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The Influence of Organizational Climate on the Use and Quality of Evidence-Based Practices in School Mental Health

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THE INFLUENCE OF ORGANIZATIONAL CLIMATE ON THE USE AND QUALITY OF
EVIDENCE-BASED PRACTICES IN SCHOOL MENTAL HEALTH

By

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ABSTRACT

Organizational climate is defined as the reflection of workers' perceptions of, and emotional responses to, the characteristics of their work environment (Glisson & James, 2002). While previous research explored the importance of organization climate for the adoption of evidence-based practices (EBPs) in mental health settings, there is a dearth of organizational climate focused research in school mental health settings (SMH). The current study examines the influence of organizational climate on two separate dependent variables: the extent to which EBPs were used and the quality of clinician delivery for the evidence-based practices used in a quality improvement intervention for SMH practitioners. After controlling for study condition and relevant demographic variables, results of a hierarchal multiple regression analysis indicate a non-significant difference in organizational climate's ability to predict levels of using EBPS. Subsequent analyses indicated that, regardless of study condition and relevant demographic variables, organizational climate, specifically job satisfaction and autonomy, predicted the quality of clinician delivery of EBPs. Results emphasize the impact of organizational climate on the delivery and quality of EBPs in SMH settings. Future investigation is needed to determine effective frameworks that result in the increase of SMH clinician ratings of organizational climate.

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CHAPTER 1

INTRODUCTION

In recent years, expanded school mental health (SMH) programs have emerged as a unique approach to the provision of mental health services for students and families (Weist, 1997; Weist, Evans, & Lever, 2003). These expanded SMH programs involve key elements of close collaboration between families, schools, and community agencies (e.g., mental health centers and health departments) to develop a full range of effective mental health promotion and intervention to students in both special and general education schools (Weist, 1997; Weist et al., 2005). In spite of significant progress in the SMH field (Evans, Weist, & Serpell, 2007; Robinson, 2004; Weist, Evans & Lever, 2003), the research base remains limited (Hoagwood et al., 2007) and programs struggle to provide the necessary support to deliver high quality services and implement evidence-based practices (EBPs).

Research indicates that offering a service that only intermittently utilizes EBPs is not sufficient. It is the adherence to specific programmatic standards, widely known as fidelity of implementation, which is necessary to produce expected outcomes (Jerrold & Ridgely, 1999; McDonnell, Nofs, Hardman, et al., 1989; McHugo, Drake, Teague, et al., 1999). Critical findings show that if two programs offer a proven, effective practice of care, the program with higher fidelity to the defined practice model tends to produce superior outcomes (Drake, Goldman, Leff, et al., 2001). Additionally, the findings

suggest that implementation guidelines and toolkits begin to include manuals and fidelity measures (Bond, Williams, Evans, et al., 2000). In the earlier development of SMH services, descriptions of quality approaches tended to focus on bureaucratic processes (e.g., credentialing, adherence to paperwork requirements) and/or liability protection (e.g., procedures for handling crises) (Lighter, 2014). However, in recent years, various dimensions of quality have been emphasized, including: a) stakeholder involvement in program development, guidance, evaluation, and continuous improvement; b) collaboration between families, school staff and community providers; c) the range of preventive and treatment services provided; d) productivity of staff; e) training and supervision of staff; f) team building and service coordination; g) emphasis on evidence-based prevention and intervention; h) cultural responsiveness of interventions; i) use of appropriate evaluation strategies; j) use of evaluation findings to continuously improve programs and services; and k) connecting evaluation findings to advocacy and policy improvement agendas (Weist et al., 2009). Despite this new inclusive definition of quality, counselors, clinicians, and other SMH providers still struggle to implement high quality, EBPs for a variety of reasons (Evans et al., 2003; Evans & Weist, 2004). School mental health services are often criticized for being fragmented or incomplete, having little to no coordination between school-employed staff and those community-employed, and for failing to include effective services at all levels of the promotion, prevention, early intervention and treatment continuum. Clinicians battle with time demands, a large number of children to see, and even the demands of evidence-based practices themselves. (Repie, 2005; Young, 1990). As a result, researchers are increasing the evaluation of the influences behind successful deliveries of EBPs in schools. Influences that may predict

high quality services in schools include organizational factors (e.g. climate and culture, Friedrich, 2010), the personal qualities of SMH professionals (e.g., attitudes, beliefs, skills, and training), Kozina, Grabovari, De Stefanco & Drapeau, 2010), and general capacity factors (e.g., school administrative support, access to community resources, sufficient space for practice, Weist, Myers, Danforth, McNeil, Ollendick, and Hawkins, 2000).

Friedrich (2010) examined factors related to the provision of SMH services by surveying a national sample of school psychologists. School psychologists answered questions regarding the extent to which certain factors served as either barriers or facilitators to the delivery of effective mental health services in their personal practice. Findings suggested that the highest-rated facilitators of effective SMH services were personal characteristics (e.g., personal desire to deliver mental health services), and adequate training and confidence in one's perception of his or her ability to deliver effective therapy. Suldo, Friedrich, and Michalowski (2010) also sought to identify common barriers to mental health service delivery by school psychologists in schools. In addition to administrative and school site constraints, school psychologists cited a number of personal barriers, including lack of sufficient training, overwhelming caseload, job burnout, and personal mental health difficulties.

In a sample of school counselors, Lockhart and Keys (1998) found numerous reported barriers to SMH services with most professionals citing a number of limiting school system policies and insufficient training to meet the diverse needs presented by the student population. Repie (2005) surveyed a broader sample, including regular and special education teachers, school counselors, and school psychologists, on the

perception of the provision of SMH services. Results of this survey, modified from a similar measure devised by Weist, Myers, Danforth, McNeil, Ollendick, and Hawkins (2000), suggested that these professionals viewed both the perceived lack of support for mental health services in schools and shortage of school personnel and administration with mental health knowledge as significant barriers to effective mental health services. Despite any potential insight from these studies, there is little to no research examining these organizational factors in SMH settings.

