

Organizational Culture and Climate and Mental Health Provider Attitudes Toward Evidence-Based Practice

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Mental health provider attitudes toward adopting evidence-based practice (EBP) are associated with organizational context and provider individual differences. Organizational culture and climate are contextual factors that can affect staff acceptance of innovation. This study examined the association of organizational culture and climate with attitudes toward adopting EBP. Participants were 301 public sector mental health service providers from 49 programs providing mental health services for youths and families. Correlation analyses and multilevel hierarchical regressions, controlling for effects of provider characteristics, showed that constructive culture was associated with more positive attitudes toward adoption of EBP and poor organizational climates with perceived divergence of usual practice and EBP. Behavioral health organizations may benefit from consideration of how culture and climate affect staff attitudes toward change in practice.

Keywords: organizational culture, climate, evidence-based practice, attitudes, implementation

There is growing momentum to move evidence-based mental health interventions into real-world practice settings (Burns, 2003; Essock et al., 2003; Glisson, 2002; Goldman et al., 2001; Ringeisen & Hoagwood, 2002). Although there is a considerable literature on organizational factors associated with implementation of innovation in business settings (Frambach & Schillewaert, 2002; Klein, & Sorra, 1996) little research has examined organizational factors that may facilitate or hinder the implementation of evidence-based practice (EBP) in mental

health settings. Research focusing specifically on the implementation of EBP in mental health settings can inform policymakers, administrators, providers, and researchers about factors that facilitate or hinder the implementation process. A better understanding of such factors can lead to the development of optimal implementation strategies tailored to specific organizational and service contexts.

The study of attitudes toward EBP is in its infancy. The recently developed Evidence-Based Practice Attitude Scale (EBPAS; Aarons, 2004) assesses four dimensions of behavioral health service provider attitudes toward adoption of EBP. Attitudes toward EBP are associated with mental health provider characteristics. For example, more positive attitudes toward adoption of EBP are associated with key mental health provider characteristics including higher educational attainment and professional status (e.g., intern vs. professional; Aarons, 2004). However, mental health providers operate in a context that also includes a number of organizational process influences (Glisson, 2002).

The context into which EBPs are implemented is often complex and recently proposed models identify organizational factors that may facilitate or hinder the implementation of

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EBP and innovation in mental health settings (Aarons, 2005; Burns & Hoagwood, 2005). Studies have also identified a number of constructs thought to be important in effective implementation of innovation in organizations (Damanpour, 1991; Frambach & Schillewaert, 2002; Glisson, 2002). In particular, organizational culture and climate are two factors thought to influence attitudes toward adoption of innovation in general, and EBP in particular (Aarons, 2005). Management may decide to adopt an innovation but individual acceptance of an innovation is proposed to rely on both organizational and individual factors (Moore, 2002; Rogers, 1995) and to affect the degree to which EBPs are implemented with fidelity and competence. The present study focuses on the organizational characteristics of culture and climate and their association with mental health provider attitudes toward adoption of EBP.

Organizational characteristics are likely to impact dissemination and adoption of EBP (Gotham, 2004). Organizational culture and climate have been found to affect functioning and productivity within organizations (Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Hemmelgarn, Glisson, & Dukes, 2001; Sheridan, 1992). Glisson and James (2002) demonstrated that culture and climate are distinct, but correlated, constructs. Although definitions of culture and climate vary (Verbeke, Volgering, & Hessels, 1998), organizational culture can be defined as the organizational norms and expectations regarding how people behave and how things are done in an organization (Glisson & James, 2002). In contrast, organizational climate reflects workers' perceptions of, and emotional responses to, the characteristics of their work environment (Glisson & James, 2002; James, Hater, Gent, & Bruni, 1978; James & Sells, 1981). Thus, culture and climate are held to influence attitudes in the workplace.

Studies of human service organizations have shown that organizational culture and climate are important in the quality and outcomes of mental health services. For example, organizational culture influences work attitudes (e.g., job satisfaction, organizational commitment), service quality, and staff turnover (Glisson & James, 2002). Constructive cultures are characterized by organizational norms of achievement and motivation, individualism and self-actualization, and being humanistic and supportive.

