on current caseload, (4) did not participate in the prior AIM HI effectiveness trial. School districts were eligible for enrollment in the TEAMS CPRT trial if they provided publicly funded educational services to students in preschool through fifth grade in the San Diego, Sacramento, or Los Angeles areas. Teacher eligibility for CPRT included: (1) being employed in an enrolled district, (2) anticipated employment for at least the full training academic year, (3) having an eligible child in his or her classroom, and (4) did not participate in the prior CPRT effectiveness trial (TEAMS Study; Stahmer & Brookman-Frazee, 2018).

Measures

Provider Demographics Questionnaire

This questionnaire collected key provider demographic information, such as age, gender, race, the highest level of education, and primary discipline.

Provider Motivation Inventory

The Provider Motivation Inventory was adapted from the Parent Motivation Inventory (PMI), which is a self-report measure of parent treatment motivation (Nock & Photos, 2006). The Provider Motivation Inventory is a 25-item self-report measure on a five-point scale (1 = strongly disagree; 5 = strongly agree) measuring provider motivation for training and behavior change. Some example items include “I want my client's behavior to improve” and “I think the

benefits of this treatment will be greater than the costs." For the purposes of this analysis, the PMI score will be calculated by totaling and averaging the score on all elements.

Evidence-Based Practice Attitude Scale (EBPAS)

This measure includes the 15 items in the original Evidence-Based Practice Attitude Scale (Aarons, 2004; Aarons, Glisson, Hoagwood, et al., 2010). The EBPAS assesses provider attitudes toward the adoption of EBP in public sector service settings. The EBPAS consists of a higher-order factor/total scale (i.e., total scale score), representing respondents' global attitudes toward adoption of EBPs, and four lower-order factors/subscales. For the purposes of this analysis, the EBPAS score will be calculated by totaling and averaging the score on all elements (global attitudes).

Implementation Climate Scale (ICS)

The Implementation Climate Scale is an 18-item measure that assesses the degree to which there is a strategic organizational climate supportive of evidence-based practice implementation (Weiner et al., 2011). Implementation climate is defined as employees' shared perceptions of the policies, practices, procedures, and behaviors that are rewarded, supported, and expected in order to facilitate effective EBP implementation (Weiner et al., 2011).

Analytic Plan

In order to assess the first aim of the study, PMI descriptive statistics were generated in SPSS. Specifically, descriptive statistics such as mean and standard deviation of provider motivation will be calculated to identify sample characteristics. A Pearson correlation coefficient was computed in SPSS to assess the linear relationship between EBPAS scores, implementation climate, professional background, and provider motivation. An ANOVA test was run in SPSS to see if there was any correlation between providers' ethnicity and their pre-training score on the

PMI. Lastly, to assess differences in PMI by study (AIMHI, CPRT) an independent sample T-test was run in SPSS.

Results

Aim 1: Define the descriptive statistics on provider motivation using the PMI.

Results for aim 1 are reported in Table 3. The average baseline provider motivation to engage in EBP training was 4.24 with a standard deviation of 0.44. The minimum score on the PMI was 2.16 and the maximum score was 5.

Aim 2: Determine which provider characteristics are associated with PMI.

Results for aim 2 are reported in Table 3. There was a positive correlation between the EBPAS scores and provider motivation ($r = .41$, $p < .001$), such that more positive attitudes towards EBPs at baseline on the EPBAS scale were associated with providers reporting a higher motivation to engage in EBP training (see Figure 1). There was a positive correlation between the implementation climate and provider motivation ($r = .27$, $p < .001$). Higher implementation climate scores at baseline were associated with providers showing a higher motivation to engage in EBP training (see Figure 2). There was a negative correlation between the provider's years of experience and motivation at baseline to engage in EBP training ($r = -.12$, $p = .01$). As the provider's years of experience increased, motivation to engage in EBP training at baseline decreased (see Figure 3). There were no significant differences in motivation for EBP training by provider race/ethnicity ($F = .39$, $p = .68$).

Aim 3: Determine the differences in PMI by study (AIM HI, CPRT).