Research focusing on the implementation of (EBPs) 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. A half of century of research in a variety of organizations provides evidence that an organization's social context affects whether EBPs are adopted, how they are implemented, and whether they are sustained (Hemmelgarn, Glisson, & James 2006). Yet, researchers have not specifically utilized measures of organizational climate and culture in SMH studies focusing on provider use of evidence-based practices or even quality of services.

1.1 Organizational Climate and Culture

Organizations that intend to implement EBPs often have multifaceted and diverse needs. Treatments found effective in controlled clinical trials are not always as effective when implemented in actual community settings (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001). Both the type of EBP and the context in which it is implemented require thorough consideration. Recently proposed models identify organizational factors

that may facilitate or hinder the implementation of EBPs and other innovations in mental health settings (Aarons, 2005; Burns & Hoagwood, 2005). An important characteristic of these models is the inclusion of both organizational and individual level constructs, which the statistical rationale behind relating the two has been well established for some time (James, Damaree, & Hater, 1980). Additionally, these models estimate relationships among the organizational level variables. These relationships were included to provide estimates of the total effects of each organizational level variable on the individual level variables of service quality and service outcomes (James & James, 1989; Mulaik et al., 1989; Glisson & Hemmelgarn, 1998).

Studies have 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 an innovation in general, and EBPs in particular (Aarons, 2005). Management may decide to adopt an innovation, but individual acceptance of an innovation has been hypothesized 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. A more positive organizational climate is associated with better organizational processes, 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).

As organizational characteristics are likely to impact dissemination and adoption of EBPs (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, yet correlated constructs. Although their definitions vary (Verbeke, Volgering, & Hessels, 1998), organizational culture can be defined as the organizational norms and expectations regarding how people behave and how an organization conducts itself, while organizational climate reflects workers' perceptions of, and emotional responses to, the characteristics of their work environment (Glisson & James, 2002). Thus, culture and climate are both influences of attitudes in the workplace.

Constructive cultures encourage cooperation and approaches to tasks that enable staff to satisfy their administration's standards. By contrast, seeking approval and consensus, being conventional and conforming, and being dependent and subservient characterize defensive cultures. Constructive 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 in child and adolescent mental health agencies that valued constructive cultures exhibited more positive attitudes toward the adoption of EBPs, whereas those that had developed defensive cultures endorsed more negative attitudes toward adoption of EBPs (Carmazzi & Aarons, 2003). Organizational culture has also been shown to impact organizational change through 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 especially considering the implementation of EBPs.

1.11 Organizational Climate and Culture in School Mental Health

In spite of the aforementioned research suggesting the importance of organization climate and culture for the adoption of EBPs in mental health settings, our literature review failed to identify any specific studies involving organizational climate in SMH, which is the purpose of this current study. Closely related, the extensive research from Glisson et al., (1992; 1994; 1996; 1998) in children's mental-health services provides the greatest support for exploring the effects of organizational climate on the quality and outcomes of SMH services. Their findings show that organizational climate was primarily predictive of service outcomes (children's improvement of psychosocial functioning) and a significant predictor of service quality. The success that mental health providers found in improving children's psychosocial functioning depended on their consideration of each child's unique needs, the mental health providers' responses to unexpected problems, and their tenacity in navigating bureaucratic and judicial hurdles to achieve the best placement and the most needed services for each child. This required non-routinized and individualized casework, personal relationships between the caseworkers and child, and a results-oriented rather than process-oriented approach (Glisson et al., 1994; 1996; 1998).

These findings suggest that agencies with higher levels of job satisfaction, fairness, role clarity, and cooperation are more likely to support mental health providers' efforts to accomplish these objectives. In sum, positive climates reflected work environments that complement and encourage the type of service provider activities that

lead to success. The dearth of organizational climate and culture focused research in SMH settings despite the foundational findings of Glisson et al., suggests the great need for more research on the specific role of organizational climate and culture in SMH settings.

Taken together, these studies of organizational culture and climate demonstrate that organizational process is linked to staff work attitudes, perceptions, behavior, service quality, and client outcomes. Because culture and climate are tied to core organizational values and perceptions, it is likely they represent organizational processes that are also likely to influence not only attitudes toward EBPs, but more importantly their adoption.

1.2 The Current Study

The data from this current study stemmed from a larger evaluation of a framework to enhance the quality of school mental health (Weist et al., 2009) and was used to explore the primary aims of this current study. A more detailed description of the original study will follow.

It is important to remember that even though organizational climate and culture are both tied to core organizational values and perceptions, current research still considers them distinct constructs (Glisson & James, 2002; Sorenson, 2002; Stackman, Pinder, & Connor, 2000). However, current research also suggests that organizational culture is more difficult and much slower to change than climate (Glisson et al., 2006; Aarons & Sawitzky, 2006). Consequently, efforts to develop new organizational cultures require a longer intervention period than that required for developing more positive climates. Because this original study was funded by a grant and thus time-limited, the researchers decided it was more feasible to focus solely on organizational climate.

In sum, the current study aimed to examine the influence of organizational climate on two separate dependent variables: the extent to which EBPs were used and the quality of clinician delivery for the evidence-based practices used in a quality improvement intervention for SMH practitioners. The first question of interest explored whether clinician perception of organizational climate predicted the use of evidence-based practices for depression. Individual clinicians involved in the Quality Assurance and Improvement (QAI) intervention arm received extensive training on quality assessment and improvement, family engagement/empowerment, and modular evidence-based practice. Thus, it was expected that higher levels of clinician positive perceptions of organizational climate would predict higher levels of using evidence-based practices for depression.

The second question aimed to evaluate whether clinician perceived organizational climate predicted the quality of clinician delivery of clinical services for depression. Based on previous research mentioned above, practitioners receiving extensive training on QAI often report a stronger organizational climate. Therefore, it was expected that higher levels of clinician positive perceptions of organization climate would predict higher levels of the quality of clinician delivery of services for depression.