Constructive cultures encourage interactions with people and approaches to tasks that will enable staff to meet their higher-order satisfaction needs. In contrast, defensive cultures are characterized by seeking approval and consensus, being conventional and conforming, and being dependent and subservient. Defensive cultures encourage or implicitly require interaction with people in ways that will not threaten personal security (Cooke & Szumal, 2000). A preliminary study found that providers working in child and adolescent mental health agencies with more positive cultures had more positive attitudes toward the adoption of EBP, whereas those with more negative cultures endorsed more negative attitudes toward adoption of EBP (Carmazzi & Aarons, 2003). Organizational culture has also been shown to impact organizational change by facilitating or hindering the change process. When an organization's cultural values are in conflict with change, the result can be a lack of innovation (Feldman, 1993). Thus, it is important to understand how organizational culture affects organizational change including the implementation of EBP.

Studies in mental health service agencies and programs have examined a number of organizational-level factors that affect clinician attitudes. More positive organizational climate is associated with better organizational process, work attitudes, and outcomes of mental health services. For example, more positive leadership is associated with more positive organizational climate, which is, in turn, associated with more positive provider ratings of therapeutic alliance (Aarons, Woodbridge, & Carmazzi, 2003). More positive organizational climate is also associated with better youth outcomes (Glisson & Hemmelgarn, 1998; Schoenwald, Sheidow, Letourneau, & Liao, 2003). Work attitudes also mediate the effects of climate on employee performance and motivation (Parker et al., 2003) and organizational characteristics influence employees' commitment to their organization and their job satisfaction (Glisson & Durick, 1988; Morris & Bloom, 2002).

Taken together, these studies of organizational culture and climate demonstrate that organizational process is related to staff work attitudes, perceptions, behavior, service quality, and client outcomes. Because culture and climate are tied to core organizational values and perceptions, we propose that they represent or-

ganizational processes that are also likely to influence mental health provider attitudes toward organizational change, and adoption of EBP in particular. Although the literature suggests links between culture and climate with attitudes toward EBP, only one preliminary study has examined this relationship (Carmazzi & Aarons, 2003). However, that study relied solely on zero-order correlation analyses. The present study more rigorously replicates the correlation analyses and goes further to test a more comprehensive model of the association of organizational culture and climate with attitudes toward EBP using more sophisticated statistical methods.

In understanding organizational predictors of attitudes toward EBP, it is also important to consider and control for individual-level variables such as provider demographics. A recent review suggests that demographics and attitudes can be influential in the willingness to adopt and implement an innovation (Gotham, 2004). For example, individual receptivity to change can be an important determinant of innovation success (Zaltman, Duncan, & Holbek, 1973; Zmud, 1984). Rogers (1995) has asserted that having more formal education and having favorable attitudes toward change and science are associated with increased adoption of innovation. Support for some of these constructs as predictors of more positive attitudes toward EBP has been demonstrated. For example, educational attainment is positively associated with endorsement of evidence-based treatment services, adoption of innovation, and attitudes toward adoption of EBP (Aarons, 2004; Loy, 1968; Ogborne, Wild, Braun, & Newton-Taylor, 1998). Provider level of professional development should be also considered. Training of most clinical professionals involves an internship experience. Interns in specialty mental health clinics report more positive attitudes to using evidence-based assessment protocols (Garland, Kruse, & Aarons, 2003) and endorse more positive attitudes toward adopting EBP compared with more experienced clinicians (Aarons, 2004). Because there is a link between individual differences and organizational characteristics, individual differences should be considered in analyses of attitudes toward adopting EBPs.

The purpose of the present study was to examine the association of organizational culture

and climate with attitudes toward EBP. Although there are two broad hypotheses about what predicts attitudes toward adopting EBPs; individual provider characteristics and organizational characteristics, the primary interest in this article is the organizational characteristics of culture and climate. Because our previous work demonstrated that individual characteristics are associated with attitudes toward EBP, we include them in the present analyses as control variables. We hypothesized that constructive cultures would be associated with more positive attitudes toward EBP and that defensive cultures would be associated with perceived divergence between usual practice and EBP. We also hypothesized that poor organizational climate would be associated with greater perceived divergence between usual practice and EBP. Individual-level provider characteristics were included as control variables in our analyses; however, we hypothesized that more open attitudes toward adoption of EBPs would be associated with being an intern versus a professional service provider and with higher educational attainment.

Method

Participants

Participants were clinical and case management mental health service providers who participated in a larger study of organizational issues affecting mental health services for children and adolescents and their families in San Diego County, California (Aarons, 2004). Organizational and individual participation rates were high in the larger study (94.4% and 96%, respectively). Of the 322 providers in the larger study, 21 (6.5%) participants were missing data on at least one of the variables used in the present set of analyses, resulting in a final sample size of 301 providers working in 49 publicly funded youth mental health programs.

