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Managerial Capacity and Adoption of Culturally Competent Practices in Outpatient Substance Abuse Treatment Organizations

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Abstract

The field of cultural competence is shifting its primary emphasis from enhancement of counselors' skills to management, organizational policy and processes of care. This study examined managers' characteristics associated with adoption of culturally competent practices in the nation's outpatient substance abuse treatment field. Findings indicate that in 1995 supervisors' cultural sensitivity played the most significant role in adopting practices, such as matching counselors and clients based on race and offering bilingual services. Staff's exposure to cross-cultural training increased from 1995 to 2005. In this time period, positive associations were found between managers' cultural sensitivity and connection with the community and staff receiving cross-cultural training and the number of training hours completed. However, exposure to and investment in this training were negatively correlated with managers' formal education. Health administration policy should consider the extent to which decision makers' education, community involvement and cultural sensitivity contributes to building culturally responsive systems of care.

1. Introduction

Organizational cultural competence – through which organizations recognize and are responsive to the needs of culturally diverse populations – has become a widely supported approach to potentially decreasing minorities' health disparities in substance abuse treatment. While many treatment organizations receive support from public funding and professional regulation to develop culturally responsive care, we know little about the extent to which managers' characteristics contribute to the adoption of culturally competent practices in their organizations.

This study examines an important question about the adoption of organizational cultural competence by examining managers' capacities to incorporate practices that address the unique language and cultural service needs of Latinos and African Americans in outpatient substance abuse treatment (OSAT). As the first stage of the implementation process, *adoption* refers to whether the program offers the practices, while *implementation* denotes the on-going use of the practice (Roman, Ducharme & Knudsen, 2006; Simpson & Flynn, 2007). Unlike most previous studies, this one examines the adoption of the most common practices considered by

federal standards to be linguistically and culturally responsive, including cross-cultural training, which is examined in 1995 and 2005 (see USDHHS, 2001; CSAT, 2009b).

National reports have documented the wide racial and ethnic disparities in health care (IOM, 2003; USDHHS, 2001). Particularly in OSAT, Latinos and African Americans are more likely than Whites to report challenges accessing and benefiting from treatment (Author, 2009; Wells, Klap, Koike, & Sherbourne, 2001). Providers believe that particular service practices, such as staff's cross-cultural training, racial/ethnic representation, and language competence, are necessary to engage minorities and to improve the quality of treatment services (Betancourt, Green, Carrillo & Ananeh-Firempong, 2003; Howard, 2003a; Campbell & Alexander, 2003; Sue, Fujino, Hu, Takeuchi & Zane, 1991; Zane, Gordon, Sue, Young & Nunez, 2004). While little research is available in this area, recent studies indicate that cross-cultural training and matching providers and clients based on language and race/ethnicity are most likely offered in OSAT organizations with significant public resources and more intensive regulatory environments (Howard, 2003a; Campbell & Alexander, 2005; Author, under review).

Because OSAT organizations rely heavily on their external environment to survive, they are responsive to external actors and regulatory expectations, which shape the standards for the adoption of legitimate practices (Powell & DiMaggio, 1991; D'Aunno, 2006), such as cultural competence (Author, under review). But compliance with external expectations to offer culturally competent practices in services varies a great deal across treatment organizations (Stork, Scholle, Greeno, Copeland & Kelleher, 2001). Though the development of a culturally competent system of care starts with capable and responsive administrative leaders (Betancourt, Green, Carillo & Anaheh-Firempong, 2003; CSAT, 2006, Prince, Nesman, Mowery, Callejas & Hernandez, 2009; Vega, 2005), we know little about the extent to which managers of OSAT organizations have the education, experience and technical capacity to ensure that their organizations offer culturally competent practices.

The purpose of this study is to examine the extent to which managers' capacity relates to the adoption of linguistic and culturally responsive practices. I define managerial capacity to adopt cultural competence in OSAT as upper and middle managers' distinct experience and investment in, and knowledge of, the service needs of members of minority groups (CSAT, 2009a; Fixsen, Naoom, Balse, Friedman, & Wallace, 2005). By identifying which managerial characteristics contribute to the adoption of culturally responsive practices, policy-makers who set funding and regulatory policies can design appropriate professional development standards to ensure that managers have adequate knowledge and experience to improve the health service delivery for members of minority groups.

1.1. Managerial characteristics and the adoption of new practices

The empirical literature suggests that managers' experience and education bears an inconsistent relationship to the organizational integration of innovation (Williams, Hoffman & Lamont, 1995). Experience, understood as longer manager tenure, is associated with resistance to change in some studies, while other research finds that tenure serves as a proxy for experience navigating the institutional system (Kimberly & Evanisko, 1981; Hambrick & Mason, 1984). In health care, academic education represents both theoretical knowledge and skills, and shows positive correlations with the adoption of a variety of organizational practices (Kimberly & Evanisko, 1981).