CHAPTER 2

METHODS

2.1 Study Overview

This paper stemmed from a larger previous evaluation of a framework to enhance the quality of school mental health (Weist et al., 2009), funded by the National Institute of Mental Health. As a part of a 12-year research program on quality and EBPs in SMH, researchers conducted a two-year, multisite (Delaware, Maryland, Texas), randomized controlled trial of a framework for high quality and effective practice in SMH (evidence-based practice, family engagement/empowerment, and systematic QAI) as compared to an enhanced treatment as usual condition (focused on personal and school staff wellness). Only the methods pertaining to the aims of the current study are included here with more comprehensive information regarding the overall project methodology outlined in prior publications (see Stephan et al., 2012; Weist et al., 2009).

2.2 Participants

In the current study participants were 70 (40 QAI and 30 W) expanded school mental health (SMH) clinicians (i.e., mental health providers employed by community mental health centers to provide a full continuum within the school system) from the three SMH sites (Delaware, Maryland, and Texas). However, only 53 of those participants completed the necessary measures for the first aim and 39 participants for the second aim. All clinicians were employed by university or community-based agencies that had a strong, established history of providing school mental health prevention and

intervention services to elementary, middle and high students in both general and special education programs. In the Delaware and Maryland sites, clinicians were solely school-based. In Texas, clinicians provided both school-based and school-linked services, such that the clinicians maintained a “home base” at one school with the provision of transportation and other supports within a feeder pattern of schools.

As displayed in Tables 2.1 and 2.2 the participants were predominantly female, Caucasian, received graduate-level training, and were 37.96 years old on average (SD = 10.75). In terms of experience, clinicians had 6.56 years of prior experience (SD = 5.44) and had worked for their current agency for 4.19 years on average (SD = 4.80). The obtained sample is reflective of school mental health practitioners throughout the United States (Lewis, Truscott & Volker, 2008).

In the original study, from which this study stems, a total of 91 clinicians participated over the course of the study (2004-2006), with a sample size of 64 in year one and 66 in year two. Out of the year one sample (35 QAI and 29 W), 24 participants did not continue into year two (13 QAI and 11 W). Dropout rates between the two conditions did not differ significantly (37% QAI versus 38% W). Reasons for discontinuation included workload demands, increased administrative responsibilities, entering school and maternity leave. No particular dropout patterns were observed related to non-participation. Investigations in this particular study focused on individuals who had completed at least one year of the study and had submitted pre- and post-intervention measures. For the purposes of the current study, because not of all the clinicians completed the necessary measures and the global depression interviews were only administered at the end of each year, the study condition (intervention arm and wellness

arm) was used as a covariate to increase sample size and power. Therefore, because there were more clinicians in year two, clinicians who participated in both year one and two, and year two only were used.

2.3 Measures

Measures utilized in the current study are described below. All measures utilized were self-report and completed by the clinicians involved in the study. Spanish versions of the protocol were utilized in Dallas as needed for individuals for whom English was their second language.

2.3.1 Scaling: Percentage of Maximum Possible (POMP)

In order to facilitate comparisons between scores, including visual presentations, we used a scaling method called “Percentage of Maximum Possible” (POMP) scoring developed and recommended by Cohen and colleagues (Cohen, Cohen, Aiken, & West, 1999). It is a simple transformation where raw scores are adjusted so that they can range from zero to 100%. For example, a five point Likert type measure would be rescaled so that scores ranged from zero to four, and then divided by the maximum possible score (as opposed to the maximum score actually observed in the data). POMP scoring makes no assumptions about the shape of the distribution (unlike *z*-scores, which assume a normal distribution), and the anchors (zero and 100%) are tied to the full possible range of the measure, not observed parameters in the data that could change from sample to sample. Using POMP scoring allows consistent use of scales on the axes of graphs, and makes interpretation much more intuitive to readers. POMP scoring also is helpful in evaluating “material effects” such as interventions to improve quality and adoption of evidence-based principles (Cohen et al., 1999).

2.3.2 *Clinician Ratings of Organizational Climate*

To assess organizational climate, the original research team adapted the Children's Services Organizational Climate Survey (CSOC), a well-validated measure with strong psychometric qualities (Glisson, 2000). The original CSOC contains over 100 items. With permission of the author (C. Glisson, personal communication, 10/22/02), the CSOC was reduced to 31 items, retaining only those scales with clear relevance to the proposed study. All scales retained have good to high alpha reliability levels (≥ 0.69), have a face valid relationship to school-based mental health, and according to the author are highly sensitive to organizational change (Glisson, 2002). The four retained scales were: 1) Emotional Exhaustion (alpha=0.92); 2) Job Satisfaction (alpha=0.85); 3) Role Conflict (alpha=0.87); 4) Depersonalization (alpha=0.69)(Glisson, 2002). As above, the CSOC was completed at the beginning and end of the two academic years by participating clinicians.

The 31 items were analyzed via item level PCA and EFA, using the most accurate methods to determine the number of factors (e.g., scree, MAP, and Glorfeld's extension of Horn's Parallel Analysis) (Glorfeld, 1995; Horn, 1965; Velicer, 1976; Zwick & Velicer, 1986). The results consistently indicated that the 31 kept items grouped along 3 distinct dimensions. Final analyses used PCA with PROMAX rotation (Gorsuch, 1983).

All items used a five point Likert-type scale with anchors ranging from "Not at all" to "To a very great extent." The first component consisted of 13 items asking about institutional barriers and about burnout. Sample items include: "How often do you feel unable to satisfy the conflicting demands of your supervisor?" and "Interests of the children are often replaced by bureaucratic concerns (e.g., paperwork)"; items such as, "I

feel fatigued when I get up in the morning and have to face another day on the job” and “I feel burned out from my work” convey the flavor of the more burn-out related content of the scale. The fact that these sets of items loaded strongly together onto a single component indicates that institutional barriers are highly correlated with a sense of frustration and burn-out, at least for the participating group of clinicians. We refer to the first component as the “Barriers and Burn-Out” scale of organizational climate in subsequent analyses.