Results for aim 3 are reported in Table 4. There were no statistically significant differences in PMI by study at baseline ($t = 1.34$, $p = .18$; mean difference = .06). The mean PMI

score for AIM HI was 4.27 with a standard deviation of 0.44. The mean PMI score for CPRT was 4.21 with a standard deviation of .44.

Discussion

One of the first steps in the successful adoption of EBPs is effective training (Beidas & Kendall, 2010). Providers come from various backgrounds, education, organizations, etc., that may play a role in how they view EBPs and their motivation to train in and implement these practices. The goal of this study was to determine provider factors associated with motivation for training in an implementation-effectiveness trial for autism EBPs. The specific aims of this study were to 1) Define the descriptives of provider motivation (PMI) before EBP training. 2) Determine which provider characteristics (demographics and professional background, EBP attitudes, and implementation climate) are associated with provider motivation pre-training. 3) Determine the differences in pre-training provider motivation by study (AIM HI, CPRT).

As a lack of provider motivation has been cited as one key determinant of the uptake of EBPs (Dagne & Beshah, 2021), the current study sought to characterize provider motivation for autism EBP training, including predictors of provider motivation to engage in training and consultation. The first aim of the study was to define the descriptive statistics on provider motivation using the PMI. Contrary to previous studies on provider motivation (Hong et al., 2019; Dagne & Beshah, 2021), providers' motivation to engage in EBP training was relatively high (mean: 4.24 out of 5). This finding implies that, overall, providers who engaged in training for AIM HI and CPRT were motivated to learn these EBPs to better support their clients or students with autism, though there was some variability (range: 2.16- 5). These high ratings may be impacted by the voluntary nature of participation in this trial and the corresponding engagement in EBP training. Alternatively, this could be a hopeful sign of the general motivation

of community providers working with children with autism to learn new EBPs. It will be important for future studies to assess provider-rated motivation in relation to EBP implementation, as has been suggested by qualitative studies of EBP use by nurses and midwives in healthcare settings (Dagne & Beshah, 2021). Determining a holistic view of provider motivators beyond those reported in the PMI might help to better target providers and facilitate implementation in the future.

The second aim was to determine which provider characteristics are associated with PMI. Providers' attitudes towards EBPs are an essential point of focus as past literature suggests that provider attitudes towards the adoption of new treatments, interventions, and practices may serve to either limit or facilitate adoption (Aarons, 2004). As few studies examine the relationship between provider initial attitudes towards EBPs and their motivation to engage in training and consultation for EBPs, the present study addresses this gap. Providers who had more positive attitudes towards EBPs rated themselves to be more motivated to engage in EBP training. This finding aligns well with past literature about attitudes towards EBPs and willingness for behavior change and the use of EBPs (Aarons, 2004). It is essential to consider how poor attitudes about EBPs can be addressed before training to ensure proper motivation to engage in these practices. Interventions such as motivational interviewing may help address some of the negative attitudes that providers may have while also building motivation toward training in EBPs (Harned et al., 2013). Some other suggestions include ensuring proper psychoeducation about EBPs and justification for the use of these practices within both the mental health and education system (Chlebowski et al., 2018). Some of the fears about EBPs are that they will not be a good fit for the clients resulting in a lack of trust in the evidence or research (Spallek et al., 2010). To address negative attitudes that may be promoted by such beliefs, proper psychoeducation with reflection

activities could be implemented within pre-training sessions of EBPs. The larger implementation-effectiveness trial on which this study is based (TEAMS Study; Stahmer & Brookman-Frazee, 2018), will be experimentally testing the effectiveness of an implementation strategy targeting provider motivation on provider attitudes and implementation outcomes.