Table 1 shows demographics for individual-level nominal and continuous variables in the study. Eighty percent of respondents were full-time employees, and primary disciplines included marriage and family therapy (33.9%), social work (32.3%), psychology (22.4%), psychiatry (1.6%), and other (9.9%; e.g., criminology, drug rehabilitation, education, public health). Interns were less prevalent in the ser-

Table 1
Sample Characteristics

Characteristic	Nominal variables		Continuous variables	
	Value	%	<i>M</i>	<i>SD</i>
Gender				
Male	0	23.3		
Female	1	76.7		
Intern				
Professional	0	74.1		
Intern	1	25.9		
Education level				
Some college	1	3.3		
Bachelors	2	18.6		
Some graduate	3	10.6		
Masters	4	58.1		
PhD/MD	5	9.3		
Age (years)			35.63	10.49
Job tenure (years)			1.97	3.18

Note: *N* = 301.

vice system (24.9%) relative to fully employed staff (75.1%), and interns represented disciplines of marriage and family therapy (46.8%), social work (24.7%), psychology (20.8%), psychiatry (1.3%), and other (6.5%).

Measures

Provider survey. The provider survey incorporated questions regarding provider demographics and organizational characteristics including provider age, sex, education level, professional status (intern vs. professional), and job tenure (Aarons, 2004). Provider education level was assessed with ordered categories from low to high attainment of some college, college graduate, some graduate work, masters' degree, and doctoral degree (PhD, MD, or equivalent). Intern status indicated whether the respondent was an intern or employed professional. Professional status was coded as 0 for staff and 1 for interns.

Attitudes toward evidence-based practice. The Evidence-Based Practice Attitude Scale (EBPAS; Aarons, 2004) was used to assess mental health provider attitudes toward EBP. The EBPAS is a brief 15-item measure with four subscales assessing attitudes toward adoption of EBP. The EBPAS subscales represent four theoretically derived dimensions of attitudes toward adoption of EBP—*appeal*, *re-*

quirements, *openness*, and *divergence*—and the EBPAS total scale scores. The Appeal scale represents the extent to which the provider would adopt an EBP if it were intuitively appealing, could be used correctly, or was being used by colleagues who were happy with it. The Requirements scale assesses the extent to which the provider would adopt an EBP if it was required by an agency, supervisor, or state. The Openness scale assesses the extent to which the provider is generally open to trying new interventions and would be willing to try or use EBPs. The Divergence scale assesses the extent to which the provider perceives EBPs as not clinically useful and less important than clinical experience. The EBPAS Total scale score represents one's global attitude toward adoption of EBP. The overall Cronbach's alpha reliability for the EBPAS is good ($\alpha = .77$) and subscale alphas range from .90 to .59. The EBPAS validity is supported by associations of EBPAS scales with both individual provider-level attributes and organizational characteristics (Aarons, 2004).

Organizational context. The Children's Services Survey (Glisson, 2002) was used to assess both organizational culture and climate. Dimensions of culture and climate were selected for the present study on the basis of our previous work with these measures (Aarons et al., 2003) and recent work clarifying the unique domains of these constructs (Glisson & James, 2002). The culture and climate measures used in the present study were recently examined with regard to factor structure, discriminant validity, reliability, and psychometric characteristics, and they are related to important work-related outcomes including work attitudes, staff turnover, and service quality in human service organizations (Glisson & James, 2002). Organizational culture scales in the Children's Services Survey were derived from the Organizational Culture Inventory (Cooke & Rousseau, 1988; Cooke & Szumal, 2000; Rousseau, 1990) and adapted for use in mental health services (Glisson & James, 2002). The subscales used in the present study comprise two global culture dimensions of constructive and defensive cultures as described earlier. Reliabilities ranged from 0.86 to 0.89 for constructive culture subscales and from 0.75 to 0.86 for defensive culture subscales (Glisson & James, 2002).