In the substance abuse treatment field, where counselors do not need a graduate degree to provide services, clinical practical knowledge is generally measured as staff having a certification or professional license as treatment counselors. For managers, holding a professional license indicates greater sensitivity and knowledge about clients' service needs. Having this license and experience is generally associated with programs offering evidence-

based practices, including new pharmacotherapies (Friedmann, Jian & Alexander, 2009), yet these two managerial characteristics are not found related to units offering needed prevention and outreach practices (Wells, Lemak & D'Aunno, 2006). Prevention and outreach practices are more likely to be adopted in units with highly educated managers. While results concerning managers' academic education are more consistent, it is not clear how and what knowledge is necessary for managers to adopt different practices, but overall, disparate studies suggest that these characteristics play an important role in the adoption of organizational innovation.

1.2. Conceptual framework

The most recent conceptual models of organizational change in substance abuse treatment argue that the implementation of new practices requires influential leaders with knowledge, authority, respect, and a commitment to implementing responsive program practices (CSAT, 2006; CSAT, 2009a;b; Fixsen et al., 2005; Simpson & Flynn, 2007). Management teams in substance abuse treatment organizations have a great deal of discretion to ensure that their programs implement effective practices to increase the quality of treatment services (Friedmann, Jiang & Alexander, 2009; Wells, Lemak & D'Aunno, 2006). Initial studies suggest that while managers' support does not guarantee organizational adoption, managers are more likely to champion the adoption of a new practice if they favor it and believe it is appropriate for their organizations (Aaron & Palinkas, 2007; D'Aunno, Sutton & Price, 1991; Goodstein, 2002.)

In SAT, the director and supervisor have a joined responsibility to develop services that meet the cultural and linguistic needs of their client population (CSAT, 2006; CSAT, 2009a). To explore how managers' knowledge, authority, respect, and commitment to responsive practices lead to adoption of new practices, the SAT literature has explored several characteristics in managers. These factors include directors and supervisors' (1) managerial experience, (2) education and 3) knowledge of clients' treatment needs (Friedmann, Jian & Alexander, 2009; Knudsen & Roman, 2004; Wells, Lemak & D'Aunno, 2006), including a significant understanding of clients' cultural and linguistic service needs (Campbell & Alexander, 2003; CSAT, 2006; Howard, 2003a;b). Experience and education, particularly in upper managers, are considered indicators of capacity to handle the finances, politics, human resources and organizational policy associated with adoption of new practices, while middle managers' attitudes towards and knowledge of minority clients' treatment needs are relevant to tailor services accordingly (Prince, Nesman, Mowery, Callejas & Hernandez, 2009; Fixen et al., 2005).

Supervisors who are culturally sensitive to the service needs of racial/ethnic minority clients may invest in client engagement by assigning clients to counselors based on racial and language similarity. While such pairing employs stereotyping as a response to complex race/ethnic identities and relations, organizations commonly use this practice to improve access, retention, and client satisfaction (Sue et al., 1991). In some studies with African Americans, matching providers and clients based on race has been associated with greater retention during the initial engagement period (Zane et al. 2004; Wade & Bernstein, 1991), while matching Latinos, the largest bilingual/bicultural population in OSAT (CSAT, 2009a) with Spanish speaking providers is associated with improvement in access, retention and service satisfaction (Betancourt et al., 2003; Sue et al., 1991; Zane et al., 2004). Directors' experience, education and knowledge of the community can also be managerial factors associated with recruiting and retaining ethnically diverse staff and ensuring linguistically competent services (Hernandez & Nesman, 2006; Prince et al., 2009). Thus, after controlling for other relevant organizational factors, I hypothesize:

H1: Managerial capacity, measured as directors' number of hours spent at community events, number of years in current position, number of years of academic education, having a

professional license and supervisors' support for matching providers and clients' based on race or language (Spanish), will be positively correlated with a unit's likelihood of offering race matching for African Americans and units' hiring bilingual/Spanish-speaking counselors.

Most SAT programs in the U.S. are staffed by white counselors (85%), while more than half of the client population is not White (Mulvey, Hubbard & Hayashi, 2003). Managerial teams that are responsive to the service needs of Latinos and African Americans but that do not have access to a diverse pool of ethnically diverse professionals may invest in cross-cultural training of their White treatment staff. Cross-cultural training is a practice that can be readily incorporated in a staff development plan and if implemented well, may have a significant impact on ethnic minorities' access, retention and treatment satisfaction (Zane et al., 2004). In fact, cross-cultural training has become the most common culturally relevant practice offered in the OSAT field (Howard, 2003a), yet the investment in this training has not been assessed. Organizational decision makers need to be involved and familiar with minorities' communities to invest in quality cross-cultural training for their treatment staff (Hernandez & Nesman, 2006). Additionally, as discussed above, managerial experience, education, and professionalism may contribute to adoption of cross-cultural training and investment on its quality. Hence, accounting for other organizational factors, I hypothesize:

H2: Managerial capacity, measured as directors' number of hours spent at community events, number of years in current position, number of years of academic education, having a professional license and supervisors' cultural sensitivity will be positively associated with percentage of staff receiving cross-cultural training and with the number of hours received.