The second aim of this study also examined the relationship between implementation climate and providers' pre-training motivation to engage in EBPs. In line with previous findings, more positive provider perceptions of implementation were associated with providers' motivation to engage in EBP training. Specifically, a more positive organizational culture was associated with more positive provider attitudes toward EBPs and the intuitive appeal of EBP (Locke et al., 2019; Aarons et al., 2010). Although previous literature has not examined the relationship between organizational culture and climate and pre-training provider motivation, the results of this study suggest that implementation climate may play a role in informing provider motivation, or vice versa. For example, one aspect of the implementation climate could be the strategic hiring of staff with experience in and openness to learning EBPs (Ehrhart et al., 2014), which could in turn impact provider motivation for EBP training. Based on these findings, it is crucial to survey the implementation climate before implementing EBPs. Specifically, needs assessments can examine both provider attitudes and organizational context pre-implementation. When culture and climate are not supportive of EBPs, steps can be taken to ensure improvements that will allow for provider attitude change. Interventions such as Leadership and Organizational Change for Implementation (LOCI) systematically gather information about implementation and leadership climate via a "360" assessment, which in turn informs implementation planning. LOCI has been associated with improved implementation and leadership climate and has been applied to many child service settings. An adaptation of LOCI called the TEAMS Leadership

Institute (TLI) was developed for the larger TEAMS trial and will be tested in relation to these outcomes in ASD service settings (Aarons et al., 2015).

Further results from the second aim show that the more years of experience that a provider had, the less motivated they were to engage in evidence-based practice training. This is in contrast to past research that has found that more clinical experience was associated with higher EBP-specific attitudes (Reding et al., 2013). Although previous studies primarily looked at attitudes, as opposed to motivation, other literature has cited the connection between attitudes and motivation (Qiao et al., 2018). As these findings indicate that more years of provider experience were associated with less provider motivation to engage in EBP training, providers with more years of experience may be an essential target prior to training. Specifically, it may be necessary to engage with providers that have more years of experience and survey what concerns exist in terms of training and implementation of EBPs. By gaining a qualitative understanding of the factors that may be limiting these providers' initial motivation, these barriers can be addressed to ensure the successful training and uptake of EBPs.

Lastly, the second aim of the study examined if there were differences in provider motivation by provider race and ethnicity. Past research has cited that Latinx therapists reported more positive experiences implementing EBPs and encountering fewer client-engagement challenges than therapists from other racial/ethnic groups (Ramos et al., 2021). Interestingly, no significant differences in pre-training motivation by provider race/ethnicity were found. Importantly, previous studies primarily focused on providers' overall experience with evidence-based practices in relation to their race and ethnicity (Ramos et al., 2021). As this study primarily focuses on pre-training motivation, this may point to the idea that before training, providers across the board are motivated to engage in EBPs. If there are differences in attitudes

and motivations towards EBPs used and implementation, this may occur at some other point in the use of EBPs. Future research should track providers' motivation across the entire intervention from training to implementation and monitor points where motivation may increase or decrease. By doing so, extra support can be added to the intervention process to ensure that providers are able to maintain their motivation for EBPs throughout the intervention.

The third aim of the study was to assess if provider motivation differed between the mental health setting and the education setting. Numerous studies have examined factors that may affect the implementation of EBPs in both the school setting (Locke et al., 2019) and in various mental health settings (Marques et al., 2016). However, few studies have directly compared providers' initial motivation to engage in EBP training and determine if it differs by setting. No significant differences in provider pre-training motivation by study were found. This is very interesting when considering the future of implementation methods in both the education and mental health setting. At least prior to training, motivation is relatively stable across the service setting and could be addressed similarly between mental health therapists and teachers. One possible reason for this finding is the voluntary nature of this trial and the fact that most mental health therapists and teachers who agreed to be a part of the study were likely already somewhat motivated to learn more about EBPs.

Some possible strengths of this study are that it included a large sample size from multiple service settings (i.e., mental health, schools) and locations across California. For this reason, it included a very diverse sample that included providers from various organizations, backgrounds, years of experience, and understanding of evidence-based practices. Furthermore, the primary focus was on a baseline or pre-training measure, which meant the response rate was very high. This is in contrast to a post-training or post-intervention measure that may have high

dropout. Additionally, there was roughly an equal sample size between the AIM HI participants and the CPRT participants, which allowed for a similar comparison between the two intervention groups. Lastly, the present study also incorporated the use of well-validated measures of implementation climate and provider EBP attitudes (ICS, EBPAS). These measures have been used in many previous research studies and have been proven to be effective and measure the outcome variables (implementation climate and evidence-based practice attitudes) that were being assessed in this research (Aarons, 2004; Aarons, Glisson, Hoagwood, et al., 2010; Weiner et al., 2011).