The organizational climate scales in the Chil-

dren's Services Survey were based on organizational studies in diverse workplace settings (Hackman & Oldham, 1980; Mowday, Porter, & Steers, 1982). The scales, as adapted for children's services and used in previous studies, have good psychometric characteristics (Aarons et al., 2003; Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Glisson & Martin, 1980). The organizational climate subscales used here assess dimensions of depersonalization, emotional exhaustion, and role conflict and have been validated in previous work with reliabilities ranging from 0.69 to 0.92 (Glisson & James, 2002). Lower scores on these scales indicate more positive climate and higher scores indicate a more negative organizational climate. For the present study, we use the term demoralizing climate to describe climates characterized by high levels of depersonalization, emotional exhaustion, and role conflict.

Survey Procedure

A program manager was contacted at each program, and the study was described in detail. Permission was sought to survey service providers who worked directly with youth and families. For participant programs, provider survey sessions were scheduled at the program site at a time designated by the program manager. Surveys were administered to groups of providers. The project coordinator and/or a trained research assistant administered provider surveys and were available during the survey session to answer any questions that arose. A few surveys were left for completion for providers who were not in attendance at the survey sessions. Such surveys were either mailed back in a prepaid envelope or picked up by a research assistant. Participants received a verbal and written description of the study, and informed consent was obtained prior to the survey. Participation in the study was voluntary, and all participant responses were confidential. This study was approved by the appropriate institutional review boards.

Analyses

Pearson product-moment correlation analyses were first conducted to examine zero-order correlations between the independent variables that included organizational predictors and in-

dividual-level predictors, and the dependent variables (i.e., EBPAS scores representing attitudes toward EBP). Next, we conducted five regression analyses to examine the associations of individual and organizational-level predictor variables with each of the four EBPAS subscales and the total scale. Because providers were nested within mental health programs resulting in potential dependency of responses within program, multilevel hierarchical linear model (HLM) analyses were conducted to control for the effects of the nested data structure (Hedeker, Gibbons, & Davis, 1991; Raudenbush & Bryk, 2002; Snijders & Bosker, 1999). We conducted all HLM analyses using the MIXREG analytic software with maximum marginal likelihood estimation for mixed effects models (Hedeker & Gibbons, 1996).

A three-stage hierarchical regression approach was adopted for the HLM analyses following the approach used in a recent validation of culture and climate constructs (Glisson & James, 2002; Raudenbush & Bryk, 2002). First, a base model was estimated including only the intercept and dependent variable in the model. This allowed for an assessment of the magnitude of the intraclass correlation (ICC) and program-level effects. Second, we added individual provider characteristics representing Level 1 to the model and assessed ICCs again, allowing an examination of the associations of individual-level predictors with dependent variables, as well as determining incremental individual- and program-level residual variance accounted for in each model. Third, organizational characteristics at Level 2 were entered and associations between individual-level covariates and organizational-level constructs with EBPAS scales were assessed.

Results

Correlation Analyses

As shown in Table 2, correlation analyses showed a pattern of results supporting the hypotheses that more constructive organizational culture would be associated with more positive attitudes toward EBP and more defensive culture would be associated with more negative attitudes toward EBP. Specifically, constructive culture was significantly positively associated with the EBPAS Appeal ($r = .133$) and Total

Table 2
Correlation Matrix of Demographic Covariates, Organizational Predictors, and Evidence-Based Practice Attitude Scale Scores

	Age	Sex	Education	Intern	Job tenure	Climate	Constructive culture	Defensive culture	Appeal	Openness	Requirements	Divergence
Age	—											
Sex	-0.193***	—										
Education	0.382***	0.027	—									
Intern	-0.162**	0.092	0.145*	—								
Job Tenure	0.436***	-0.050	0.156**	-0.163**	—							
Climate	0.012	-0.041	0.03	-0.025	0.154	—						
Constructive Culture	-0.186***	0.093	-0.143*	0.033	-0.118*	-0.312***	—					
Defensive Culture	0.013	-0.053	0.068	0.015	0.038	0.470***	-0.405***	—				
Appeal	-0.010	0.121*	0.150**	0.136*	-0.053	0.046	0.133*	0.054	—			
Openness	-0.033	0.019	-0.073	0.065	-0.154**	0.013	0.224***	0.049	0.443***	—		
Requirements	-0.099	0.012	-0.089	0.085	-0.068	-0.064	0.083	0.061	0.324***	0.191***	—	
Divergence	0.157**	-0.052	0.001	-0.123*	0.131*	0.233***	-0.064	0.180**	-0.085	0.033	-0.184***	—
EBPAS Total	-0.118*	0.074	-0.018	0.157**	-0.158**	-0.091	0.198***	0.003	0.709***	0.632***	0.721***	-0.458***

Note: $N = 301$.
* $p < .05$. ** $p < .01$. *** $p < .001$.