The second component contained most of the items with a positive valence, describing satisfaction with the job and the degree of autonomy. It included nine items, with content such as, “How satisfied are you with the ability to do something that makes use of your abilities?”, “How satisfied are you with the freedom to use your own judgment?”, and “How satisfied are you with the chance to try your own approaches working with children?” We refer to the second component as the “Support and Satisfaction” scale of organizational climate in subsequent analyses.

The third component comprised five items pertaining to emotional hardening and callousness. The items include: “I feel I treat some of the children I serve as ‘impersonal’ objects”, “I have become more callous towards people since I took this job,” “I worry that this job is hardening me emotionally,” “At times, I find myself not really caring about what happens to some of the children,” and “I feel like I’m at the end of my rope.” The fact that these items constituted a separate component from the “Barriers and Burn-Out” component, it indicates that this is not the same as the aspects of burn-out and aggravation experienced by many counselors in connection with institutional barriers. At the same time, this third component is also not just the low end or opposite of satisfaction

(the second component). Instead, it represents a distinct response to the organizational climate that strongly affected at least a subset of the participating clinicians.

Four items out of the 31 investigated did not load strongly enough on any of the three components to justify their inclusion in creating subscale scores (Streiner & Norman, 1995). These were, “How often do you end up doing things that should be done differently?,” “How satisfied are you with the prestige your job has within your community?,” “How satisfied are you with the chances for advancement?,” and “It’s hard to feel close to the children I serve.”

2.3.3 Quality of School Mental Health Services

To assess the quality of clinical services delivered by clinicians, the study used the School Mental Health Quality Assessment Questionnaire (SMHQAQ). The (SMHQAQ) is a 40-item research-based measure developed by the larger study investigators to assess 10 principles for best practice in SMH (Weist et al., 2005, 2006a, b). Principles are as follows: (1) All youth and families are able to access appropriate care regardless of their ability to pay; (2) Programs are implemented to address needs and strengthen assets for students, families, schools, and communities; (3) Programs and services focus on reducing barriers to development and learning, are student and family friendly, and are based on evidence of positive impact; (4) Students, families, teachers and other important groups are actively involved in the program’s development, oversight, evaluation, and continuous improvement; (5) QAI activities continually guide and provide feedback to the program; (6) A continuum of care is provided, including school-wide mental health promotion, early intervention, and treatment; (7) Staff holds high ethical standards, is committed to children, adolescents, and families, and displays an

energetic, flexible, responsive and proactive style in delivering services; (8) Staff is respectful of, and competently addresses developmental, cultural, and personal differences among students, families and staff; (9) Staff builds and maintains strong relationships with other mental health and health providers and educators in the school, and a theme of interdisciplinary collaboration characterizes all efforts; (10) Mental health programs in the school are coordinated with related programs in other community settings.

At the end of year two, clinicians rated the degree to which each indicator was present in their own practice on a six-point Likert scale, ranging from “not at all in place” to “fully in place.” Given that results from a principle components analysis indicated that all 10 principles weighed heavily on a single strong component, analyses focused primarily on total scores of the SMHQAQ. Aside from factor analytic results, validity estimates are unavailable. Internal consistency, as measured by Coefficient alpha, was very strong (.95).

2.3.4 Depression Interviews

To assess the extent to which clinicians delivered evidence-based services for depression, case reviews were conducted on the treatment of Depression for individual student cases. At the end of the school year, clinicians in middle and high schools were interviewed about a Depression case. Clinicians were able to select their own cases for review. A case review specialist (Doctoral level with significant school mental health experience) was recruited to conduct case reviews. The clinician was trained to review cases systematically, using an interview process developed to assess clinician implementation of evidence-based practices in relation to Depression. The case review

specialist was blind to condition for all participants. The version of the tool, Clinician Interview: Self-assessment for Practice Parameters for Depression, was developed based on professional association recommendations for high quality and effective practice, including recommendations of the National Assembly on School-Based Health Care, and the American Academy of Child and Adolescent Psychiatry. Literature on evidence-based practice for treating Depression was reviewed, and key informant interviews were conducted with acknowledged experts in conducting research and implementing evidence-based practices for this disorder.

Interviews were conducted by phone for both disorders in May or June at the end of each study year, and assessed the following: 1) documentation of symptoms and history through interviewing with parents and collecting information on developmental and medical histories, 2) use of standardized rating scales by students, parents and teachers, and whether each measure was scored, 3) information in the file from school records, and relevance of information recorded, 4) referral of the student for more intensive evaluation, 4) documentation of assessment of co-morbid emotional/behavioral difficulties, 5) adequacy of the treatment plan in targeting specific symptoms that are measured during systematic baseline assessment, 6) adequacy of the treatment plan in monitoring multiple domains of student functioning (e.g., in school, at home, with peers), 7) amount of supportive contact with the student and family members during the school year, 8) provision of and quality of psychoeducation provided to the student, family members, and teachers, 9) inclusion of a well specified plan to promote positive behavior and reduce negative behavior in the treatment plan, 10) provision of specific therapy techniques or skills, 11) assessment of pharmacological options for the student, and

12) provision of services to address co-morbid emotional/behavioral problems. The interview also includes global impression of the extent to which the clinician followed recommended practice parameters for children with Depression.

Two quantitative scores were derived from the interview: The interviewer's global impression of adherence, scaled from 0 ("no or very little adherence; 0 to 20% of standards met") to 4 ("excellent adherence; 80% to 100% of standards met"), and a POMP score which this study used, derived from the individual ratings of adherence to each of the component items assessed in the interview. This summary score contained twelve items for the depression scales (each originally scaled 0 to 4). In year one the alpha was .82, and in year two the alpha was .88. Two items were omitted from the aggregate and analyzed separately, pertaining to referral for a medical evaluation and for a medication evaluation. In both cases, the counselor frequently made the referral suggestion, but the parent did not follow through. Given the fact that implementation was outside of the counselor's control, this necessitated different scoring.