Even with these strengths, some limitations were present in the current study. Methodological limitations include primarily using correlational tests to analyze the relationships between different therapist characteristics and motivation to engage in EBP training. The use of these correlational tests could result in issues such as the direction of effect and third variable problems. There may be a third variable within these correlations that could be accounting for the relationship that was seen in these variables. Future studies should use multi-linear regression models as these will potentially help to reduce the effects of the possible error that can be generated from correlational tests. Furthermore, all MH and ED providers were from programs in California. Future studies should include providers from a broader range of locations to survey a diverse representation of different service settings in various communities to ensure the external validity and generalizability of these findings. Lastly, reports of motivation, EBP attitudes, and implementation climate were self-reported and may be subject to a social desirability bias. Providers may not want to admit that they have low motivation to engage in an intervention that has been proven to be effective.

These results point to the importance of examining and addressing therapist-level factors, such as EBP attitude, years of experience, and implementation climate prior to implementation of EBPs, as they might play a role in provider motivation and thus EBP implementation across multiple service systems. Future research should examine elements beyond these provider characteristics (i.e., needs of the client they are working with, previous exposure to EBPs, current understanding of EBPs, etc.) to see if there are any other important provider or organization level factors that might affect providers' initial motivation to engage in EBPs. EBPs for other mental health disorders should also be studied to see if provider characteristics influencing motivation might differ by the domain of intervention. Once a more comprehensive range of data is collected, methods should be developed to determine pre-intervention training or practices that can be used to better support providers who may enter training with lower attitudes or motivation towards EBPs. To best support children with autism and their families, effective methods to scale up EBPs must be considered. Studies such as this one highlight specific factors that may aid in the successful uptake of EBPs and bring the mental health system closer to successfully meeting the service needs of the growing number of children with autism and their families.

Table 1. Descriptive Statistics and Demographic Information (n=490)

Provider Characteristics	N, %
Provider type	
Teacher	261 (53.3%)
Therapist	229 (46.7%)
Provider gender	
Female	437 (89.2%)
Male	41 (8.4%)
Provider race/ethnicity	
Non-Hispanic White	234 (47.8%)
Hispanic	138 (28.2%)
Other Minority/Multiracial	68 (13.8%)
Intervention	
AIM HI	229 (46.7%)
CPRT	261 (53.3%)

Table 2. Descriptives on provider motivation (PMI).

	N	Min.	Max.	M	SD
PMI total	490	2.16	5	4.24	.44
PMI-1. I need to build my skills in working with children who have autism soon.	490	1	5	4.14	.86
PMI- 2. I am willing to work on changing my own behavior to learn new strategies as it relates to managing my client/students.	490	1	5	4.50	.57

PMI- 3. It is very important for the success of my client/student that I use new strategies.	490	2	5	4.22	.75
PMI- 4. I am prepared to come to each training/consultation session for several months in order to learn new strategies.	490	2	5	4.56	.61
PMI- 5. Although I have good intervention skills, I believe I should come to training every session.	490	2	5	4.57	.59
PMI- 6. It is very important for the well-being of my clients/students that I learn new skills.	490	2	5	4.48	.65
PMI- 7. I am willing to change my current intervention techniques and try new ones.	490	2	5	4.46	.60
PMI- 8. I think the benefits of this treatment will be greater than the costs.	490	2	5	4.34	.67
PMI- 9. I would like my behavior to change.	490	1	5	3.59	.86
PMI- 10.I am willing to try intervention techniques even if I think they might not work.	490	1	5	4.02	.73
PMI- 11. I want to be involved in intervention training at this point in time.	490	1	5	4.45	.66
PMI- 12. My client/student will experience many negative outcomes in life if his or her symptoms/skills do not improve.	490	1	5	3.79	.94
PMI- 13. I am motivated to practice the techniques I will learn in training/consultation at work with my client/student.	490	1	5	4.49	.69
PMI- 14. I believe that my behavior cannot change without my involvement in training and consultation/coaching.	490	1	5	3.65	.98
PMI- 15. My experience as a provider will become more negative if my client's/student's symptoms/skills do not improve.	490	1	5	2.87	.99
PMI- 16. I am eager to participate in training, consultation/coaching.	490	1	5	4.44	.68

