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Parental Cultural Affiliation and Youth Mental Health Service Use

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Abstract Studies indicate that African American, Asian/Pacific Islander, and Latino youth have higher rates of unmet mental health needs and lower rates of mental health service utilization compared to non-Hispanic White youth, suggesting that obstacles may exist in the help-seeking and service utilization pathway for minority youth. Parental cultural factors may significantly impact youth service use, and acculturation is one way to measure adherence to culture specific values, beliefs, attitudes, and behaviors. In this study, parental acculturation level, conceptualized as cultural affinity to 1) mainstream American culture and 2) an alternative culture, were examined as potential mediators of the relationship between race/ethnicity and youth service use. The current subsample ($n = 1364$) was drawn from the Patterns of Care study, a larger study of at-risk youth who were active to at least one of five public sectors of care. Our subsample included all youth aged 6–17 who were African American, Asian/Pacific Islander, Latino, or Non-Hispanic Whites (66.6% male). The results indicate that parental acculturation level as measured by affinity to an Alternative Culture was a partial mediator in the relationship between race/ethnicity and mental health service use for Asian/Pacific Islander and Latino youth.

Keywords Acculturation · Youth mental health · Minority mental health · Service utilization disparities

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Introduction

It is estimated that 7.5 million U.S. youth have unmet mental health needs (Kataoka *et al*., 2002), and within this underserved population of youth, minorities are of particular concern. Recent research suggests that African American, Asian/Pacific Islander, and Latino youth have an even higher level of unmet need than non-Hispanic White youth (Hough *et al*., 2002; Kataoka *et al*., 2002); one study of at-risk youth found 48% of African American, 72% of Asian/Pacific Islander, 47% of Latino, and 31% of Non-Hispanic White youth had unmet mental health needs (Yeh *et al*., 2003). These disparities are troublesome because research indicates that African American youth (e.g., Siegel *et al*., 1998) and Asian Pacific/Islander youth (Edman *et al*., 1998; Makini *et al*., 1996) have similar community rates of

mental health problems compared to non-Hispanic White youth; and Latino youth (Glover *et al*., 1999; Roberts and Sobhan, 1992) and American Indian youth (Costello *et al*., 1997) have higher rates of mental health problems than non-Hispanic White youth. Adding to the urgency of addressing these racial/ethnic disparities is the rapid diversification of the U.S. population. Minority youth will continue to experience more rapid growth than non-minority youth (U.S. Department of Commerce, 1999), and it is estimated that in about 20 years, 48% of U.S. youth will be from racial and ethnic minority backgrounds (U.S. Census Bureau, 2000).

As a result of these racial/ethnic disparities and population growth patterns, there has been an increasing interest in understanding the role of cultural factors in mental health service utilization for minority families (Cauce *et al*., 2002; Vega *et al*., 1999; Wells *et al*., 1989). Researchers have hypothesized that certain cultural attitudes, values, beliefs, and/or behaviors may act as barriers to mental health service use for these populations and help explain differential use (Cauce *et al*., 2002; Vega *et al*., 1999). In the following sections, we will review some of these cultural factors, offer acculturation as a way to measure adherence to these cultural factors, and discuss the potential relationship between acculturation and mental health service use. We will then examine acculturation as a study variable and highlight some of the challenges it poses in research, propose ways in which our study hopes to address some of these shortcomings, and state the hypotheses of interest for investigation.

The role of cultural attitudes, values, and beliefs in disproportionate utilization

The potential role of cultural attitudes, values, and beliefs in disproportionate service utilization can be illustrated by the examples of coping styles, stigma associated with mental illness and mental health treatment, and mistrust of mental health professionals and services. Certain cultural groups tend to adopt coping styles that may lead to reduced mental health service utilization. Some Asian American groups tend to avoid dwelling on upsetting thoughts, believing that suppression of affect or avoidance are better solutions (Kleinman, 1977), and often rely on themselves to cope with distress (Narikiyo and Kameoka, 1992). In contrast, African Americans take a more active approach in facing problems rather than avoiding them. African American youths are encouraged to use willpower to overcome adversity or to "tough out" certain difficult situations instead of asking for others' help (Poulin *et al*., 1997). These types of coping styles may reduce mental health service utilization and/or promote avoidance of the mental health system until problems become impossible to handle on one's own. This is consistent with findings that African Americans delay treatment seeking (Breaux and Ryujin, 1999; Snowden and Cheung, 1990) and findings that Asian/Pacific Islanders do not seek treatment until symptoms are very severe (e.g., Brown *et al*., 1973; Bui and Takeuchi, 1992; Sue, 1977).

In addition, stigma has been thought of as the "most formidable obstacle to future progress in the arena of mental illness and health" (U.S. Department of Health and Human Services [USDHHS], 1999), and it has been hypothesized that stigma to mental health problems and services may be particularly strong for minorities. Current literature suggests that many minority groups hold extremely negative attitudes towards individuals with mental health problems; one study found that Asian Americans, Hispanic Americans, and African Americans viewed mentally ill individuals as dangerous (Whaley, 1997). In many traditional Asian cultural groups, mental illness reflects poorly on one's family lineage and can influence the community's beliefs about how suitable someone is for marriage and economic/career pursuits (Ng, 1997; Sue and Morishima, 1982). Asians with mental health problems may become so ashamed of their illness and fearful of the impact it may have on their societal status that they conceal their symptoms around others, which reduces the likelihood that they will seek help from any outside source (Wahl, 1999). African Americans were also more likely than Whites to cite stigma as a factor for not seeking help in a professional setting (Cooper-Patrick *et al*., 1997). Stigma may discourage service use; parents and youth may feel ashamed of the youth's problems, feel that these problems should not be shared with others, and attempt to address the problems within the resources of the nuclear family.