Certainly, adoption of culturally competent practices relies on resources beyond managers' capacity in order to be successfully integrated in service delivery. Financial resources, generally obtained from public funding, drive the adoption of a variety of health and social service practices in public and non-profit OSAT programs (D'Aunno, 2006; Friedmann, Jiang & Alexander, 2009; Campbell & Alexander, 2005: Howard, 2003a; Author, under review). In the U.S., all human service organizations receiving public funding in the 50 states and the District of Columbia are required to provide services in linguistic and culturally congruent ways (See USDHHS, 2001, Stork et al., 2001). Hence, it would be expected that compared with low resourced units with low managerial support for cultural competence those units with high public funding and managerial cultural responsiveness would be more likely to adopt these practices. Thus, accounting for other organizational factors, I hypothesize:

H3: Degree of supervisors' cultural sensitivity will moderate the relationship between units with high public funding and units' adoption of each of the three core culturally competent practices (race/ethnic matching, language matching and cross-cultural training.)

1.3. Accounting for organizational context

The empirical and theoretical literature points to important environmental and resource factors that contribute to incorporating new practices in OSAT units (D'Aunno, 2006; Knudsen, Ducharme & Roman, 2006). An organization's size, staffing, and service resources reflect the organizational capacity to provide new services (Friedmann, D'Aunno, Jin & Alexander, 2000), and study of location has associated urban units with more resources and more social pressure to adopt legitimate practices (D'Aunno & Pollack, 2002; Howard, 2003a; 2003b; Pollack, D'Aunno & Lamar, 2006). Prior research consistently shows that institutional mandates from public funding (Stock et al., 2001) and professional accreditation (Wilson-Stronks & Galvez, 2007) provide resources and expectations to offer culturally responsive practices.

Other program characteristics relevant to the adoption of new practice include units' type of treatment program and their affiliation. Methadone treatment units and units located in mental health or hospital settings compared to regular outpatient and free standing units are more open to adopting new treatment approaches (Knudsen & Roman, 2004). Finally, it is important to consider the role of unit's ownership and client diversity. Public treatment centers, unlike private ones, are more responsive to federal and state expectations and are more likely to perform safety-net care while the racial/ethnic client diversity in units generally determines how services are prioritized (D'Aunno 2006; Howard 2003a; b).

2. Methods

This study analyzed a nationally representative sample of outpatient substance abuse treatment units. The National Drug Abuse Treatment Services Survey (NDATSS) is one of the most comprehensive surveys of management and organizations in outpatient treatment units (D'Aunno 2006). The items in NDATSS, in particular, offer insights into the belief systems held by OSAT unit managers and offers critical information on organizational structure and organizational cultural competence.

2.1 Sampling frame and data collection

The sampling frame was a composite list of several national lists of substance abuse treatment providers in the U.S. This list provided the sampling frame for drawing random samples stratified by treatment modality (methadone, non-methadone), ownership (public, private for-profit, not-for-profit), and organizational affiliation (hospital, mental health center, freestanding). The NDATSS dataset formally defined an OSAT unit as any unit for which outpatient substance abuse treatment constituted at least 50% of services. Over 80% of directors and clinical supervisors responded to the survey via phone. Directors provided information on organizational structure, while supervisors provided information on their belief systems, as well as information on staff members, clients, and practices (for information on NDATSS, see Heeringa, 1996; Adams &Heeringa, 2001).

2.2. Sample

This study used two out of the six waves completed for the NDATSS project: wave four, collected in 1995, contained 618 OSAT units, and wave six, collected in 2005 was comprised of 566 units. Wave five, collected in 2000 was not included in this analysis because it lacked most indicators of cultural competence, while the most comprehensive analyses were conducted with wave four (1995) because it had all the outcomes, namely availability of bilingual and Spanish speaking staff.

To respond to issues associated with estimation bias due to selection processes, a rigorous approach was introduced. In order to avoid potential bias with sample restriction, I considered all OSAT units regardless of their participation in either of the two waves (Rubin, 1987). Second, to avoid bias related to the fact that units have a different probability of selection because they entered the sample at different times; appropriate weights were used according to other studies (Campbell & Alexander, 2005: Wells, Lemak, Alexander, Nara, Ye & Campbell, 2007).

In addition, to take advantage of the maximum amount of information in the data set, multiple imputation was used to fill in missing values, which reached 16 percent in some measures. Assuming missing data at random, the Markov Chain Monte Carlo method (MCMC method, Schafer, 1997) was used to generate five possible values for each missing value and increase the accuracy in parameter estimation.