PMI- 17. I believe that changing my own skills can cause my client's/student's behavior to change.	490	1	5	4.25	.70
PMI- 18. I want my client's/student's behavior to improve.	490	3	5	4.60	.55
PMI- 19. I am motivated to change the way I reward my client/student's if it will lead to improvement.	490	2	5	4.58	.56
PMI- 20. I believe that I can learn to change my client's/student's behavior.	490	2	5	4.38	.64
PMI- 21. I am motivated to participate in intervention training each week.	490	1	5	4.33	.73
PMI- 22. Participation in this training is a top priority in my schedule.	490	1	5	3.76	.85
PMI- 23. I believe that I am capable of learning the skills needed to learn this intervention.	490	3	5	4.47	.55
PMI- 24. I look forward to learning new techniques for teaching my client's/student's.	490	3	5	4.54	.54
PMI- 25. I am motivated to work with a trainer/coach in order to learn a new intervention.	490	1	5	4.50	.60

Table 4. Provider characteristics (demographics and professional background, EBPAS, Implementation Climate) associated with PMI.

	r or F	*p*
EBPAS	r = .409**	<.001
ICS	r = .274**	<.001
Years of Experience	r = -0.12*	.011
Provider race/ethnicity	*F* = .39	.68

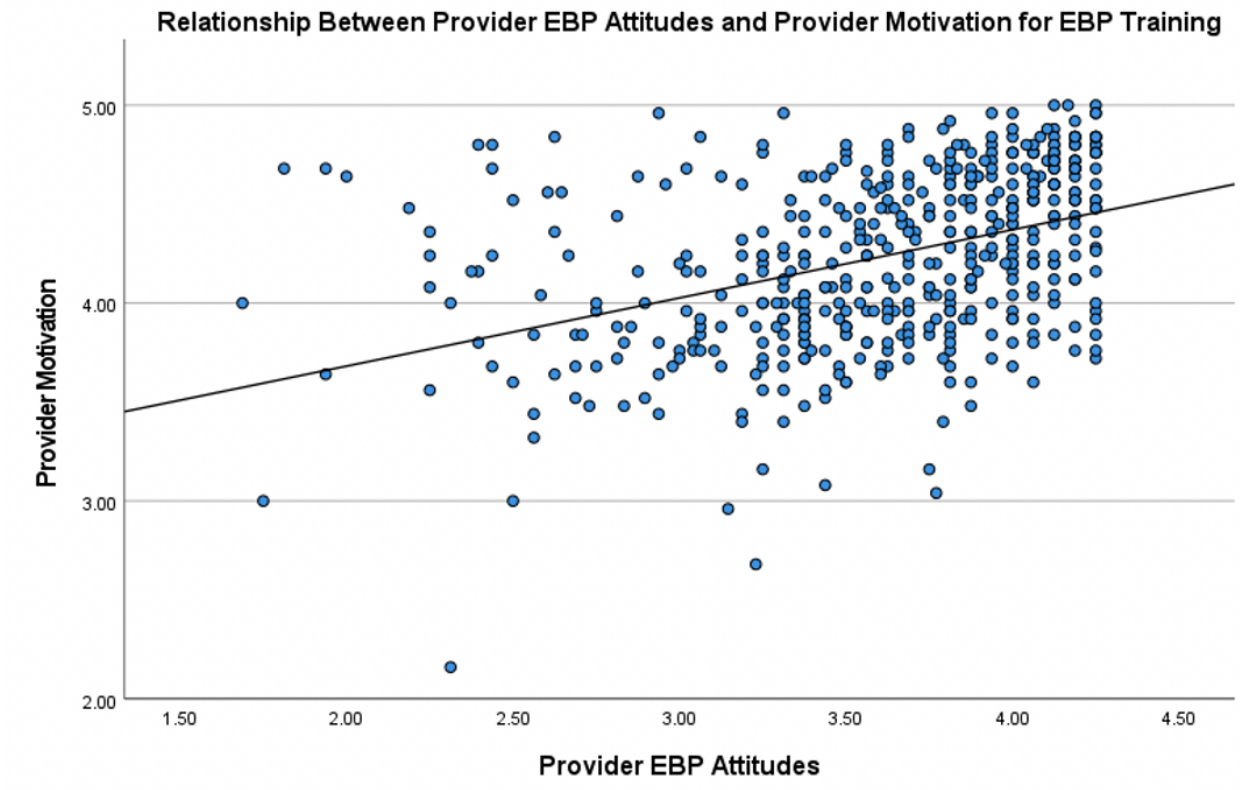
Note. ***p<0.001, **p<0.01, *p<0.05

Table 4. Differences in PMI by study (AIM HI, CPRT).

	N	M	SD	*t*	*p*
AIM HI	229	4.267	.44	1.34	1.80
CPRT	261	4.21	.46	1.34	1.80

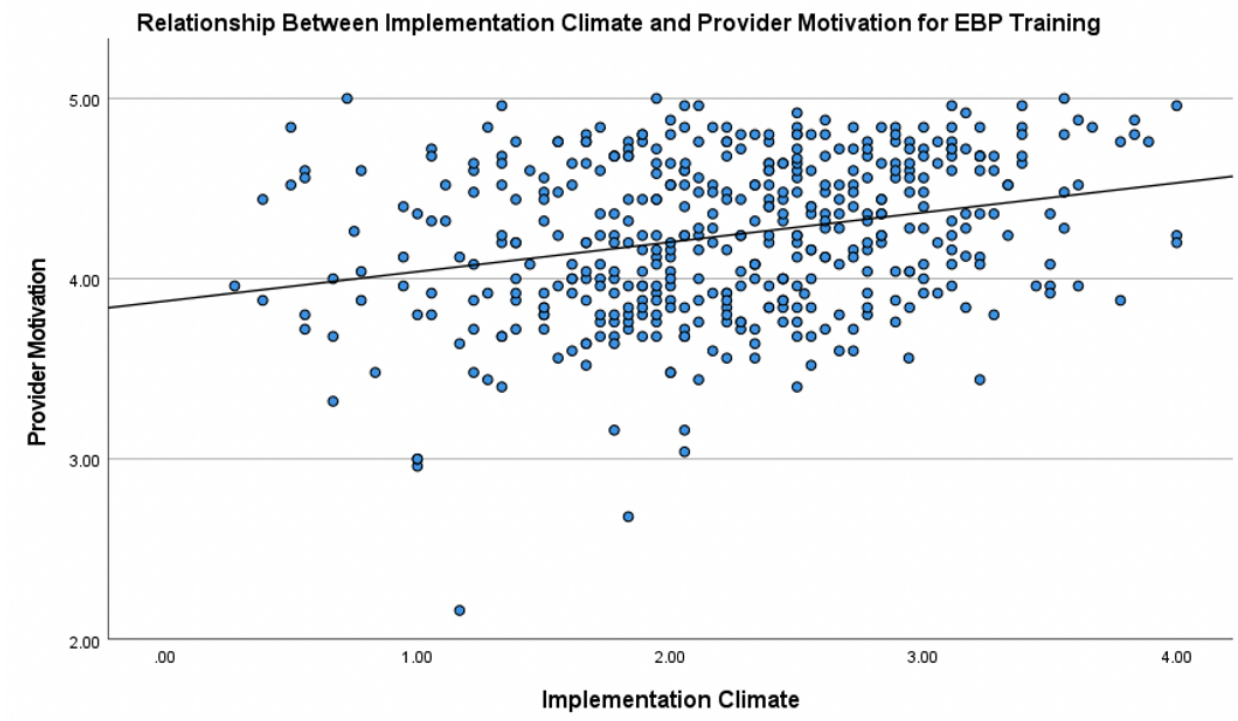
Note: ***p<0.001, **p<0.01, *p<0.05;

