

Immigrant Status, Mental Health Need, and Mental Health Service Utilization Among High-Risk Hispanic and Asian Pacific Islander Youth

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Abstract This study examined youth mental health service (MHS) use as a function of family immigrant status and type of mental health need (internalizing vs. externalizing). A sample of Hispanic and Asian/Pacific Islander families (youth ages 11–18; $N = 457$) involved with public sectors of care provided reports of youth mental health need during an initial interview and MHS use was examined prospectively over 2 years. While externalizing need predicted specialty and school-based MHS use in the overall sample, family immigrant status moderated the association between youth need and specialty MHS use such that immigrant youth were more likely to receive services for externalizing need and less likely to receive services for internalizing need relative to non-immigrant youth.

Keywords Unmet need · Immigrant · Internalizing · Externalizing · Mental health services

It has been estimated that only 14–40% of youth with mental health need receive treatment (Burns et al. 1995; Kataoka et al. 2002; Leaf et al. 1996; Pihlakoski et al. 2004). Levels of unmet need have been known to vary by race/ethnicity, with disparities in youth mental health services (MHS) widely documented. Overall, minority youth with significant mental health problems are less likely than White children to receive needed MHS (Garland et al. 2005; Hough et al. 2002; Kataoka et al. 2002; Yeh et al. 2003). These disparities are not readily explained by racial/ethnic differences in prevalence of mental disorders, levels of severity, or functional impairment (Garland et al. 2005; Slade 2004). Greater unmet need among children of color can be attributed to a variety of barriers encountered by minority

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families who may be more likely to encounter practical barriers to accessing services, including a lack of insurance coverage, transportation problems, or lower accessibility to MHS in the community. Likewise, systemic problems may limit the ability of families to benefit from MHS. For example, a lack of mental health providers who conduct outreach to minority communities, provide extended hours, or offer lower fees may negatively impact the likelihood and feasibility of accessing MHS for many families. Additionally, limited availability of linguistically appropriate services, culturally matched, and/or culturally competent MHS providers can present barriers for accessing MHS and remaining in treatment that disproportionately impact minority families (e.g., Kodjo and Auinger 2004; Slade 2004; Sue et al. 1991; Yeh et al. 2003).

Cultural barriers have also been noted as impediments to minority youth MHS utilization. Youth generally do not seek MHS themselves. Rather it is adult gatekeepers, often parents, who must seek out services on behalf of children with mental health need. Child problems that are not detected or not considered serious by parents are unlikely to receive attention, even if they are very distressing to the child. Cultural beliefs and attitudes may profoundly affect minority parents' recognition and help-seeking responses to child emotional and behavioral problems. These barriers may include lack of familiarity with mental health concepts, different appraisals of child behavioral and emotional problems, or distinct beliefs about causes of these problems. Minority parents are less likely than Whites to recognize child mental health problems (e.g., Roberts et al. 2005), and when problems are recognized minority parents often hold explanatory models that divert help-seeking to sources other than MHS (Bussing et al. 1998; Yeh et al. 2005).

As detailed above, practical, systemic, and cultural barriers may negatively impact MHS use for minority youth with mental health needs. Among minority youth, however, those in immigrant families may be at even greater risk of having unmet mental health needs. Minority children of immigrant parents may experience heightened access barriers relative to minority children of U.S.-born parents given their greater likelihood of limited English proficiency, lower levels of formal education, lack of insurance coverage, and poorer access to regular health providers (e.g., Fiscella et al. 2002; Solis et al. 1990). Heightened practical and systemic barriers may make MHS receipt less likely among immigrant families. In addition, cultural barriers to care may be most pronounced among immigrant families. Due to stronger adherence to heritage cultural attitudes about mental illness and stigma and less familiarity with social problems affecting youth in the host culture, foreign-born parents may be even less likely than U.S.-born minority parents to seek out MHS for their children.

In youth MHS, receipt of care is also known to differ based on the type of problem, with children exhibiting externalizing problems being more likely to receive care relative to youth with internalizing problems (Kazdin and Weisz 2003; Thompson 2005; Wu et al. 1999). Due to the disruptive nature of externalizing symptoms, such problems tend to negatively impact the lives of those around them and are consequently more readily identified by caregivers. Conversely, internalizing symptoms are distressing for youth (Phares and Compas 1990), but may not necessarily burden others and thus may be more difficult for caregivers to detect (Cantwell et al. 1997). As such, youth with internalizing problems may be at greatest risk of having their mental health needs unmet. Furthermore, these disparate rates of MHS by problem type may be even more pronounced for youth in immigrant families.