($r = .198$) scales. In contrast, defensive culture was significantly positively associated with the EBPAS Divergence scale ($r = .180$). Demoralizing climate was significantly negatively associated with constructive culture ($r = -0.312$) and positively highly associated with defensive culture ($r = .470$). This is consistent with hypotheses, given the climate subscales for emotional exhaustion, depersonalization, and role conflict. With regard to EBPAS scales, as expected, climate was positively correlated with Divergence scale scores. Next, five separate HLM regression analyses are presented, one for each EBPAS subscale and one for the overall scale.

Regression Analyses

Regression analyses accounted for clustering of service providers in mental health programs. Across all regression analyses, cross-program variance for dependent variables was minimal (variance range, $<1\%$ to 4.2% , $p > .05$), and ICCs ranged from near 0 to $.075$). When ICCs for a dependent variable are negligible across organizational units, the advantages of multi-level analysis are also negligible (Kreft & De Leeuw, 1998; Snijders & Bosker, 1999). In the present analysis, the ICC for the EBPAS Requirements subscale was near zero. However, we used the HLM approach in all analyses to control for residual effects of participant clustering within organizational units.

All EBPAS subscale and total scale analyses are shown in Table 3. The EBPAS Appeal scale regression analysis found that constructive culture and provider education level were both significantly positively associated with Appeal scale scores. This indicates that providers working in organizations with more constructive organizational cultures and those with higher educational attainment endorsed more positive attitudes toward adopting EBP, given the intuitive appeal of the EBP. Additionally, marginal results ($p > .05$) suggested that females were more likely to endorse more positive attitudes to EBP. Predictors accounted for 8.6% of the variance in EBPAS Appeal scale scores.

The EBPAS Openness scale regression analysis shows that constructive culture was significantly positively associated with Openness scale scores. This indicates that providers working in programs with more constructive cultures

Table 3
Multilevel Regression Analyses of the Association of Organizational Culture and Climate with the Evidence-Based Practice Attitude Scale Scores

Variable	Appeal			Openness			Requirements			Divergence			Total		
	Coef	SE	Z	Coef	SE	Z	Coef	SE	Z	Coef	SE	Z	Coef	SE	Z
Constant	1.030	0.370	3.524***	1.152	0.417	2.763**	—	—	— ^a	0.601	0.369	1.627	2.131	0.264	8.065***
Age	0.001	0.004	0.332	0.009	0.005	1.966*	0.004	0.007	0.576	0.010	0.004	2.385*	-0.000	0.003	-0.164
Sex	0.161	0.088	1.828	0.058	0.098	0.589	0.055	0.130	0.419	-0.002	0.089	-0.024	0.054	0.062	0.874
Education	0.095	0.041	2.341**	-0.044	0.046	-0.971	-0.123	0.065	-1.885	0.033	0.040	-0.813	-0.003	0.029	-0.117
Intern	0.145	0.088	1.645	0.132	0.099	1.333	0.200	0.143	1.398	-0.128	0.087	-1.465	0.147	0.069	2.334*
Job Tenure	-0.012	0.013	-0.893	-0.038	0.014	-2.608**	0.002	0.020	0.120	0.005	0.013	0.422	-0.013	0.009	-1.423
Climate	0.080	0.069	1.155	0.078	0.077	1.004	-0.189	0.107	-1.771	0.210	0.069	3.027**	-0.052	0.049	-1.069
Constructive culture	0.196	0.065	3.024**	0.336	0.073	4.598***	0.062	0.102	0.609	0.078	0.065	1.213	0.138	0.046	2.974**
Defensive culture	0.083	0.060	1.393	0.124	0.067	1.857	0.176	0.094	1.881	0.112	0.060	1.877	0.067	0.042	1.567

Note. Coef = Regression Coefficient, *N* = 301.
^a Standard errors and Z for constant, intraclass correlation, and incremental proportion of program variance explained could not be computed due to lack of level 2 residual variance.
 * *p* < 0.05. ** *p* < 0.01. *** *p* < 0.001

endorsed greater openness toward adoption of EBPs. Age was significantly positively associated and job tenure was significantly negatively associated with Openness scale scores. These results indicate that, although older providers were more open to adoption of EBPs, those who worked at their program for longer periods scored lower on Openness to EBPs. Predictors accounted for 10.3% of the variance in EBPAS Openness scale scores

The EBPAS Requirements scale analysis shows that there were no statistically significant associations of organizational or individual-level predictors with Requirements scale scores. However, there were marginal effects suggesting that providers working in organizations with more defensive cultures and those with higher educational attainment were more likely to endorse adopting an EBP, given the requirement to do so. Predictors accounted for 4.1% of the variance in EBPAS Requirements scale scores.