Mistrust has also been identified by the Surgeon General's Report on Mental Health as a major barrier to the receipt of mental health treatment by racial and ethnic minorities (USDHHS, 1999). African Americans with major depression were more likely to cite their fears of hospitalization as a reason for not seeking help compared to Whites (Sussman *et al*., 1987), and Latinos felt that health care providers have treated them badly because of their race/ethnicity (LaVeist *et al*., 2000). These attitudes of mistrust may discourage service use; parents and youth may fear unequal or compromised treatment due to their cultural background and be less likely to enroll in mental health services.

Acculturation: measuring adherence to cultural attitudes, values, and beliefs

The existing literature and above examples illustrate how certain attitudes, values and/or beliefs that are frequently held by members of minority groups can lead to disparities in mental health service utilization. However, due to the heterogeneity of cultural backgrounds for minorities and differ-

ing experiences with mainstream culture, it may be difficult to ascertain subscription to cultural values by racial and ethnic identification alone. One way to study how individuals subscribe and adhere to cultural attitudes, beliefs and values is by measuring acculturation, which is the "... process whereby the attitudes and/or behaviors of persons from one culture are modified as a result of contact with a different culture" (Moyerman and Forman, 1992). Acculturation refers to the psychosocial adaptation of persons from their culture of origin to a new or host cultural environment, and can include relearning language, incorporating new values, expectations, and beliefs, and altering behaviors (Burnam *et al*., 1987). As such, varying levels of acculturation may be related to differing service use patterns. Indeed, it has been hypothesized that individuals who are less acculturated to mainstream American culture and/or highly tied to the culture of their ethnic origin tend to adhere and/or subscribe to attitudes, values, and/or beliefs that discourage mental health service use. There is support for this hypothesis in the utilization of various health services, and the literature is fairly consistent in reporting that low levels of acculturation to mainstream American culture are associated with lower service use across a range of services including general health/medical (Wells *et al*., 1987), specialty medical (O'Malley *et al*., 1999), medical inpatient, human services, and mental health services for emotional problems (Wells *et al*., 1989).

Acculturation and mental health service use

Although the existing research documents important relationships between acculturation and general health service use, only a handful of studies have examined these relationships specifically for mental health services, and the results of these studies are often inconsistent across samples and even contradictory for different racial/ethnic groups. Most studies that examine attitudes toward mental health service seeking and service use report that Asian/Pacific Islanders, African Americans, and Latinos individuals who are less acculturated to Western cultures have less favorable attitudes toward U.S. mental health services (Atkinson and Gim, 1992; Atkinson *et al*., 1984; Dadfar and Friedlander, 1982; Kung, 2003; Ying and Miller, 1992; Zhang and Dixon, 2003). However, in one study, attitudes of Mexican Americans toward help-seeking become less favorable as they become more acculturated to mainstream American culture (Ramos-Sanchez, 2001).

Beyond attitudes toward help seeking, a limited number of studies have demonstrated that there are important relationships between acculturation and actual mental health service utilization for adults. Specifically, those with lower levels of acculturation to mainstream American society utilized specialty mental health services at a lower rate than more acculturated individuals (Wells *et al*., 1987), and these relationships persisted even after controlling for sociodemographic and economic factors, health status, and insurance coverage (Wells *et al*., 1989). However, these effects are not considered to be well-established for adults due to the small number of studies available, and literature examining acculturation level and service use for youth is nearly nonexistent (USDHHS, 2001).

Acculturation as a study variable

These gaps and inconsistencies in the evidence base regarding the role of acculturation level in mental health service use may be due to 1) differential selection of acculturation models and measurements by researchers, 2) predominance of culture-specific measures, and/or 3) overlap between acculturation indicators and other sociodemographic indicators.

Differential selection of acculturation models and measurements by researchers

Although associations between acculturation and service use have been found, models of acculturation are often implicit or poorly defined, leading to discrepant findings across studies, inadequate generalizations to minority populations, and controversy about the robustness of acculturation as a construct (Arcia *et al*., 2001). To address these shortcomings, several alternative conceptual models of acculturation have been formulated, and measures have been developed to test and represent these models. Earlier models assumed that acculturation was inevitable and that acculturation implied assimilation to the American culture (Teske and Nelson, 1974). Thus, acculturation was viewed as a single continuum ranging from exclusive involvement in one's indigenous culture to exclusive involvement in American culture, and older acculturation scales reflected this unidimensional conceptualization (Szapocnik *et al*., 1978). More recent models take into account the choice individuals have in the acculturation process and view acculturation as an interaction between at least two cultures simultaneously (Mendoza, 1989). Thus, in this view, acculturation involves two independent dimensions, for which participation in one's indigenous culture is distinguished from participation in the host American culture, and more recent acculturation scales reflect the embodiment of the bidimensional model to measure this construct (Berry, 1997). The existing evidence base has varied widely in the selection of these two models, although recent trends have shifted toward examining acculturation as a bidimensional construct. Most current formulations suggest that individuals low in acculturation to both the host and original culture are "alienated," and that those high in acculturation to both the dominant and original culture are "bicultural."

Those highly acculturated to the original culture and low on acculturation to the dominant culture are classified as "traditional," and those highly acculturated to the dominant culture and low in acculturation to the culture of origin are classified as "assimilating" (Berry *et al*., 2002). The general measurement strategy corresponding to this conceptualization involves asking the respondent to complete two identical scales of acculturation, once in reference to the culture of origin, and once in reference to the dominant culture (e.g., Mendoza, 1994).

The bidimensional model may have some utility in clarifying the role of acculturation in mental health service use. For example, "traditional" individuals may be unlikely to utilize mental health services due to a high adherence to cultural values and beliefs of an indigenous culture. But how does this group differ from "bicultural" individuals, who simultaneously endorse high acculturation to both an indigenous culture and the host culture? Which set of cultural values and beliefs take precedence in decisions for seeking and utilizing mental health treatment? And how do these groups differ in service use from "assimilated" individuals who show the opposite endorsement pattern from "traditionals"? These questions may be addressed through the adoption of a bidimensional conceptualization of acculturation.