2.3 Measures

2.3.1. Dependent variables

Organizational culturally competent practices include five measures. In wave four (1995), clinical supervisors were asked: (1) what percent of their staff completed training on how to work with clients from different racial/ethnic groups (cross cultural training); (2) how many mean hours of this cross-cultural training staff received a year; (3) whether the unit had staff who was bilingual; (4) whether the unit had staff who spoke Spanish; and, (5) whether their unit offered same-race individual counseling services (race matching). The indicators of cross-cultural training on exposure (1) and number of hours (2) were included for wave six (2005). These five items were used as single outcome variable because they represent the core of the culturally competence concept (Brach & Fraser, 2000; Campbell & Alexander, 2003) as well as the most common practices offered in OSAT in the U.S. (Author, under review; Howard, 2003a.)

2.3.2. Explanatory variables

Managerial capacity includes measures at the director and supervisor level. At the director level, *connection to clients' community* was measured through the director's report on the average number of hours a month spent in the community. In addition, *director's experience and professional skills* were measured as number of years in director position, *director's license* was dummy-coded and represented whether or not directors had a professional license and *director's education* was the number of academic years completed.

At the supervisor level, four explanatory variables were created based on supervisors' responses to five items. These items asked to what extent they agreed that compared to Caucasians, African American or Latino clients need 1) treatment by staff of the same race/ethnic group; 2) treatment by staff educated in the history of that group; 3) treatment by staff members who speak their language or dialect; 4) treatment that includes family members; and 5) treatment that emphasizes on self-esteem. Two of the four explanatory variables used in this study relied on single items (race and language matching) to predict availability of services by counselors of the same race and by counselors speaking the same language.

The third explanatory variable included the five items described above to create a composite measure of supervisor's cultural sensitivity. In order to respond to the multidimensional characteristics of the survey data, a Rasch measurement approach was conducted to build this composite measure. The Rasch method provides measures that are linear, unbiased by particular items or units in the analysis and robust to missing data (Wright & Masters, 1982). The Rasch composite measure reported adequate psychometric properties; supervisors were able to distinguish beliefs from each other and the Cronbach reliability coefficient was at the . 99 level.

I also created a moderating variable with a dummy variable for high cultural sensitivity, using as a cut-off point a standard deviation above the mean. This variable was then multiplied by a dummy variable representing whether the unit receives high levels of public funding, measured as one standard deviation above the mean.

Control variables included clients' racial/ethnic diversity and organizational factors associated with adoption of cultural competence. Unit's diversity included three levels (low, medium and high) based on Latino and Black clients' average representation in OSAT. Organizational factors included different variables representing funding resources, regulation, licensing, accreditation, staff to client ratio, size, treatment type, location, ownership and affiliation. Please refer to Table 1 for variables' response format and descriptive statistics.

2.4. Data analyses

This study used STATA/SE (Version 10) to conduct a cross-sectional analysis using the 1995 wave, which contained indicators of race/ethnic and language matching to test hypothesis 1. Unlike these matching outcomes, cross-cultural training was available in both waves (1995 and 2005); hence Hypothesis 2 was tested using a longitudinal design with panel data. Hypotheses 3 (moderating effect) is tested in both cross-sectional and longitudinal models. The cross-sectional analyses used logistic regressions for dichotomous outcomes, while random-effects models with Tobit specifications were used for positively skewed variables in longitudinal models.

This study employed a random-effects specification for the longitudinal analysis to account for within-unit correlations in unobservables that arise from repeated observations of the same OSAT unit in different waves (D'Aunno & Pollack, 2002; Pollack, D'Aunno & Lamar, 2006). In addition, this specification presumes that our observed independent variables are uncorrelated with the error term. Quadrature point examinations are used to determine if the random effects estimates are adequate.

3. Results

All descriptive statistics can be found in Table 1. The descriptive analysis of supervisors' individual beliefs revealed a consistent pattern: OSAT unit supervisors in the U.S. demonstrated a high level of support for three core beliefs: They agreed or strongly agreed that (1) Latinos need services by Spanish-speaking counselors (93%); (2) African Americans need to be matched with African American counselors (59%); and (3) OSAT unit staff needs to know African Americans' history to provide them with high quality services (86%)[2]. In addition, these supervisors did not differentiate between the needs of Latino and African American clients, showing support for the same practices for both groups in 1995.

3.1. Hypotheses testing

Hypothesis 1 was partially supported: Adoption of race and language matching practices was associated with supervisors' strong support for these practices in year 1995 (See models in Table 2). Compared to supervisors who did not support race matching between African American clients and their counselors, supervisors who strongly support this practice were twice as likely to work in OSAT units that offered race/ethnic matching. Adoption of race/ethnic matching was not associated with any other areas representing managerial capacity.