The EBPAS Divergence scale regression analysis shows that organizational climate and provider age were both significantly positively associated with Divergence scale scores. This indicates that providers working in organizations with more negative (e.g., demoralizing) organizational climates, as well as older providers, endorsed a greater perceived divergence between EBP and their usual practice. Predictors accounted for 9.9% of the variance in EBPAS Divergence scale scores.

Finally, the EBPAS global scale regression analysis shows that constructive culture and intern status were both significantly positively associated with EBPAS Total scale scores. These results generally support our hypotheses and indicate that providers working in organizations with more constructive cultures and providers earlier in their professional careers were more open to adopting EBPs. Predictors accounted for 8.6% of the variance in EBPAS Total scale scores.

Discussion

The main finding in the present study is that organizational culture and climate are associated with mental health service providers' attitudes toward adoption of EBP. Organizational culture and climate varied with attitudes toward adoption of EBP in expected ways. First, more positive organizational culture was associated

with more positive provider attitudes toward EBP in general and given the intuitive appeal of an EBP. This was demonstrated by regression analyses of the Appeal and Openness subscales and the EBPAS Total scale. As suggested by findings for the Appeal scale, having a positively perceived local opinion leader who can influence organizational culture and who can introduce and guide change in practice may facilitate receptivity to change in provider behavior (Denton, Smith, Faust, & Holmboe, 2001).

Also consistent with hypotheses, demoralizing organizational climate characterized by high levels of role conflict, emotional exhaustion, and depersonalization was associated with perceived divergence between usual practice and EBP. Although improving culture should lead to improvements in these consequences of negative work environments, climate could be targeted as well. For example, role clarity could be improved by clearly articulating specific tasks associated with provision of evidence-based mental health services. In this example, an EBP with high procedural specification could improve role clarity. Clear specification of provider roles and actions is a characteristic of many EBPs.

Defensive culture was significantly correlated with the Divergence scale in zero-order correlation analyses but marginally associated with divergence in the regression analyses. This is likely due to the moderate-to-high positive correlation of defensive culture and demoralizing climate. Such shared variance was controlled in the regression analyses, suggesting that the relationship of culture and climate with attitudes toward EBP is complex. Still, recent work has demonstrated that culture and climate are distinct aspects of organizational process (Glisson & James, 2002). For example, culture is proposed to precede and affect climate. It follows that intervening to improve organizational culture may lead to improvements in climate.

No significant associations were found for the Requirements scale. It is likely that other organizational factors that were not assessed in the present study are associated with this aspect of attitudes toward EBP. For example, previous work has shown that Requirements scores are associated with type of program (e.g., outpatient, day treatment) and organizational struc-

ture so that providers working in organizations with more bureaucratic structures and processes reported being less open to adopting an EBP even when required to do so (Aarons, 2004). However, we selected organizational variables in the present study to test a targeted set of questions about the associations of organizational culture and climate with attitudes toward EBP.

Some limitations of this work should be noted. First, because the EBPAS is a relatively recently developed scale, more studies should be conducted to support its reliability and validity. Second, five regression models were estimated; thus, inflation of Type I error rates could be a factor in this set of analyses. This study involved public sector mental health providers, and results may not generalize to other contexts or provider groups. Finally, these analyses could be considered exploratory, and additional studies including tertiary outcomes such as implementation fidelity should be conducted.

One of the strengths of the present study is that it focuses on real-world clinicians and case managers working in community-based, organized care, publicly funded mental health programs. In that respect, this work differs from studies of manualized interventions that have focused on more traditional psychotherapy practices with doctoral-level clinicians (Cohen, Sargent, & Sechrest, 1986; Morrow-Bradley & Elliott, 1986). The majority of providers in the mental health workforce in community settings across the United States do not have doctoral-level educations. Thus, while this study took place in one large county having both county-run and contract programs, the results are likely to generalize to other similar settings, and additional research is needed in order to determine whether these findings can be replicated.