Predominance of culture-specific measures

As the degree of acculturation to a culture of origin may imply the adoption of specific cultural values and behavior, existing acculturation scales have tended to be minority group specific, and are designed to assess one particular cultural group. In many of these existing scales, language is the most frequently used and most robust indicator of acculturation (Cuellar *et al*., 1980; Marks *et al*., 1987; Padilla, 1980). To assess process factors, several acculturation scales also include items to assess the cultural orientation of daily life practices such as food, music, and friends (Burnam *et al*., 1987; Mendoza, 1989). Many acculturation scales also include measurement of ethnic self-identification (Montgomery, 1992). These culture-specific measures offer great utility in examining acculturation within a certain cultural group. However, these scales are less useful for assessing the relative degree of acculturation to mainstream American culture and alternative cultures across a large number of different cultural origins (e.g., African American v. Latino v. Asian/Pacific Islanders). Therefore, it has been difficult to examine the influence of acculturation across diverse cultural groups.

Overlap between acculturation indicators and other sociodemographic indicators

Acculturation level has been found to be associated with other factors that may affect mental health service use, such as health status/symptomatology, socioeconomic status, education, and gender (Arcia *et al*., 2001; Negy and Woods, 1992; Suarez and Pulley, 1995). Many existing studies did not control for these effects, and only recently have researchers attempted to assess the independent contributions of each variable. In the youth literature, the involvement of caregivers and families in the receipt of services also complicates the measurement of acculturation. There is some debate about whether youth acculturation level or parental acculturation level is more influential in the youth service utilization pathway. Although youth acculturation level may most certainly play a role in the treatment process and eventual outcomes, it is possible that parental acculturation level plays a more significant role in the access of mental health services in the first place. Unlike adults who tend to be self-referred, youth rarely refer themselves for treatment. Instead, parents act as gatekeepers to youth mental health care (McMiller and Weisz, 1996). Of the limited studies to date, most have utilized youth acculturation level as the variable of interest, which downplays the caregivers' experience of the child's mental health problems and their role in youths' entry to mental health services. Because of these design differences, it has not been possible to reach definite conclusions about the effects of acculturation on mental health service use, particularly for youth.

A contribution to the acculturation and mental health service use literature: Improving design and resolving inconsistencies

This study hopes to resolve some of these design differences and inconsistencies in current literature by achieving the following objectives. First, this study *looks beyond race/ethnicity as an explanatory mechanism for youth mental health use patterns*. Disparities have been traditionally identified by race/ethnicity, and these studies have made important contributions to the minority literature. An important further contribution to the literature would be to assess acculturation (conceptualized as the adherence to underlying cultural attitudes, values, and beliefs) as a potential explanatory mechanism for these racial/ethnic disparities. Specifically, this study examines the contribution of parental acculturation level and how it accounts for the relationship between race/ethnicity and youth mental health service use using a partial mediation model. The results of this study may help to develop a better understanding of the contribution of parental acculturation to youth mental health service entry patterns, and this increased understanding may aid in the development of interventions to reduce access barriers for different ethnic groups.

Second, this study *adheres to a bidimensional conceptualization of acculturation*, which is consistent with more recent approaches and advancements in the measurement of

acculturation. We will examine parental acculturation level on two dimensions: one corresponding to acculturation to the mainstream American culture, and another corresponding to acculturation to their original/indigenous culture. Conceptualizing the acculturation construct bidimensionally will help us to better capture important cultural differences between individuals.

Third, this study *highlights the unique role of caregivers in youths' entry to mental health services by examining parental acculturation level as the variable of interest*. Most studies to date have not focused on the contribution of caregiver factors to youth service enrollment. As caregivers are often the ones to identify needs and seek resolution for their youth's problems, this study may contribute to the evidence base by elucidating the role of parental acculturation level in the receipt of youth mental health services.

Fourth, this study *controls for variables that may impact service use*, in order to decrease the likelihood of obtaining confounded results and to partial out the unique effects of parental acculturation in youth mental health service use in all analyses. Specifically, we will control for the following variables: youth age (service use may vary by child age), youth gender (gender differences may exist in service referral and utilization), youth symptomatology (children with more severe symptoms may be more likely to use services), family income (parents with lower income may be less likely to access services due to lack of economic resources or insurance), parental education (parents who are more educated may be more likely to enroll their youth in services), and caregiver gender (females are likely to be less acculturated than males; Arcia *et al*., 2001). This will ensure that our results describe the unique role of parental acculturation in youth service use.

Hypotheses for Investigation

Racial/ethnic disparities in mental health service use have been identified for minority youth, and the degree of parental adherence to certain cultural attitudes, values, beliefs, and/or behaviors (as measured by parental acculturation) may help explain differential use. Specifically, we hypothesize the following:

1. Parental affinity to an American Culture may partially account for the lower rates of mental health service use by minority youth when youth age, youth gender, youth symptomatology, parental education, family income, and parental gender are held constant in analyses.
2. Parental affinity to an Alternative Culture may partially account for the lower rates of mental health service use by minority youth when youth age, youth gender, youth symptomatology, parental education, family income, and parental gender are held constant in analyses.

Method

Participants

Participants were a subsample of 1,364 youth from a large survey study, entitled the "Patterns of Youth Mental Health Care in Public Service Systems" (Patterns of Care [POC]; PI: R. Hough; NIMH U01 MH55292).