Adoption of language matching was partially supported by supervisors' commitment. Supervisors who strongly believed that staff members should speak Spanish were more than two times more likely than supervisors with no such beliefs to have bilingual staff available, while this belief was not associated with having staff who speak Spanish. The most robust indicator of having bilingual or Spanish speaking staff was OSAT units' level of staff resources (staff to client ratio), which increased the odds of having these staff 20 and 14 times accordingly.

The second hypotheses tested the relationship between different components of managerial capacity and the exposure and quantity of cross-cultural training in OSAT units. The following findings partially support Hypothesis 2 (see Table 3). After accounting for organizational resources and regulation, the two time point (1995-2005) panel data analyses revealed a strong positive relationship between supervisors' cultural sensitivity and their units' percent of staff

[2]Item 3 (staff needs to know African Americans' history) and other two additional items are not included in Table 1. They were only used in the development of the composite measure of supervisors' cultural sensitivity.

members trained in cross-cultural issues and the number of training hours received. These statistically significant effects were small but robust across models.

In addition, positive relationships were also found between directors with professional licenses and with number of hours in the community and the percentage of staff receiving cross-cultural training. But directors' education was negatively associated with both training more staff and providing them with more training hours, while other components of capacity were non-significant. Notably, there was a statistically significant relationship observed between the two time waves and offering this training to a higher percentage of staff in 2005.

Hypothesis 3 was not supported. When tested the moderating effect of supervisors' cultural sensitivity on units with higher public funding, no significant results were found across all models. But each model explained about one third of the total adjusted variance in likelihood of adoption of these single practices. Notably, compared with low Latino diversity, units with high diversity were two times more likely to offer race/ethnic matching and 13 times to have Spanish speaking staff. Together, control variables accounted for 28 of the 33% of total variance accounted by most models, while supervisors' cultural sensitivity accounted for a modest four to five percent of the variance explained. However modest an effect, clearly supervisors' sensitivity and directors' connection to the community are relevant managerial characteristics in offering the core culturally responsive practices in the nation's outpatient substance abuse treatment field.

4. Discussion

As the field of cultural competence shifts its primary emphasis from enhancement of counselors' skills to management, organizational policy and processes of care, this study emphasized that after controlling for resources, regulation and client racial/ethnic diversity, the cultural components of managerial capacity are essential to the adoption of linguistic and culturally responsive practices. Consistent with other emerging research, managerial support for the use of evidence-based practice is an essential component in the organizational implementation process (Aaron & Palinkas, 2007). These results suggest that far from academic education, managers' understanding of the community and service needs of Latino and African American clients may increase their treatment units' cultural competency.

It is particularly important for all managers to develop the capacity to implement practices that impact counselors' level of skills to provide competent services to ethnic minorities (CSAT, 2006; CSAT, 2009a). Considering that 85 percent of counselors in the U.S. are White and more than half of the client population belongs to an ethnic minority group (Mulvey, Hubbard & Hayashi, 2003) provision of effective cross-cultural training for White counselors is imperative. These findings suggests that a higher percentage of counselors are exposed to this training in 2005 compared to 1995, yet OSAT units did not invest in more training hours within the same period. Understanding the implications of merely exposing staff to this training versus investing an adequate number of hours in the on-going development of their cultural competency is crucial, particularly in efforts to improve minorities' treatment outcomes. Similarly, hiring bilingual and particularly staff who speak Spanish relies heavily on units having adequate staff resources, while exposing staff to cross-cultural training relies on leaders' attributes. Beyond these attributes, it is most important that managerial capacity to develop culturally responsive organizations focuses on managers' strategic behaviors that lead to higher access, retention, and successful completion of treatment in members of racial/ethnic minorities.

These findings have implications for the development of health administration policy that seeks to equip treatment organizations with decision makers who have the knowledge and

competence to adopt and implement linguistic and culturally relevant service models. Policy makers should consider the low priority that directors with higher academic education and who work at private treatment units place on offering services that are linguistically and culturally responsive. As for theory development, this study stresses how an ideological attitude, namely cultural sensitivity, becomes the main influence on the adoption of cultural competence, while technical skills to enact this organizational change is downplayed.

4.1. Limitations

The relationship between supervisors' cultural sensitivity and adoption of culturally competent practices appears intuitive, but this relationship is not definitive. Certainly, correlation is presumed between supervisors' beliefs and organizational action, but this association is challenged by the ambiguity of culture-based practices, the number of service delivery models available for adoption in SAT, and the contentious environment in which managers make decisions (See Hasenfeld, 1986). While, directors and supervisors have some discretion to ensure the adoption of new practices in most of their units (See D'Aunno, 2006), they do not have full control over program practices when they must also face conflicting external demands, hence their restricted capacity to incorporate or sustain these practices should be considered here.