Among immigrant and minority parents, cultural attitudes and beliefs may lead to differential levels of concern for different types of youth mental health problems. The adult distress threshold hypothesis proposed by Weisz and colleagues (1988) provides a useful framework for conceptualizing the potential impact of culture on youth psychopathology

and treatment receipt. Weisz et al. (1991) posit that culture helps determine adult thresholds for distress over child problems as well as appraisals of the seriousness of the problem and the appropriate response. Certain types of child problems arouse greater concern in some cultures than in others (Weisz 1989; Weisz et al. 1988). Given that interdependent cultures focus on promoting interpersonal harmony and hierarchical family relations over individual autonomy and assertiveness, behaviors such as quietness, deference, and inhibition of impulses are both accepted and expected in children. Therefore, internalizing problems involving symptoms such as withdrawal, anxiety, and depressed affect would be less concerning to adults, and may represent culturally syntonik expressions of distress. In comparison, symptoms such as impulsivity, aggression, or noncompliance are typically associated with externalizing problems and represent clear violations of interdependent cultural expectations. In line with this contention, previous research has discussed the acceptability of internalizing/externalizing problems within interdependent cultures as possible explanations for differences observed in these behaviors in cross-national and cross-cultural research (e.g., Bergeron and Schneider 2005; Weisz et al. 1993; Zhou et al. 2004). Consequently, among parents who hail from interdependent cultures such as those of Asia, the Pacific Islands, and Latin America, levels of concern over internalizing problems versus externalizing problems may diverge markedly. Owing to stronger ties to these heritage interdependent cultures, youth in immigrant families may be more likely to have internalizing mental health needs unmet compared to their counterparts with U.S.-born parents.

Thus, practical, systemic, and cultural barriers to accessing MHS care may give rise to elevated rates of unmet mental health need among ethnic minority youth from immigrant families relative to their counterparts with U.S.-born parents. Furthermore, cultural factors that set adult distress thresholds about types of youth mental health problems may amplify the differences in rates of service use typically seen for externalizing problems versus internalizing problems. Because Hispanic and Asian Pacific Islander cultures hold interdependent cultural values, the current study examines differential patterns of MHS utilization for youth from these cultural backgrounds while testing two hypotheses. First, due to the potential barriers to accessing care faced by immigrant families, it is hypothesized that after controlling for youth mental health need, family immigrant status will be associated with a lower likelihood of minority youth MHS use. Second, we predict that minority youth from immigrant families will be less likely to receive MHS for internalizing problems relative to minority youth with U.S.-born parents. Conversely, we expect that youth from immigrant families will be more likely to receive MHS for externalizing problems than youth from non-immigrant families. We examine MHS use in both specialty outpatient MHS and school-based MHS services, as it is possible that practical and cultural barriers may present more of a challenge for accessing specialty care (Allensworth et al. 1997; Garrison et al. 1999).

Method

Participants

The Patterns of Care Study (POC) was a 2-year longitudinal study that surveyed a random sample of 1,715 youths ages 6–18 who had active cases in one or more public sectors of care (alcohol/drug, mental health, child welfare, juvenile justice, and public school services for youth with serious emotional disturbance [SED]) in San Diego County, CA during the

second half of fiscal year 1996–1997. The sample was stratified by youth race/ethnicity, the level of restrictiveness of the services received, and the pattern of involvement in the various sectors. A more detailed description of the sampling methodology and procedure can be found in Garland et al. (2001).

The current project makes use of secondary data analysis from the POC study. Of the 1,715 youth in the overall sample, 587 (34.23%) were Hispanic American (HA) or Asian American Pacific Islanders (API). Because only youth ages 11 and older provided self-report data in the POC study, the current sample was restricted to the 514 (87.56%) youth ages 11–18 at baseline. Diagnostic/symptom reports were available for all 514 youths, 503 had service use information between baseline and follow-up assessments, and 465 youths had complete data on all study variables. Because the current project examined patterns of service use within families, 8 cases were excluded because the caregiver respondent was not the youth's custodial parent (biological, adoptive, foster, step, or grandparent). The final subsample used for the current study therefore consisted of 457 participants. Analyses suggested that exclusion from the current sample due to missing data was not associated with age, gender, insurance status, or service sector involvement. However, API families (17.7%) were more likely to have missing data than HA families (9.0%), $\chi^2(1) = 7.34$, $p = .007$. Caregivers who completed the interview in English were also more likely to have missing data (6.7%) than those completing the interview in a non-English language (1.6%), $\chi^2(1) = 6.35$, $p = .012$.