The Patterns of Care study drew a stratified random sample of 1,715 youth ages 6–17 from a population of 12,662 youth who were active in one or more of the following public service sectors in a large, metropolitan area during the second half of the 1996–1997 fiscal year: alcohol/drug, child welfare (i.e., court-ordered dependents), juvenile justice (i.e., adjudicated delinquents), mental health, and public school services for youth with serious emotional disturbance (ED). The sample was stratified by race/ethnicity, level of treatment setting restrictiveness (aggregate care versus home setting), and public service sector affiliation. From this stratified random sample ($n = 3{,}417$), 1,715 consented to participation (50.2%), 845 refused participation (24.7%), 791 could not be located (23.2%), and 66 could not be recruited for other reasons (2%). No significant differences in gender, age, public sector affiliation, or racial/ethnic distribution were found between participants and non-participants, except that there was a slightly lower participation rate by Asian/Pacific Islanders (for more information see Garland *et al*., 2001). Baseline interviews took place between 1997–1999, and two-year follow-up interviews took place between 1999–2001.

The subsample for this study included all youth in the Patterns of Care survey who were 1) African American, Asian/Pacific Islander, Latino, or non-Hispanic White; and 2) who had complete data for all study variables. This resulted in a subsample of 1,364 youth, with, 277 African Americans, 97 Asian/Pacific Islanders, 388 Latinos, and 602 Non-Hispanic Whites. Within Latinos, approximately 90% were of Mexican origin. Within Asian/Pacific Islanders, cultural subgroupings were as follows: 37 Filipinos, 18 Pacific Islander, 16 Cambodian, 9 Laotian, 5 Japanese, 4 Vietnamese, 3 Chinese, 3 Korean, and 2 East Indian. For this subsample, the mean age of youth at the baseline interview was 14.06 (SD = 3.16), and 66.6% were male. Public service sector involvement in this sample at the time of original Patterns of Care sample selection (second half of the 1996–1997 fiscal year) was as follows: alcohol/drug treatment, 9.7%; mental health, 52.6%; special education services for youth with serious emotional disturbance (SED/ED), 24.8%; juvenile justice, 28.3%; and child welfare, 25.4% (with involvement in more than one sector possible).

For primary caregiver respondents, mean age at baseline interview was 42.78 (SD = 9.23; 1 caregiver did not respond to this item), 24.7% were immigrants to the U.S. (11 caregivers did not respond to this item). Of caregivers born

Table 1 Demographic variables by race/ethnicity categories

	African Americans	Asian/Pacific Islanders	Latinos	Non-Hispanic Whites	Total
Youth gender					
Male	176	71	257	404	908
Female	101	26	131	198	456
Total	277	97	388	602	1364
Parent gender					
Male	16	21	24	57	118
Female	261	76	364	545	1246
Total	277	97	388	602	1364
Parent education					
High school and lower	187	72	327	348	934
Higher than high school	90	25	61	254	430
Total	277	97	388	602	1364
Youth country of birth					
Not U.S.	19	5	29	39	92
U.S.	243	88	344	521	1196
Total	262	93	373	560	1288
Parent country of birth					
Not U.S.	10	67	229	31	337
U.S.	265	30	156	565	1016
Total	275	97	385	596	1353

outside of U.S., the average years of residence in U.S. were 22.4 (SD = 10.9; 12 caregivers did not respond to this item). For this subsample, 68.5% of primary caregiver respondents reported education levels of high school and lower, and the median household income was between $20,000 and $29,999 a year. Most primary caregiver respondents were biological parents (75.9%), 5.2% were adoptive parents or stepparents, 9.8% were blood relatives, 7.5% were non-relative foster parents, 1.5% were other non-relative caregivers, and 1 caregiver did not respond to this item. Of caregivers in this subsample, 157 were interviewed in Spanish, and 24 were interviewed in various Asian languages (i.e., Cambodian, Lao, Vietnamese, and Tagalog). Translation methods were as follows: 1) When reliable and valid translations were available (e.g., Spanish Child Behavior Checklist), we obtained these for the study, 2) For measures without existing translations, trained and qualified translators were hired to create translated measures, 3) These translated measures were checked for accuracy and readability by a second translator, with differences reconciled between the two translators, 4) Measures were field tested to assess accuracy and comprehension with the cultural groups of interest, 5) Translators then made additional revisions to the translated measures as needed. Please see Table 1 for a table of youth and primary caregiver demographic variables by racial/ethnic categorizations.

Procedures and measures

Data were collected on demographic characteristics, emotional/behavioral problems, parental acculturation level, and mental health service utilization through primary caregiver and youth interviews. For their participation in the baseline interview, primary caregivers received $40 and youth received $10–40 depending on age.

Socioeconomic status

Socioeconomic status in this study was assessed through family income (continuous variable) and highest level of parental education (binary, 1 = higher than high school education) through parent report at baseline. Family income was determined by an incremental scale that allowed participants to report a value ranging from 1 to 32 that corresponded to distinct income levels (range of less than $1,000 per year to over $200,000 per year; Use, Needs, Outcomes, and Costs in Child and Adolescent Populations [UNOCCAP] Work Group).

Sociodemographic variables

The age, gender, and race/ethnicity of adolescents and primary caregivers were provided by self-report at baseline.

Youth mental health symptomatology

A valid and reliable measure of child's emotional/behavioral problems, the Child Behavior Checklist (CBCL) (Achenbach, 1991), was used to assess child emotional/behavioral problems. The Child Behavior Checklist is a parent-report questionnaire that that asks parents to

rate 113 items on a 3 point Likert scale (0 = not true, 1 = sometimes true, 2 = very true or often true), and employs age-normed comparisons of behavioral/emotional symptomatology for children and adolescents ages 2–18. The Child Behavior Checklist generates 8 narrow-band syndrome scores, 2 broad Internalizing and Externalizing problems scores, and a Total Problems score (Child Behavior Checklist scale $\alpha = .59$–$.95$), each with thresholds for clinical and borderline clinical functioning. The measure has well-established reliability (mean r test-retest for Child Behavior Checklist scales $= .89$) and construct validity (Child Behavior Checklist Total Problems score correlates $r = .82$ with the Parent Questionnaire (Conners, 1973) and $r = .81$ with the Revised Behavior Problem Checklist (Quay and Peterson, 1983). Total behavior problem T-score was used to assess symptomatology in this study. In this subsample, average total behavior problems T-score was 60 (SD = 12.98).