Secondly, although outpatient treatment, compared to hospital and residential treatment is the most common type of care in SAT and is offered in 80 percent of all facilities (SAMHSA, 2007), this findings should not be generalized to the wider SAT field. These issues, as well as methodological challenges, further complicate the relationship between managerial characteristics and organizational action. Hence, one must consider several issues when interpreting these findings. To start, the structure of the NDATSS survey did not allow determining directionality; thus caution is advised when interpreting findings. The conceptual and limited empirical literatures suggest that managers act upon their beliefs to ensure that appropriate practices are implemented (Andersen, 2010; D'Aunno, Vaughn & McElroy, 1999). However, in this study causal factors may be bi-directional: units using these practices may attract directors and supervisors who are culturally sensitive or directors and supervisors who may have entered the program after these practices were adopted. While bi-directionality may be the case, the robust relationship between cultural sensitivity and in particular cross-cultural training suggests that managers may have contributed to the diffusion phase (1995-2005), which in social services generally takes about 30 years (Aaron & Palinkas, 2008). Managers here reported high tenures (12 years on average) and their increased support over that ten year span follows an increase in staff's exposure to cross-cultural training.

4.2. Directions for future research

The findings from this study highlight the role of managers' characteristics in the adoption process, particularly directors' involvement in the community and supervisors' cultural sensitivity. Increasing evidence suggests that funding and regulation also plays a significant influence in the adoption of culturally competent practices (Howard, 2003a; author, under review). Further research should explore the extent to which external pressures, such as funding, regulation, and professionalization helps build culturally responsive systems of care through the provision of resources and the enforcement of regulatory expectations. In addition, as the literature on organizational change also stresses the role of leaders as the mediators of their context in the adoption of new practices (Simpson & Flynn, 2007), exploring the mechanisms in which organizational resources, readiness to change and leaders' capacities interact is warranted. Finally, in order to inform effective approaches for health reform to reduce health disparities, it is vital to determine the extent to which administrators support the adoption of linguistic and cultural competence out of passion and ideology instead of based on the field's necessity to build an evidentiary practice base to improve minorities' treatment

outcomes. Future studies, then may explore under what conditions and to what extent managers' implement culturally responsive practices that impact minority clients' access, retention and treatment completion.

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Table 1

Descriptive statistics and response format

Variables	1995 (n=618)	2005 (n= 566)	Response format
Dependent variables			
Race/ethnic matching (%)	45.6	---	1 = Unit offers race/ethnic matching
			0 = Unit does not offer race/ethnic matching
Bilingual staff (%)	49.5	---	1 = Unit has bilingual staff
			0 = Unit does not have bilingual staff
Spanish staff (%)	40.1	---	1 = Unit has Spanish speaking staff
			0 = Unit does not have Spanish speaking staff
% Cross-cultural training, *M (SD)*	56.8 (41.2)	68.3 (40.7)	% of staff trained in previous fiscal year
# Cross-cultural training hrs, *M (SD)*	9.4 (15.6)	6.7 (7.6)	# of hours of cross-cultural training received
Independent variables			
Supervisor's support for race matching (%)			
Strongly supports	11.4	---	1 = Strongly supports race matching
			0 = Does not strongly support race matching
Supports	47.4	---	1 = Supports race matching
			0 = Does not support race matching
Neutral/does not support (referent)	41.3	---	1 = Neutral/does not support race matching
			0 = Supports or strongly supports race matching
Supervisor's support for language matching (%)			
Strongly supports	61.6	---	1 = Strongly supports language matching
			0 = Does not strongly support language matching
Supports	31.4	---	1 = Supports language matching
			0 = Does not support language matching
Neutral/does not support (referent)	7	---	1 = Neutral/does not support language matching
			0 = Supports or strongly supports language matching
Supervisor's cultural sensitivity, *M (SD)*	55.6 (20.0)	56.0 (14.7)	Rasch composite interval measure. Ranges from 0 (low) to 100 (high) sensitivity
Director's tenure, *M (SD)*	14.1 (6.9)	17.7 (9.0)	Number of years in current position
Director's license (%)	56.8	60	1 = Director has a professional license
			0 = Director does not have a professional license
Director in community, *M (SD)*	2.6 (3.2)	2.3 (3.3)	Monthly number of hours in community events