2.4 Study Design

As mentioned previously, this paper stems from a larger previous evaluation of a framework to enhance the quality of school mental health, funded by the National Institute of Mental Health. Details on its design can be found at Weist et al., 2009.

2.5 Data Analytic Plan

Initial analyses focused on psychometrics of the principal measure of interest, the *Clinician Ratings of Organizational climate (OCM)* adapted from the Children's Services Organizational Climate Survey (CSOC; Glisson, 2000). The original CSOC contains over 100 items. With permission of the author (C. Glisson, personal communication, 10/22/02),

the CSOC was reduced to 31 items, retaining only those scales with clear relevance to the proposed study. Thus, in order to ensure reliability of measurement, calculation of psychometrics were recomputed within this sample.

Subsequently, descriptive analyses were conducted to assess the distribution of this sample, examining measures of central tendency and normality (i.e., skewness and kurtosis). Violation of assumptions of statistical tests is a substantial threat to statistical conclusion validity (Shadish, Cook & Campbell, 2002). Given that regression analyses were involved in all the aims of this study, this ensures that the samples reflect a normal distribution, absence of multicollinearity, and error variance is equivalent. If these assumptions had been violated, in that the data was significantly skewed or kurtotic, the data would have been transformed to protect from these threats.

Correlational analyses were conducted to evaluate the association between demographic and experimental variables. Previous literature suggests age, race, years with respective agency and years of experience may be associated with different levels of organizational climate (Glisson & James, 2006; Aarons & Sawitzky, 2006). Therefore, these demographic variables were utilized as covariates in each of the aim's analyses. Additionally, with the intention of increasing power, study condition (intervention arm and wellness arm) was also included as a covariate.

The first aim of this paper was to explore whether clinician perception of organizational climate predicted use of evidence-based practices for depression. The aim focused on post year two data: clinicians in the QAI intervention arm who participated in both year one and two and year two only. Analyses were run as a hierarchal multiple

regression to evaluate how well perceptions of organizational climate predicted use of evidence-based practices.

The second aim of this paper was to explore whether clinician perception of organizational climate predicted the quality of clinician delivery of evidence-based practices for depression. The aim focused on post year two data: clinicians in the QAI intervention arm who participated in both year one and two, and year 2 only. Analyses were run as a hierarchal multiple regression to evaluate how well perceptions of organizational climate predicted quality of clinician delivery of evidence-based practices.

Table 2.1

Demographic Information From Participating SMH Clinicians

Variable	<i>n</i>	%
Site		
Maryland	30	16.8
Dallas	20	11.2
Delaware	20	11.2
Condition		
Quality	40	22.3
Wellness	30	16.8
Race		
African American	14	7.8
Asian American	1	.6
Hispanic	11	6.1
Caucasian	35	19.6
Level of Education		
Bachelor Degree	1	.6
Some Graduate Work	5	2.8
Graduate Degree	55	30.7
Gender		
Female	50	6.1
Male	11	27.9

Note. N =70; Data may not add up to 100% because 10 cases had missing data for demographic variable

Table 2.2

Descriptive Statistics from Main Study Variables of Primary Aims

Variable	M	SD
Site	1.860	.839
Condition	1.570	.498
Age	37.960	10.753
Race	3.670	1.680
Level of Education	4.890	.370
Years of Experience	6.557	5.433
Years with Agency	4.188	4.797
Org Climate Component 1: (Barriers & Burnout)	.1849	.112
Org Climate Component 2: (Satisfaction & Autonomy)	.6783	.150
Org Climate Component 3: (Hardening & Callousness)	.042	.068
EBP use for Depression	2.900	.940
Quality of Delivery	199.556	32.610

CHAPTER 3

RESULTS

3.1 Preliminary Analyses and Scaling

Analyses were conducted using the Statistical Package for Social Sciences version 22 (SPSS, 2013). All variables were evaluated for significant outliers, skewness, and kurtosis. Distributions did not deviate significantly from normal, ensuring appropriate analyses were run. Descriptive statistics (i.e. means and standard deviations) of all main variables for both aims can be seen in Table 2.2.

To facilitate comparisons between variables, a scaling method known as “Percentage of Maximum Possible” (POMP) scores, developed by Cohen and colleagues (Cohen, Cohen, Aiken, & West, 1999) was utilized. Using this method, raw scores are transformed so that they range from zero to 100%.

Again, given previous literature, suggesting that age, race, years with respective agency, and years of experience may be associated with different levels of organizational climate, these demographic variables were utilized as covariates in each of the aim’s analyses (Glisson & James, 2006). Additionally, with the intention of increasing power, study condition (intervention arm and wellness arm) was also included as a covariate.

3.2 First Primary Aim

A total of 53 clinicians completed the Organizational Climate questionnaire (29 QAI and 24 Wellness). Reliability analyses revealed adequate internal consistency. The first component of the Organizational Climate questionnaire, Barriers and Burnout, yielded

Cronbach alpha of .78; the second component, Job Satisfaction and Autonomy, yielded a Cronbach alpha of .85; and the third component, Emotional Hardening and Callousness, yielded a Cronbach alpha of .69.