Parent acculturation

Parent acculturation was measured by the PAN Acculturation Scale, which was developed by Soriano and Hough (2000). This scale is unique in several ways: 1) It adopts the recent view of acculturation as a bidimensional variable, and as such, allows for the assessment of biculturalism, 2) It is not minority group specific and instead assesses acculturation across all minority and non-minority groups, and 3) It is designed to be used with both adults and adolescents. The scale has been constructed to allow respondents to first indicate any cultural group (e.g., minority racial/ethnic group) to which they belong, then to report the degree to which their individual characteristics overlap with those common in the dominant culture and those common in the minority culture across several domains present in other existing acculturation scales (e.g., language, food and music preferences, cultural beliefs and values, parental cultural heritage, social interaction, and self-identification).

The PAN Acculturation Scale is a 32-item self-report measure that assesses acculturation on 2 independent axes: one related to the mainstream American culture, and the other related to an additional culture selected by the respondent as being of importance to him/her. The two scales each contain the same 16 items, similar in content to those of previous acculturation measures (Burnam *et al.*, 1987; Cuellar *et al.*, 1980). Questions span across six subject domains represented in other acculturation measures (i.e., language, identity, social support, cultural practices, generational status and background, and cultural values and beliefs). Each of the 16 items is then answered on a 2-point response scale (yes, no) in terms of affinity to the mainstream American culture and then to the alternative culture named. If the respondent did not name an alternative culture, score on the alternative culture subscale = 0. Scores on each scale range from 0 to 16. Please see Table 2 for the PAN Acculturation Scale questions.

Parental acculturation level in this study will be assessed in two ways: subscale 1) Affinity to mainstream American Culture, and subscale 2) Affinity to Alternative Culture. Both of these continuous subscales were divided into three ordinal categories each (low, medium, high) for the current study due to non-normal distributions of these scores across all groups/and within racial/ethnic groups. Low endorsement included individuals who answered "yes" to only 0–3 of the 16 items on either scale, a range of scores corresponding to the bottom 25% range of responses on either scale. Medium endorsement indicated individuals who answered "yes" to 4–12 items on either scale, a range of scores corresponding to the middle 50% range of responses on either scale. High endorsement indicated individuals who answered "yes" to 13–16 items on either scale, a range of scores corresponding to the top 25% range of responses on either scale. Given these categories, high endorsement on the American Culture scale corresponds to high affinity to American Culture, and high endorsement on the Alternative Culture scale corresponds to high affinity to an Alternative Culture.

Both subscales of the PAN demonstrated good internal reliability in the Patterns of Care sample ($\alpha = .95$ for both subscales), in the Patterns of Care subsample used for this study (mainstream American culture subscale $\alpha = .89$, alternative culture subscale $\alpha = .85$) and for different cultural groups in this subsample (African Americans, Asian/Pacific Islanders, Latinos, and Non-Hispanic Whites mainstream American culture subscale $\alpha = .90$, .90, .87, .88, respectively; African Americans, Asian/Pacific Islanders, Latinos, and Non-Hispanic Whites alternative culture subscale $\alpha = .85$, .84, .85, .84, respectively). Construct validity is supported by significant correlations with parent immigrant status in the expected directions. Birthplace (0 = born outside U.S., 1 = U.S. born) was correlated with number of mainstream American culture items endorsed ($r = .52$, $p < .001$) and with number of alternative culture items endorsed ($r = -.50$, $p < .001$). Primary caregivers in this sample endorsed an average of 6 (SD = 6.14) Alternative Culture items, and an average of 12.39 (SD = 5.29) American Culture items. For average number of PAN Acculturation Scale items endorsed by parental racial/ethnic categories, please see Table 3.

Service use

Use of mental health services at two-year follow-up was assessed by the National Institute of Mental Health Service Assessment of Children and Adolescents (SACA; Horwitz *et al.*, 2001), which has demonstrated adequate reliability and validity (Hoagwood *et al.*, 2000; Horwitz *et al.*, 2001;

Table 2 PAN acculturation scale questions as administered in the patterns of care study

Question	Subject domain
My accent does easily sound like American culture	Language
The way I talk is like American culture	Language
Culture I am excited about being a member of is American culture	Identity
Cultural group I am very close or attached to is American culture	Identity
Culture of my best friends is American	Social support
Culture of the people I see every day is American	Social support
Culture of the food I eat is American	Cultural practices
Culture in the traditions I follow is American	Cultural practices
Culture of the music I listen to is American	Cultural practices
Cultural celebrations I go to are American	Cultural practices
My cultural values and beliefs are American	Cultural values and beliefs
Culture influencing the way I think and see things is American culture	Cultural values and beliefs
Culture of my religion or spiritual life is American	Cultural practices
Culture of my role models is American	Social support
Culture of my relatives is American	Generational status and background
Culture of the people I go to school or work with is American	Social support

Note. When assessing for Alternative culture, the same questions are administered, replacing American/American culture with other/other culture

Stiffman *et al*., 2000). The Service Assessment of Children and Adolescents was administered to all caregivers and youth 11 years old and above in the Patterns of Care Study. Test-retest reliability for SACA Parent Version was excellent for both lifetime (Kappas range = .82–.94) and 12-month service use (Kappas range = .79–.86). Test-retest reliability for SACA for children 11 years old and older was good for both lifetime (Kappas range = .64–.96) and 12-month service use (Kappas range = .63–.74). Given evidence of adequate concordance on the SACA between parents and youth aged 11 and above (Stiffman *et al*., 2000) and to maintain consistency with previous Patterns of Care investigations (Hazen *et al*., 2004), use of mental health services was determined by parental or youth endorsement of the use of any mental health services in the past year. Mental health service use in this study was defined as any use of specialty mental health services during the past year. In this subsample, 38.2% had utilized mental health services in the past year.