Variables	1995 (n=618)	2005 (n= 566)	Response format
Director's education, *M (SD)*	16.4 (1.2)	16.3 (1.2)	Number of years of academic education
Control Variables			
Client racial/ethnic div ersity in unit			
High – Latino/a (%)	15.6	---	1 = > 30% of total clients are Latino/a
			0 = ≤ 30% of total clients are Latino/a
Medium – Latino/a (%)	23.9	---	1 = 6% to 30% of total clients are Latino/a
			0 = 6% to 30% of total clients are not Latino/a
Low - Latino/a (referent) (%)	60.5	---	1 = < 5% of total clients are Latino/a
			0 = ≥ 5% of total clients are Latino/a
High – Black (%)	27.6	29.3	1 = > 40% of total clients are Black
			0 = ≤ 40% of total clients are Black
Medium – Black (%)	23.5	23.5	1 = 10% to 40 % of total clients are Black
			0 = 10% to 40 % of total clients are not Black
Low - Black (referent) (%)	48.9	47.2	1 = < 10% of total clients are Black
			0 = ≥ 10% of total clients are Black
Organizational Factors			
% public revenue, *M (SD)*	55.8 (37.0)	52.7 (38.9)	% of total budget
State license (%)	92.3	91.7	1 = Unit has a state license
			0 = Unit does not have a state license
Accreditation (JCAHO) (%)	24.6	25.2	1 = Unit has JCAHO accreditation
			0 = Unit does not have JCAHO accreditation
Unit size (number of clients), *M (SD)*	347 (754)	663 (1268)	Number of total clients served past fiscal year (logarithm and mean-centered in analyses)
Number of services, *M (SD)*	12.1 (6.4)	---	Ranges from 0 to 26
Staff resources, *Median (SD)*	0.2 (0.2)	0.1 (0.2)	Ratio of staff to clients (logarithm and mean-centered in analyses)
Methadone (%)	20.7	27.9	1 = Unit is a methadone provider
			0 = Unit is not a methadone provider
Urban unit (%)	48.9	31	1 = Unit is within metropolitan area
			0 = Unit is not within metropolitan area
Ownership			
For profit (%)	13.9	22.5	1 = Unit is for profit
			0 = Unit is not for profit
Non-for profit (%)	62.3	57.5	1 = Unit is non-for profit

Variables	1995 (n=618)	2005 (n= 566)	Response format
			0 = Unit is not non-for profit
Public (referent) (%)	23.8	20	1 = Unit is public
			0 = Unit is not public
Affiliation			
Unit in hospital (%)	18.3	13.3	1 = Unit is affiliated with hospital
			0 = Unit is not affiliated with hospital
Unit in mental health facility (%)	22.5	14.5	1 = Unit is affiliated with mental health center
			0 = Unit is not affiliated with mental health center
Free standing unit (referent) (%)	59.2	72.2	1 = Unit is free standing
			0 = Unit is not free standing

Note. Variables not included in 2005 analyses are marked as "---".

Table 2

Logistic regressions on OSAT units' adoption of race/ethnic matching and language matching in 1995

	Outcome Variables		
	Race/ethnic matching	**Bilingual staff**	**Spanish speaking staff**
	Odds ratio (95% CI)	**Odds ratio (95% CI)**	**Odds ratio (95% CI)**
Independent variables			
Supervisors			
Strongly support race matching[a]	3.0 (1.2 - 7.4) **	---	---
Support race matching[a]	1.1 (0.8 - 1.7)	---	---
Strongly support language matching[a]	---	2.2 (1.0 - 5.0) *	2.1 (0.8 - 5.6)
Support language matching[a]	---	1.6 (0.7 - 3.6)	1.1 (0.4 - 3.0)
Public revenue x cultural sensitivity	0.8 (0.2 - 2.5)	0.7 (0.3 - 1.4)	0.8 (0.4 - 1.6)
Directors			
Director's tenure	1.0 (1.0 - 1.0)	1.0 (0.9 - 1.0) **	1.0 (1.0 - 1.0)
Director's license	1.1 (0.8 - 1.7)	1.0 (0.7 - 1.4)	1.0 (0.6 - 1.5)
Director in community	1.0 (0.9 - 1.0)	1.0 (1.0 - 1.1)	1.0 (1.0 - 1.1)
Director's education	0.9 (0.8 - 1.1)	1.0 (0.9 - 1.2)	1.1 (0.9 - 1.3)
Control variables			
Client racial/ethnic div ersity in unit			
High - Latino/a[b]	1.9 (1.0 - 3.5) **	13.0 (6.5 - 26.0) ***	9.8 (5.1 - 18.7) ***
Medium - Latino/a[b]	1.5 (1.0 - 2.4) *	2.5 (1.6 - 3.9) ***	3.0 (1.9 - 4.9) ***
High - Black[c]	2.2 (1.3 - 3.5) ***	1.2 (0.7 - 1.9)	0.7 (0.4 - 1.2)
Medium - Black[c]	1.4 (0.9 - 2.3)	0.8 (0.5 - 1.3)	1.0 (0.6 - 1.7)
Organizational factors			
% public revenue	1.0 (1.0 - 1.0)	1.0 (1.0 - 1.0)	1.0 (1.0 - 1.0)
State license	1.4 (0.7 - 3.0)	0.4 (0.2 - 1.0) **	0.5 (0.2 - 1.2)
Accreditation (JCAHO)	1.3 (0.7 - 2.5)	1.5 (0.8 - 2.9)	1.0 (0.5 - 1.9)
Unit size (number of clients)	1.4 (1.1 - 1.7) ***	1.7 (1.4 - 2.1) ***	2.0 (1.6 - 2.5) ***
Number of services	1.0 (1.0 - 1.1) *	1.0 (1.0 - 1.1)	1.1 (1.0 - 1.1) ***
Staff resources	2.4 (0.5 - 12.8)	20.0 (3.5 - 114.0) ***	13.6 (1.8 - 105.5) **
Methadone	1.4 (0.8 - 2.4)	1.0 (0.6 - 1.7)	1.2 (0.7 - 2.2)
Urban unit	0.9 (0.6 - 1.3)	1.0 (0.7 - 1.6)	1.2 (0.8 - 1.9)
Ownership			
For profit[d]	0.9 (0.4 - 2.0)	1.9 (0.9 - 4.4)	2.4 (1.0 - 5.7) **
Non-for profit[d]	1.0 (0.7 - 1.7)	1.0 (0.6 - 1.6)	1.2 (0.7 - 2.1)
Affiliation			
Unit in hospital[e]	0.9 (0.5 - 1.8)	0.5 (0.3 - 1.1)	0.8 (0.4 - 1.7)
Unit in mental health facility[e]	1.0 (0.6 - 1.6)	1.3 (0.8 - 2.1)	1.7 (1.0 - 2.9) **
Constant	0.8 (0.1 - 13.1)	0.2 (0.0 - 3.2)	0.0 (0.0 - 0.5) **