Results of the correlation analyses, shown in Tables 3.1-3.3, Component three alone, Emotional Hardening and Callousness was significantly associated with age ($r = -.327, p = .015$). However, because of the study's small sample size, and in an attempt to increase power and demonstrate the most unique variance, study condition, site, age, race, level of education, years of experience, and years with respective agency were still included as covariates. Hierarchical multiple regression was used to assess the ability of organizational climate to predict higher levels of using evidence-based practices for depression, after controlling for study condition, site, age, race, level of education, years of experience, and years with respective agency. Preliminary analyses were conducted to ensure no violation of assumptions of normality, linearity, multicollinearity and homoscedasticity. Condition, site, age, race, level of education, years of experience, and years with respective agency were entered as step one, explaining 47% of the variance in using evidence-based practices for depression it would be interesting to say something about these results and not just control for them. After entry of Component one, (Barriers and Burnout) at step two, the total variance explained by the model was 50%, $F(8, 29) = 3.607, p = .22$, yielding no significance. Components two and three also yielded non-significant results. After entry of the same covariates in step one, explaining 47% of the variance, after entering Component two (Job Satisfaction and Autonomy) at step two, the total variance explained by the model was 49% $F(8, 29) = 3.481, p = .32$. After entry of the same covariates in step 1, explaining 47% of the variance, after entering Component

three (Emotional Hardening and Callousness) at step two, the total variance explained by the model was 48%, $F(8, 29) = 3.329, p = .53$.

3.3 Second Primary Aim

Hierarchical multiple regression was used to assess the ability of organizational climate to predict higher levels of the quality of clinician delivery of evidence-based practices for depression, after controlling for study condition, site, age, race, level of education, years of experience, and years with respective agency. Preliminary analyses were conducted to ensure no violation of assumptions of normality, linearity, multicollinearity and homoscedasticity. Study condition, site, age, race, level of education, years of experience, and years with respective agency were entered as step one, explaining 34% of the variance in the quality of delivery of evidence-based practices for depression. After entry of Component one, (Barriers and Burnout) at step two, the total variance explained by the model was 34%, $F(8, 44) = 2.835, p = .98$, yielding no significance. After entry of the same covariates in step one, explaining 34% of the variance, after entering Component two (Job Satisfaction and Autonomy) at step two, the total variance explained by the model was 42% and statistically significant $F(8, 44) = 4.026, p = .02$. After entry of same covariates in step one, explaining 34% of the variance, after entering Component three (Emotional Hardening and Callousness) at step two, the total variance explained by the model was 37%, $F(8, 44) = 3.186, p = .18$. Component two (Job Satisfaction and Autonomy) was the only component that was statistically significant, yielding an additional 8% of the variance in the quality of delivery of evidence-based practices for depression, R square change = .083, F change (1, 44) = 6.289, $p = .02$ (see table 6).

Table 3.1

Correlations Between Demographic Variables and Organizational Climate Component #1 (Barriers and Burnout)

Variable	<i>r</i>	<i>p</i>
Site	-.125	.367
Condition	-.073	.602
Age	-.066	.637
Race	-.091	.512
Level of Education	.064	.644
Years of Experience	-.121	.385
Years with agency	-.061	.663

Note. Gender not used given participants mostly comprised of females

Table 3.2

Correlations Between Demographic Variables and Organizational Climate Component #2 (Job Satisfaction and Autonomy)

Variable	<i>r</i>	<i>p</i>
Site	.016	.908
Condition	.085	.537
Age	.071	.609
Race	.116	.399
Level of Education	-.190	.164
Years of Experience	.100	.467
Years with agency	.110	.428

Note. Gender not used given participants mostly comprised of females

Table 3.3

Correlations Between Demographic Variables and Organizational Climate Component #3 (Emotional Hardening and Callousness)

Variable	<i>r</i>	<i>p</i>
Site	.128	.353
Condition	.106	.441
Age	-.327*	.015
Race	.073	.598
Level of Education	-.073	.595
Years of Experience	-.176	.198
Years with agency	-.146	.291

Note. Gender not used given participants mostly comprised of females

Table 3.4

*Summary of Hierarchical Regression Analysis of Organizational Climate Component 2:
Job Satisfaction & Autonomy Predicting Quality of Clinician Delivery of Services
(N = 54)*

Variable	<i>B</i>	SE <i>B</i>	β	<i>p</i>
Step 1				
Constant	90.91	62.088		0.150
Site	17.29	4.992	0.445	0.001
Condition	22.50	8.497	0.343	0.011
Age	0.141	0.484	0.047	0.772
Race	-1.535	2.453	-0.790	0.535
Level of Education	7.974	11.557	0.090	0.494
Years of Experience	-4.83	1.071	-0.800	0.654
Years with Agency	1.37	1.084	0.201	0.213
Step 2				
Constant	26.769	64.059		0.678
Site	17.558	4.723	0.452	0.001
Condition	22.161	8.038	0.339	0.008
Age	0.081	0.458	0.027	0.860
Race	-2.173	2.334	-0.112	0.357
Level of Education	13.163	11.127	0.149	0.243
Years of Experience	-.474	1.012	-0.079	0.642
Years w/ Agency	1.278	1.026	0.188	0.219
Org Climate Component 2: (Satisfaction & Autonomy)	-64.427	25.691	0.296	0.016

Note: Step 1: $R^2 = .34$ for Step 1: $\Delta R^2 = .083$ ($p < .05$)

CHAPTER 4

CONCLUSION

While there has been extensive research demonstrating that the adoption and acceptance of an innovation relies on both organizational and individual factors (Moore, 2002; Rogers, 1995) and that the degree to which EBPs are implemented with fidelity and competence affect outcomes (Glisson et al., 1992; 1994; 1996; 1998), no such evaluations have been conducted in the context of SMH services. The current study stemmed from a much larger evaluation of a framework to enhance the quality of SMH by targeting quality service provision, EBPs, and enhancing family engagement and empowerment. Over the course of two years, clinicians from established SMH agencies in Maryland, Texas, and Delaware were randomized into one of two conditions where they received either comprehensive QAI training or instruction in overall wellness.