Results

Analyses were performed using SPSS software. We examined parental acculturation level at baseline interview as a partial mediator of the relationship between race/ethnicity and mental health service use at two-year follow-up. This proposed relationship was examined in three steps using logistic regression analyses in a procedure described by Baron and Kenny (1986). A mediational effect was defined as a 10% change in odds ratio for race/ethnicity in relationship to mental health service use at follow-up when parental cultural affinity level was entered into the model (Kleinbaum *et al*., 1998). All analyses controlled for youth gender, youth age, household income, parental education level, parent gender, and youth symptomatology as indicated by the Child Behavior Checklist Total Problem T-score.

The first step of our mediational analyses was to determine whether race/ethnicity was significantly related to mental health service use at follow-up. To examine this relationship, binary logistic regression was utilized controlling for youth age (continuous variable), youth gender (dichotomous variable), household income (continuous variable), parental education level (dichotomous variable; higher than high school diploma = 1), and youth Child Behavior Checklist Total Problems T-score (continuous variable). Significant racial/ethnic relationships were found; Latinos and Asian/Pacific Islanders were significantly less likely than Non-Hispanic Whites to use mental health services at two-year follow-up (Latinos $OR = .71$, $p < .05$; Asian/Pacific Islanders $OR = .33$, $p = .001$; see Tables 4 and 5). In fact, the odds of using mental health services at two-year follow-up was 29.5% lower for Latinos and 66.6% lower

Table 3 Average number of items endorsed by caregivers on PAN by youth race/ethnicity

Parental report	African Americans	Asian/Pacific Islanders	Latinos	Non-Hispanic Whites
PAN subscale American culture	13.77 (SD = 4.34)	9.80 (SD = 5.28)	9.22 (SD = 5.77)	14.22 (SD = 4.14)
PAN subscale Other culture	7.12 (SD = 6.02)	8.89 (SD = 6.13)	10.14 (SD = 5.99)	2.34 (SD = 3.67)

Table 4 The mediating effects of parental affinity to American culture on the relationship between race/ethnicity and mental health service use at follow-up

Variable	Model 1 *OR*	Model 2 *OR*	% Change in *OR*(From Model 1 to Model 2)
Youth gender	1.027	1.033	
Age	.833***	.832***	
CBCL total problem	1.054***	1.053***	
Household income	1.036***	1.036***	
Parental education	1.318*	1.314*	
Parent gender	1.162	1.193	
African Americans[a]	.835	.834	0.12
Asian/Pacific Islanders[a]	.334**	.350**	4.79
Latinos[a]	.705*	.764	8.37
Affinity to American culture (medium)[b]		1.454	
Affinity to American culture (high)[b]		1.549*	

[a]Reference group is Non-Hispanic Whites.

[b]Reference group is low affinity to American culture.

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

for Asian/Pacific Islanders as compared to Non-Hispanic Whites. No significant relationships were found for African Americans ($OR = .835$, $p = .270$). Overall prediction of the model was moderately successful (71.8% correctly predicted), with 83.4% of youth who did not use mental health services in the past year and 53.2% of youth who did use mental health services in the past year correctly predicted.

The second step of our analyses was to examine whether race/ethnicity was significantly correlated with parental acculturation level to both mainstream American Culture as well as to an Alternative Culture. An ordinal logistic regression analysis was performed to assess the relationship between race/ethnicity and membership in one of three categories of the American Culture scale (low, medium, and high affinity to American Culture) and one of three categories on the Alternative Culture scale (low, medium, and high affinity to an Alternative Culture), holding constant the same demographic variables in the first step of the mediation analyses. The regression equation predicting affinity to American Culture items accounted for a significant amount of variance, χ^2 (9, $N = 1364$) = 295.170, $p < .001$; Pseudo-$R^2 = .20$. Both Latinos ($\beta = -1.675$) and Asian/Pacific Islanders ($\beta = -1.7$) were significantly less likely to endorse affinity to American Culture compared to Non-Hispanic Whites ($p < .001$ for both cultural groups; see Table 6). African Americans ($\beta = -.159$) were not significantly more or less likely to endorse affinity to American Culture items compared to Non-Hispanic Whites ($p = .371$). The regression equation predicting endorsement of Alternative Culture items accounted for a significant amount of variance, χ^2 (9, $N = 1364$) = 457.7, $p < .001$; Pseudo-$R^2 = .285$. African Americans ($\beta = 1.024$), Latinos ($\beta = 1.556$) and Asian/Pacific Islanders ($\beta = 1.35$) were significantly more likely to endorse affinity to Alternative Culture ($p < .001$ for three cultural groups; see Table 6) as compared to Non-Hispanic Whites.

In the third step of our mediational analyses, we examined whether the hypothesized mediator, parental cultural affinity level, was significantly associated with mental health service use at follow-up while reducing the effect of race/ethnicity on mental health service use. To examine this relationship, we entered race/ethnicity, parental cultural affiliation, and the control variables (other demographics and Child Behavior Checklist total problems T-score) into two separate equations. We utilized one equation for affinity to American Culture with low affinity to American Culture as the reference group, with two dummy variables, one for medium and one for high affinity; and another equation for affinity to an

Table 5 The effect of parental affinity to an Alternative culture on the relationship between race/ethnicity and mental health service use at follow-up

Variable	Model 1 *OR*	Model 2 *OR*	% Change in *OR*(From Model 1 to Model 2)
Youth gender	1.027	1.018	
Age	.833***	.831***	
CBCL total problem	1.054***	1.054***	
Household income	1.036***	1.034***	
Parental education	1.318*	1.278	
Parent gender	1.162	1.176	
African Americans[a]	.835	.955	14.4
Asian/Pacific Islanders[a]	.334**	.385**	15.3
Latinos[a]	.705*	.894	26.8
Affinity to Alternative culture (medium)[b]		1.128	
Affinity to Alternative culture (high)[b]		.513**	

[a]Reference group is Non-Hispanic Whites.