	Outcome Variables		
	Race/ethnic matching	**Bilingual staff**	**Spanish speaking staff**
	Odds ratio (95% CI)	**Odds ratio (95% CI)**	**Odds ratio (95% CI)**
Observations	563	618	618

Note. Unstandarized parameter estimates, with standard errors in parentheses from two tailed test.

[a] Supervisors reporting no support or neutral is the referent.

[b] Units with low percentage (< 5%) of Latino/a clients is the referent.

[c] Units with low percentage (< 10%) of Black clients is the referent.

[d] Public is the referent.

[e] Free standing unit is the referent.

* p < .05

** p < .01

*** p < .001

Table 3

Random effects regression on cross-cultural training – panel data (1995 and 2005)

	Outcome variables	
	Cross-cultural training (Percent of staff trained)	**Cross-cultural training (Number of hours)**
	Tobit (SE)	**Tobit (SE)**
Independent variables		
Supervisors		
Supervisor's cultural sensitivity	0.78 (0.23) ***	0.10 (0.03) ***
Public revenue x cultural sensitivity	-2.27 (12.16)	-1.01 (1.70)
Directors		
Director's tenure	0.04 (0.38)	0.01 (0.05)
Director's license	9.78 (5.78) *	0.96 (0.81)
Director in community	2.10 (0.92) **	0.22 (0.12) *
Director's education	-5.57 (2.55) **	-1.03 (0.35) ***
Control variables		
Client racial/ethnic diversity in unit		
High - Latino/a	---	---
Medium - Latino/a	---	---
High - Black[a]	3.38 (7.25)	-0.30 (1.00)
Medium - Black[a]	6.36 (7.50)	0.60 (1.04)
Organizational factors		
% public revenue	19.18 (8.84) **	0.58 (1.22)
State license	-12.42 (11.23)	-0.02 (1.51)
Accreditation (JCAHO)	5.91 (9.00)	0.10 (1.25)
Unit size (number of clients)	1.92 (2.90)	-0.76 (0.41)*
Number of services	---	---
Staff resources	19.11 (16.17)	1.71 (2.26)
Methadone	1.19 (7.43)	-0.96 (1.03)
Urban unit	0.43 (1.47)	0.20 (0.20)
Ownership		
For profit[b]	-21.80 (10.83) **	-4.13 (1.52) ***
Non-for profit[b]	1.40 (7.70)	-1.73 (1.05)
Affiliation		
Unit in hospital[c]	-11.16 (10.88)	-3.10 (1.51) **
Unit in mental health facility[c]	-9.55 (8.50)	-2.42 (1.18) **
2005 wave[d]	36.84 (7.18) ***	-1.51 (1.00)
Constant	105.0 (44.30) **	18.56 (6.10) ***
Sigma_u	25.45 (10.12) **	0.01 (2.50)
Sigma_e	82.81 (4.34) ***	13.36 (0.30) ***

	Outcome variables	
	Cross-cultural training (Percent of staff trained)	**Cross-cultural training (Number of hours)**
	Tobit (SE)	**Tobit (SE)**
Observations	1184	1184

Note. Unstandarized parameter estimates, with standard errors in parentheses from two tailed tests.

[a] Units with low percentage (< 10%) of Black clients is the referent.

[b] Public is the referent.

[c] Free standing unit is the referent.

[d] 1995 wave is the referent.

* p < .05

** p < .01

*** p < .001