Procedures

Participants had the option of completing study measures in English, Spanish, or one of the four predominant Asian languages used in the region (Cambodian, Lao, Tagalog, and Vietnamese). When an existing translation of a measure was not available, measures were created through a process of translation, review for accuracy, and subsequent reconciliation of discrepancies by translation teams comprised of speakers fluent in the language. Participants were interviewed after parents provided written consent and youth provided assent, with most interviews occurring in the family's home. Caregivers and youths provided reports of the youth's demographic information (age, sex, race/ethnicity, and insurance status), mental health problems, and associated functional impairment during an initial baseline interview. Caregivers also provided reports of their own immigrant status. Youth past-year MHS use information was obtained during interim telephone interviews with the caregiver 6, 12, and 18 months after the initial baseline interview. Two years after the baseline interview, caregivers and youth were interviewed about the youth's past-year MHS use during a second in-person interview. To ensure participant's privacy and the independence of their responses, every effort was made to interview caregivers and youth separately.

Measures

Youth and Caregiver Characteristics

Demographic information including youth age, sex, race/ethnicity, and insurance status was collected from the youth and parent interviews. Caregivers also provided reports of their own immigrant status. Participants had the option of completing the interview in English, Spanish, or one of several Asian languages. The language used to conduct the

caregiver interview was coded (English = 1, Non-English = 0) as a proxy for the caregiver's English language proficiency. Given that youths recruited from the alcohol/drug treatment and mental health sectors (ADM) are more likely to receive MHS than youth recruited from other sectors (Garland et al. 2005), we also coded whether youth were involved with one of these sectors.

Internalizing/Externalizing Mental Health Need

Youth mental health need was assessed utilizing combined caregiver and youth reports as follows.

(1) Interviewers administered the computer-assisted version of the National Institute of Mental Health Diagnostic Interview Schedule for Children, Version IV (DISC-IV; Shaffer et al. 2000) to youths during the baseline assessment. The DISC-IV is a reliable and valid structured diagnostic interview assessing a wide range of disorders (Jensen et al. 1995; Piacentini et al. 1993). A diagnosis for an internalizing disorder was considered present if youth met diagnostic criteria and at least moderate diagnosis-specific functional impairment for Major Depressive Disorder, Dysthymic Disorder, Generalized Anxiety Disorder, Panic Disorder, Posttraumatic Stress Disorder, Obsessive-Compulsive Disorder, Separation Anxiety Disorder, and/or Social Anxiety Disorder. If youth met diagnostic criteria and at least moderate diagnosis-specific impairment for Attention-Deficit/Hyperactivity Disorder, Conduct Disorder, and/or Oppositional Defiant Disorder, an externalizing disorder was considered present.

(2) To assess youth symptomatology, caregivers and youth completed the Child Behavior Checklist (CBCL; Achenbach 1991a) and the Youth Self-Report (YSR; Achenbach 1991b), respectively, during the baseline interview. Caregivers and youth also completed the Columbia Impairment Scale (CIS; Bird et al. 1993), a 13-item measure that reliably assesses youth functioning in four major areas (interpersonal relations, broad psychopathology domains, functioning in job or schoolwork, and use of leisure time; Bird and Gould 1995). Clinically significant youth mental health need was considered present if the caregiver or youth report met both of the following criteria: An Internalizing and/or Externalizing broadband score above the recommended clinical cutoff of $T \geq 70$ (Achenbach 1991a) on the CBCL/YSR and significant functional impairment, as indicated by a CIS score above the recommended cutoff score of 15 (Bird et al. 1993).

Internalizing and externalizing mental health need was therefore considered present if youth received a diagnosis plus associated functional impairment based on the DISC-IV completed by youth, had clinically significant symptoms and associated impairment based on parent reports, and/or had clinically significant symptoms and associated functional impairment based on youth self-reports.