[b]Reference group is Low Affinity to Alternative culture.

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

Table 6 The relationship between race/ethnicity and parental affinity level to mainstream American culture and an Alternative culture (Step 2 of mediation analyses)

Variable	American culture estimate (β)	Alternative culture estimate (β)
African American[a]	−.159	1.024***
Asian/Pacific Islander[a]	−1.7***	1.350***
Latino[a]	−1.675***	1.556***
Youth age	.006	.008
Youth gender	.088	.009
CBCL total problem	.001	< .000
Household income	.012	−.012*
Parental education	.117	−.145*
Parent gender	.507*	−.117

[a]Reference group is non-Hispanic Whites.

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

Alternative Culture with low affinity to an Alternative Culture as the reference group, with two dummy variables for medium and high affinity. Mental health service use at two-year follow-up was entered as the outcome variable for both equations. We found that high affinity to American Culture entered in this step was significantly associated with mental health service use at follow-up ($OR = 1.549$, $p < .05$; see Table 4). However, the change in odds ratios did not meet our mediation criterion (10% change in odds ratio), indicating that affinity to American Culture is not a significant partial mediator in the relationship between race/ethnicity and mental health service use for the racial/ethnic groups in this sample. We found that affinity to an Alternative Culture entered in this step was significantly associated with mental health service use at two-year follow-up ($OR = .513$, $p < .01$; see Table 5). The relationship between race/ethnicity and mental health service use at follow-up was significantly reduced for Latinos (Step 1 $OR = .705$, $p < .05$; Step 3 $OR = .894$, $p = .53$, reflecting a 26.8% reduction in odds ratio and a change from significance to non-significance; see Table 5). The relationship between race/ethnicity and mental health service use was also significantly reduced for Asian/Pacific Islanders (Step 1 $OR = .334$, $p = .001$; Step 3 $OR = .385$, $p < .01$, reflecting a 15.3% reduction in odds ratio and a change in significance level; see Table 5). Based on our mediation criterion of a 10% change in odds ratio, we concluded that parental cultural affinity to an Alternative Culture at baseline was a partial mediator in the relationship between race/ethnicity and mental health service use at follow-up for Asian/Pacific Islanders and Latinos.

Discussion

The purpose of this study was to investigate the relationships between race/ethnicity, acculturation, and youth mental health service use by examining the mediating role of parental acculturation to mainstream American culture and to an alternative/indigenous culture. Specifically, we hoped to understand whether parental acculturation level partially explained racial/ethnic disparities in youth service utilization. The results indicate that parental acculturation level as measured by affinity to an Alternative Culture was indeed a partial mediator in the relationship between race/ethnicity and mental health service use for Asian/Pacific Islander and Latino youth, even when youth gender, youth age, youth symptomatology, household income, parent education level, and parent gender were held constant in analyses. Thus, our results confirm our second hypothesis, but our first hypothesis was not supported in this sample.

Significant racial/ethnic differences were found for mental health service use at two-year follow-up in the first step of our mediational analyses. Specifically, Latinos and Asian/Pacific Islanders were significantly less likely than Non-Hispanic Whites to use mental health services even when youth age, youth gender, household income, parent education, parent gender, and youth symptomatology were held constant. These results are generally consistent with previous findings from Patterns of Care studies that specifically investigated racial/ethnic differences in levels of unmet need (e.g., Hough *et al.*, 2002; Yeh *et al.*, 2003) and with other literature indicating that Hispanic and Asian American children are underrepresented in mental health services compared to Caucasian children (Kataoka *et al.*, 2002; Zahner and Daskalakis, 1997). The findings for Latino and Asian/Pacific Islander children (29.5% and 66.6% less likely to utilize services than Non-Hispanic Whites in this sample, respectively) are troubling because there is little evidence that Latinos and Asian/Pacific Islanders have lower rates of emotional and behavioral problems compared to Non-Hispanic Whites (USDHHS, 2001), suggesting a high level of unmet need for these youths. The study did not find higher levels of unmet need for African Americans as compared to Non-Hispanic Whites. However, such a difference was found in a previous Patterns of Care investigation that focused specifically on unmet need (Yeh *et al.*, 2003), and the current study's findings may have resulted from sample inclusion criteria (e.g., having complete data for the acculturation measure) that produced a somewhat different subsample.

In the third step of our mediational analyses, we examined parental acculturation level as a potential mediator between youth race/ethnicity and mental health service use at follow-up. Affinity to mainstream American culture was not found to be a significant mediator in the relationship between race/ethnicity and mental health service use, which is inconsistent with our first hypothesis. However, parental affinity to an Alternative Culture was found to partially account for the lower rates of mental health service use by Asian/Pacific Islanders and Latinos, and this relationship was not explained by differences in youth gender, youth age, youth

symptomatology, household income, parent gender, and parent education level. This finding confirms our second hypothesis, and is consistent with previous literature that reported acculturation as a predictor in general health and mental health service utilization for minority adult populations (Tata and Leong, 1994; Wells *et al*., 1989; National Institute of Mental Health [NIMH], 2002). Taken together, these two findings suggest that one's affinity to an alternative cultural group (and that cultural group's norms and beliefs about mental health) is more important than the degree of affinity to mainstream American culture in the decision to utilize services.