Figure 1. Relationship Between Provider EBP Attitudes and Provider Motivation for EBP Training



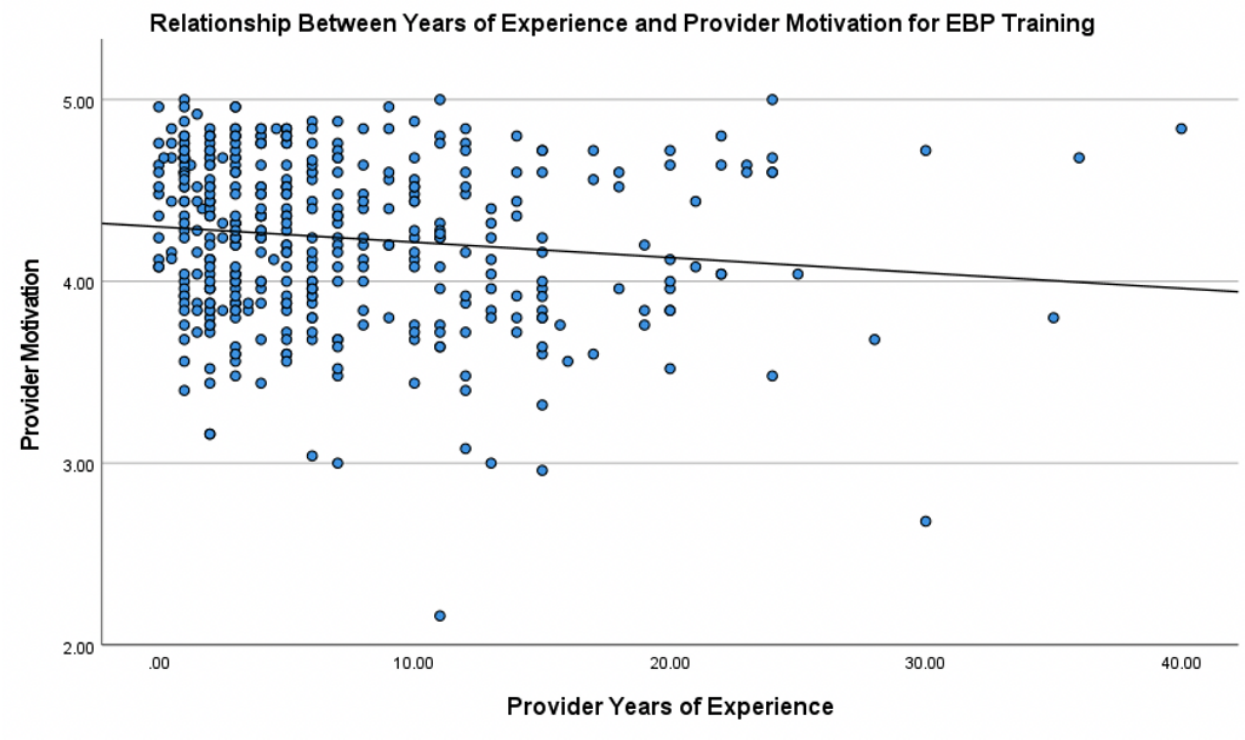
Note. There was a positive correlation between the EBPAS scores and provider motivation (r = .41, p <.001)

Figure 2. Relationship Between Implementation Climate and Provider Motivation for EBP Training



Note. There was a positive correlation between the implementation climate and provider motivation ($r = .27$, $p < .001$).

Figure 3. Relationship Between Years of Experience Provider Motivation for EBP Training



Note. There was a negative correlation between the provider's years of experience and motivation at baseline to engage in EBP training (r = -.12, p = .01).

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