This present study investigated two specific aims. The first aim explored whether clinician perception of organizational climate predicted use of evidence-based practices for depression. Because individual clinicians involved in the QAI intervention received extensive training on QAI, family engagement/empowerment, and modular evidence-based practice, it was expected that higher levels of clinician positive perceptions of organizational climate would predict higher levels of using EBPs for depression

The second aim evaluated whether clinician perception of organizational climate predicted the quality of clinician delivery of clinical services for depression. Based on

previous research that found practitioners who received extensive training on QAI often reported a stronger organizational climate, it was expected that higher levels of clinician positive perceptions of organization climate would predict higher levels of quality of the clinician delivery of services for depression.

Controlling for study condition, site, age, race, level of education, years of experience, and years with respective agency did not confirm the first hypothesis. No statistically significant differences in levels of using evidence-based practices were observed. Although, there is little to no other literature that focuses specifically on the context of school mental health, findings from the first aim are inconsistent with a growing number of studies that have investigated the relationships between workplace conditions and their impact on workers, types of services provided, and on the clients being served. The findings also come from a variety of adapted organizational climate scales that were based on organizational studies in diverse workplace settings and those with good psychometric properties (Glisson & Durick 1988; Glisson & Hemmelgarn, 1998; Aarons et al., 2003; Aarons & Sawitzky, 2006). For instance, many studies indicate poor organizational climate not only negatively affects workers and hinders the implementation of new interventions, but also adversely impacts client outcomes (Glisson, Dukes, & Green, 2006; Glisson & Green, 2006; Hemmelgam, Glisson, & James, 2006; Patterson, Dulmus, & Maguin, 2012, Patterson, Maguin, Dulmus, & Nisbet, 2013; Patterson, Dulmus, Maguin, & Cristalli, 2013). Specifically, Aarons and Sawitzky (2006) found that a demoralizing organizational climate, characterized by high levels of role conflict, emotional exhaustion, and depersonalization was associated with perceived divergence between usual practice and use of evidence-based practices.

However, it is possible that organizational climate has a more specific impact on the quality of services delivered, leading to the significant results in the second aim. Previous research has shown that the use of formal evidence-based interventions, particularly involving manualized strategies alone, is likely to encounter many obstacles, typically with clinicians showing poor or limited adherence (Schaffer et al., 2005; Weist et al., 2009). Perhaps, the modular approach that was used in the original study, which provides clinicians with competency training in evidence-based core techniques and procedures, also gives clinicians the flexibility to arrange these modules as they see appropriate for each case. Consequently, this strategy may promote more clinician autonomy and job satisfaction and thus a higher probability that services will be delivered with quality.

The second aim, Component two of organizational climate, Job Satisfaction and Autonomy, was found to serve as a significant predictor of the quality of clinician delivery of services for depression. Significant findings for the second aim are consistent with previous research that suggests that higher levels of job satisfaction, fairness, role clarity, and cooperation are more likely to support mental health providers' efforts to accomplish their objectives (Glisson et al., 1994; 1996; 1998). Similarly, worker attitudes have also been found to mediate the effects of climate on staff performance and motivation (Parker et al., 2003) and organizational characteristics influence on staff commitment to their organization and job satisfaction (Glisson & Durrick, 1988; Morris Bloom, 2002).

Considerable attention has been devoted to the development of quality assurance mechanisms aimed at enhancing treatment fidelity (Henggeler, Schoenwald, & Pickrel,

1995). As mentioned earlier, current research on EBPs assert that rigorous quality assurance is required to promote the level of treatment fidelity needed to achieve desired outcomes. Effective implementation of EBPs is a quality improvement process that provides accountability by systematically monitoring the fidelity of practices to models that have been empirically supported by research (Goldman et al., 2001). Using this framework, policy makers can approach funders with greater certainty and argue for resources to implement EBPS with greater promise of accountability and monetary value. Given that the current study's findings specifically highlight job satisfaction and autonomy as a potential predictor of quality services, future research should consider the possibility that a constructive organizational climate may increase the likelihood of positive outcomes. Therefore, because SMH research has yet to consider organizational climate's role in mental health outcomes, these findings could serve as a starting point.

The literature related to organizational culture and climate over the past decade has provided a consistent message that there are no constructive elements of poor organizational climate and culture, and that in order to ensure high-quality outcomes, any poor culture and climate must be mended (Aarons & Sawitzky, 2006; Glisson, 2007; Glisson, Green, & Williams, 2012; Dulmus, Maguin, & Cristalli, 2013). These findings are notable and emphasize the significant benefits of a positive organizational climate.

Furthermore, the current study focused on three specific components of organizational climate adapted from Children's Services Organizational Climate Survey (CSOC; Glisson, 2000). There is no consistency across studies in specific regard to breaking down the construct. Some studies, like the current one, operationalized organizational climate into specific components, while others reported on broad

organizational climate. Based on the findings of this study, and the shortage of research on specific components of organizational climate, future efforts could focus on breaking down the specific components and comparing them to various outcomes.

4.1 Limitations

It is important to consider that there were limitations in this study. Due to a small sample size of 39 clinicians in the first aim and 53 clinicians in the second aim, the power to detect changes in use of evidence-based practices and the quality of clinician delivery of services was fair. Specifically, the power to detect a medium effect size for the first aim was 0.57 and the second aim was 0.74. Even though using condition as a covariate helped increase sample size and power, the significant clinician dropout from year one to year two within arms yielded a small sample size. Therefore, in order to achieve the largest sample size that was also the most valid, the study included clinician data solely from both year one and year two, and from year two only.

The sample size in the first aim was smaller because there were only 39 completed global impression interviews for use of evidence-based practices. Therefore, it is possible there may have been a significant result with the full sample, but still with a precaution given the power.

Additionally, regarding the make-up of the sample of clinicians, it is unclear how representative the clinicians were of SMH clinicians across the country. While the sample is demographically similar to the general population of SMH clinicians, it is possible there existed a sort of participation bias.