As indicated in the introduction, researchers have hypothesized that certain cultural attitudes, values, beliefs, and/or behaviors (e.g., coping styles, stigma, mistrust) may act as barriers to mental health service use for these populations and help explain differential use (Cauce *et al*., 2002; Vega *et al*., 1999). The results of our study show that acculturation, as a way of measuring adherence to culture-specific attitudes, values, beliefs, and/or behaviors, is significantly related to disparities in the current mental health care system. Our findings suggest that minority parents who report high affinity to an alternative culture may subscribe to cultural values that discourage help seeking in the mental health sector, such as coping styles that reduce the likelihood of seeking outside help (Kleinman, 1977; Narikiyo and Kameoka, 1992), stigma accompanying mental illness and mental health treatment (Whaley, 1997; Zhang *et al*., 1998), negative views of the mental health services sector due to unfamiliarity with Western mental health services, and mistrust of clinicians (e.g., fearing that they will be unfairly treated because of their ethnicity; LaVeist *et al*., 2000).

To alleviate these cultural barriers to youth mental health service utilization, it is important to focus on outreach efforts with at-risk minority populations, develop programs that aim to increase public awareness of mental illness and effective treatments, and prioritize using education to overcome shame, stigma, discrimination, and mistrust associated with mental illness and mental health treatment (Ho *et al*., in press). For minority families that have made the decision to seek help and have enrolled in services, efforts should be made to culturally tailor treatment so that they may be more effective for these populations. During treatment, clinicians should be aware of possible personal biases and stereotyping toward certain groups and make building trust and rapport a priority in early stages of contact. An integral part of building a strong client-therapist alliance may be the practice of cultural competence. Careful and appropriate implementation of sound cultural competency techniques in delivering health services can reduce disparities (Brach, 2000). By definition, cultural competence goes beyond cultural awareness and sensitivity to include the possession of cultural knowledge and respect for different cultural perspectives and having the ability to use these skills effectively in cross-cultural situations (Brach, 2000; Cross *et al*., 1989; Orlandi, 1995; Tirado, 1996). These three general areas of cultural competency defined by Sue *et al*. (1996) (i.e., cultural awareness and beliefs, cultural knowledge, and cultural skills) have been adopted by APA's Multicultural Guidelines (APA, 2003) to urge the nation to improve quality of care for minority groups.

This study also highlights the importance of examining underlying cultural variables in addition to race/ethnicity when studying disparities in service use for minorities. Most existing research relies on examining mental health care across racial/ethnic groups to identify barriers, identify cultural factors impacting mental health care, and to explain differential access, utilization, and outcomes. Although reporting differences between racial/ethnic groups is an informative starting point and has helped us to advance the knowledge base regarding minority mental health care, future studies should also include examinations of the underlying cultural variables that are hypothesized to produce racial/ethnic group differences (Clark, 1987; Betancourt and Lopez, 1993; Miranda *et al*., 2005; Okazaki and Sue, 1995). This study has chosen to focus on parental acculturation level, and other current investigations have examined specific cultural variables such as ethnic identity (Helms, 1986; Phinney, 1996), years in the U.S., immigrant status, and beliefs about causes of mental health illness (Yeh *et al*., 2005) to identify variables relevant to mental health care. Results that suggest the existence of relationships between underlying cultural variables and mental health care may be applicable to people from various cultures, provide information on possible intervention points, and aid in designing culturally appropriate interventions to reduce disparities.

Strengths and limitations

Strengths of this study include the survey of bidimensional cultural affinity for a large, racially/ethnically-diverse sample and the assessment of mental health service use using a well-established measure. The present study also controlled for key demographic variables (youth age, youth gender, household income, parent education, caregiver gender) and youth symptomatology to focus on the unique contribution of racial/ethnic differences to acculturation. However, this study has several limitations. First, all of the youth in our sample have had contact with public services, and many have used mental health services in the past. Therefore, the degree of generalizability to community samples may be limited, and findings should be interpreted within the context of an at-risk sample. Second, the racial/ethnic group categories used in this study were broadly defined, and each of these broader groups contain specific ethnic groups (e.g., the Asian/Pacific Islander group included Korean Americans, Vietnamese

Americans, Filipino Americans) that have variations in cultural patterns, beliefs, and practices. Future research should be aimed at examining acculturation as it accounts for mental health service use with specific cultural groups. Third, the study utilized a relatively new acculturation measure for which psychometric information is limited. Fourth, the division of the continuous variable of acculturation level into three broad categories probably resulted in the loss of some information in the analyses. Fifth, this study focuses on the role of the caregiver as gatekeeper to services, and does not specifically assess the parent-adolescent relationship for possible dysfunction that may act as an additional barrier to service use (e.g., parent characteristics or aspects of the caregiver-youth relationship might be the reason for youths' emotional/behavioral problems). Future studies may incorporate a direct assessment of the parent-adolescent relationship and control for this variable in analyses.

Conclusion

These findings indicate that parental affinity to an alternative culture is a partial mediator in the relationship between race/ethnicity and mental health service use at two-year follow-up, specifically, for Latino and Asian/Pacific Islander youth. This research provides evidence for the utility of examining acculturation as a bidimensional construct, highlights the importance of controlling for possible confounding factors, and elucidates the role of parental acculturation in service utilization for minority youth and families. In this study, we have examined parental acculturation using a broad conceptualization of this construct. Future research should investigate youth mental health service use with specific parental cultural variables (e.g., the impact of stigma, mistrust, coping styles, or loss of face) that are embodied within the more general acculturation construct. Our study has highlighted the special role of caregivers in the youth mental health service utilization process. Future studies should also assess youth acculturation levels and examine how this affects service use, especially for older children who may have higher rates of self-referral compared to younger children. Investigating possible interactional effects between parent and youth acculturation levels on service use may also contribute significantly to the existing evidence base.

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