The present study also adds to the evidence for the construct validity of the EBPAS. Whereas previous work provided preliminary validation of the EBPAS, the present findings support the notion that attitudes may be affected by the context within which providers deliver mental health services. This is important for consumers, as well as administrators and providers, because different aspects of services are important to different stakeholders (Aarons, Covert, & Carty, 2002) but culture and climate span these interest group boundaries.

Implications for Psychological Services

Mental health service organizations often deal with change as a function of internal initiatives and/or in response to external demands. The present work deals with attitudes toward EBP in public sector mental health service organizations, but it also relates to organizational change in general. For example, the theoretical model used to guide hypotheses was developed through meta-analyses and reviews of organizational innovation and change. The organizational context, provider individual differences, and type and complexity of the EBP must all be considered. For example, a relatively brief intervention would likely require less in the way of organizational resources relative to a longer term intervention requiring ongoing monitoring of the intervention. More complex interventions (e.g., family interventions) may require more ongoing organizational support, provider training, and feedback regarding case progress. Because of the complexity of organizations, providers, and clients, there is no single correct approach for implementation of EBPs in behavioral health service organizations. However, the present work provides some guidance in improving our understanding of factors that may influence provider attitudes. Still, the link between provider attitudes toward EBP and actual EBP implementation has yet to be confirmed.

Findings of the present study are likely to be relevant for organized care settings outside of the specialty mental health care sector. For example, there is ongoing work in implementation of EBPs in child welfare, social services, corrections, schools, and primary care settings. Organizational structure and process are likely to vary across these settings, but all have organizational contexts that may facilitate or hinder implementation of innovation. As such, a better understanding of provider attitudes in relation to organizational context should be considered when implementing EBPs.

In addition to the definitions of culture used in the present study, other definitions of culture should be considered in EBP implementation and effective provision of mental health services. For example, *organizational culture* may extend to policies and expectations regarding staff cultural competence and cultural sensitivity. Cultural relevance and fit of interventions from the perspectives of organizations, staff,

and consumers should be considered in selecting and implementing interventions (McCabe, 2002).

Staff health beliefs about mental disorder etiology, appropriate interventions, and outcomes may also affect attitudes toward innovation and practice change. For example, mental health clinicians may use clinical judgment in deciding what disorders are present, which intervention to use, or whether a client is making progress. To the extent that judgments about diagnosis, treatment strategy, and client progress are accurate, this may be an effective strategy. However, clinical and case-management professionals vary in how accurately they evaluate client problems and progress (Dawes, Faust, & Meehl, 1989; Lewczyk, Garland, Hurlburt, Gearity, & Hough, 2003). Thus, in organizational change efforts, it is important for agency and program leaders to attend to provider attitudes and beliefs about adopting new approaches to diagnosis, treatment, and outcome assessment. (Aarons, 2005; Garland, Kruse, & Aarons, 2003).

The present study has particular implications for adoption of innovation in organized care settings, such as those in the present study. First, staff attitudes may be general or specific. For example, general attitudes toward change may be affected by work demands, productivity requirements, and client populations. To the extent that organizational cultures and climates are positive, attitudes toward change in practice or implementation of EBP may also be more positive. Needs assessment or preimplementation evaluation of provider attitudes toward adopting EBPs and of organizational context may help in the development of optimal implementation strategies. Where culture and climate are less than optimal, organizational improvement interventions can target aspects of the work environment likely to impact attitudes toward change. For example, capitalizing on local opinion leaders (Rogers, 1995) and developing leadership skills of supervisors may aid in implementation. However, much like clinical interventions, care should be taken that organizational improvement interventions are based on empirical knowledge and evidence of effectiveness.

Provider attitudes toward innovation and EBP represent just one aspect of the complex context of mental health service delivery

(Aarons, 2005). The present work adds to the evidence that organizational context, including culture and climate, are important considerations in the implementation of EBP in behavioral health services. Specifically, it provides additional evidence that the service context is important in understanding attitudes toward EBP (Aarons, 2004, 2005; Glisson, 2002; Strupp & Anderson, 1997). Fostering cultures that promote adoption of innovation may help to improve the ease and success of moving EBP into community settings. More fine-grained analyses may be needed to better understand the degree to which different aspects of organizational culture and climate are important in improving attitudes toward innovation in general and EBP in particular.

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