As addressed by Weist and colleagues (2009), a further limitation of this study is that implementation and supervision of the QAI intervention varied significantly across

the three intervention sites. For instance, differences were found in the consistency of weekly meetings, compliance with attendance at weekly meetings, supervisory support, and the addition of unrelated material to the training sessions. While some individuals in the QAI condition were exposed to consistent bi-weekly training in quality assessment, EBPs, and family engagement and empowerment, others may have received less.

Therefore, it is unclear how consistent supervision would have affected results; albeit fair to hypothesize that it could have potentially yielded significant results for the other two components of organizational climate (1. Barriers and Burnout and 3. Emotional Callousness and Hardening).

4.2 Future Directions

In addition to future research directions mentioned above, even though organizational climate and culture have both been shown to influence core values and perceptions of the workplace, current research argues that they are still distinct constructs. Therefore, culture and climate should continue to be explored separately and as mediating factors. Since many research models of organizational context describe culture as more difficult to change than climate, future studies on culture should be granted longer intervention periods.

Given what we know today about organizational change, it is very possible that identifying these various areas of improvement alone will not be enough to make those changes. Therefore, future work could also strive toward highlighting the specific best practices for making those changes.

Also noted by Weist et al. (2009), Fixen et al. (2005) and the work of the National Implementation Research Network (NIRN), implementation support that moves beyond

traditional models of supervision and provides on and offsite coaching is an important next step in SMH research. This type of implementation support, which involves interactive teaching, modeling, peer-to-peer feedback, and administrative support, is essential to the implementation and sustainability of quality evidence-based services. Research that demonstrates achievable strategies (i.e., efficient and effective) to provide this type of support will allow for a much higher chance of adequate government funding and even policy change for implementation science in general.

Given that a number of clinician characteristics have been found to influence both the use of evidence-based practices and the quality of their services, identifying any mediating factors would also be very beneficial. For example, research suggests that counselor self-efficacy (CSE), commonly referred to as the beliefs and attitudes embodied by helping professionals or trainees that impact their capacity for the effective delivery of counseling or psychotherapy services (Larson & Daniels, 1998), has been shown to relate to counselor anxiety, counselor performance, and the supervision environment (Larson et al., 1992). These beliefs are hypothesized to affect the amount of anxiety counselors experience in practice or whether their thoughts are self-aiding or self-hindering. CSE may also affect whether and how much counselors will persist and expend effort in supervision and practicum in learning challenging, complex actions required during counseling (Larson & Daniels, 1998).

It is also important to note that the covariates used in both aims (site, age, race, level of education, gender, race, years with respective agency) accounted for about a third of the variance in the second aim and almost half of the variance in the first aim. This is consistent with previous research highlighting that therapist demographics may be an

important aspect of whether training produces differences in learning and subsequent behavior change.

Weisz, Weiss, Alicke, and Klotz (1987) found that professional therapists of various ages, despite degree, were equally effective with clients of all ages. However, graduate student therapists who are typically younger, tended to show better outcomes with younger clients. Beutler and colleagues (1994) found that with the aging population in society, future research should look more carefully at therapist age and how it affects the therapeutic process and outcomes.

Conflicting evidence exists regarding whether or not prior clinical experience influences skill acquisition. One study found that prior general clinical experience did not influence therapist skill acquisition in cognitive therapy (CT), but that prior specific clinical experience in CT facilitated skill acquisition (James, Blackburn, Milne, & Reichfelt, 2001). Another study comparing practicing therapists to trainee therapists suggested that clinical experience did not moderate skill attainment (DeViva, 2006). Karekla, Lundgren, & Forsyth (2004) found that the quality of training in EBPs is likely to vary based on when therapists received their graduate training. They argued that therapists trained before 1995 are unlikely to have had an emphasis on EBPs, while those trained after 1995 have had varied exposure to EBPs during training.

As previously mentioned, the original study noted that the implementation and supervision of the QAI intervention varied significantly across the three intervention sites. Consequently, the dosage and quality of training may have been more effective at one or two of the sites. Given that these variables accounted for good portion of the variance in

this study and the current conflicting research, future work should focus exclusively on these variables or at be taken into consideration before controlling for them.

Sutton and Fall (1995) found that colleague support was the strongest predictor of efficacy and outcome expectancy. Administrative support for the counselor and the school-counseling program was shown to influence both outcome expectancy for counselors' behavior, and efficacy expectancy for individual counselors. They suggest that when principals are supportive of the exchange of ideas and material resources, counselors gain a sense of empowerment and self-efficacy. Therefore, the quality of the relationship between counselors and administration may contribute to effectiveness of SMH programs.

In terms of direct support, Larson (1998) developed the social cognitive model of counselor training (SCMCT), which theorized that the counseling training environment and trainee personnel agency factors, including self-efficacy, jointly influence learning and performance. Within this structure, some research suggests CSE increases with receipt of regular supervision (Cashwell & Dooley, 2001) and counseling field experiences (Ladany, Ellis & Friedlander, 1999). Supervision promotes positive efficacy expectancies for counselors both in training and in the field. A lack of supervision and support can lead to increased stress levels, burn out, feelings of isolation and unhappiness, a decrease in confidence in abilities, an actual decline in counseling skill, and even resignation (Cashwell, 2001; Crutchfield & Borders, 1997; Peace, 1995; Powell, 1993; Spooner & Stone, 1977; Watkins, 1997). Based on the current study's findings and previous research, organizational climate is also affected by stress levels, burn out, role conflict, and job satisfaction. Therefore, it is reasonable to hypothesize that CSE could be

a mediating factor for organizational climate's influence on the delivery and quality of evidence-based services.

Future investigation is needed to determine effective mechanisms and frameworks that result in the increase of SMH clinician ratings of perceived organizational climate. Future research should explore the impact that perceived organizational climate has on the delivery and quality of evidence-based services, as measured by all administrative staff, supervisors, teachers, and clinicians. As national educational values progress by incorporating effective SMH services, it becomes essential that all factors influencing the quality of services and client outcomes be considered, especially organizational climate.

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