Mental Health Service Use

The Service Assessment for Children and Adolescents (SACA; Horwitz et al. 2001) was used to assess service use during the 2 years following the baseline interview. The SACA is a semistructured interview that has been found to accurately and reliably assess past-year youth service use (Hoagwood et al. 2000; Horwitz et al. 2001). The current project focused on the use of specialty outpatient and school-based MHS. Visits to a psychologist, psychiatrist, counselor, community mental health clinic, and/or partial hospitalization or day treatment program for children's emotional or behavioral problems were included under

specialty outpatient MHS. In the current study, school-based MHS included school counseling, placement in a special classroom, and/or placement in a special school for children's emotional or behavioral problems. Because "special help in a regular classroom" may include limited interventions for children's mental health problems, our definition of school-based MHS did not include such services. Youth MHS service use was therefore defined based on whether caregivers or youth endorsed past-year use of any of these specialty or school-based MHS services during any of the interviews conducted 6, 12, 18 and 24 months after baseline.

Analyses

Analyses were conducted using STATA 9.2 (StataCorp 2005) to account for the complex survey design, with all analyses utilizing sampling weights so that estimates represent the original population of service users. Furthermore, STATA subpopulation commands were used so that coefficient and prevalence estimates were calculated based on the current sample of 457 youths, but standard errors were based on the total POC sample of 1,715. MHS use was examined using hierarchical logistic regression models predicting specialty and school-based MHS. In the first step of each model, we entered the following independent predictors: Youth age, sex, insurance status, ADM sector involvement, race/ethnicity, family immigrant status, caregiver interview language, internalizing need, and externalizing need. To examine whether family immigrant status moderates the association between mental health need and service receipt, interaction terms were added to the model in the second step. Reported odds ratios are statistically significant ($\alpha = .05$) when the associated 95% confidence interval does not include the value of 1.

Results

Descriptive statistics for the overall sample, for youth from immigrant families (i.e., youth with foreign-born parents), and for youth from non-immigrant families (i.e., youth with U.S.-born parents) are presented in Table 1. Although sample frequency counts are presented below and in Table 1, the reported percentages were calculated using weighted data. Among the 457 participants were 287 (63.39%) immigrant families and 170 (36.61%) non-immigrant families. Youths had a mean age of 15.62 years ($SD = 2.00$) and the sample consisted of more males ($n = 310$, 69.85%) than females. The majority of youths were HA (80.42%; $n = 355$), with API youth comprising the remaining 19.58% of the sample ($n = 102$). Parents of HA youth were born in Mexico (54.96%), the U.S. (42.21%), and other Latin American countries (2.83%). For API youth, parents were born in the Philippines (30.39%), other South/Southeast Asian countries (36.27%), and other Asian countries (7.85%) as well as in the United States (25.49%). The subsample of non-immigrant families contained a significantly larger proportion of HA youth (85.56%) than the subsample of immigrant families (77.46%), $F(1, 1612) = 3.72$, $p = .05$. Most youth (78.50%) had some form of health insurance and 56.84% of youth were recruited from the alcohol/drug and mental health sectors. A significantly larger proportion of immigrant caregivers (62.23%) completed the interview in Spanish or an Asian language relative to U.S.-born caregivers (4.92%), $F(1, 1612) = 121.04$, $p < .001$. Based on the current study's definition, 18.83% of youth in the sample had internalizing need while 30.90% had externalizing need. As predicted, rates of specialty MHS use were higher for youth from

Table 1 Descriptive statistics for study variables

Variable	U.S.-born (<i>n</i> = 170; 36.61%) <i>n</i> (%) / Mean [SD]	Immigrant (<i>n</i> = 287; 63.39%) <i>n</i> (%) / Mean [SD]	Total (<i>n</i> = 457; 100%) <i>n</i> (%) / Mean [SD]
Age in years	15.39 [2.07]	15.75 [1.95]	15.62 [2.00]
Sex (male)	110 (64.46%)	200 (72.97%)	310 (69.85%)
Race/ethnicity (Hispanic)	142 (85.56%)	213 (77.46%)	355 (80.42%) ^a
Insured	156 (85.60%)	214 (74.40%)	370 (78.50%)
Active to ADM sector	105 (58.05%)	168 (56.15%)	273 (56.84%)
Interview language (non-English)	9 (4.92%)	170 (62.23%)	179 (41.25%) ^b
Internalizing problems	40 (20.75%)	53 (17.72%)	93 (18.83%)
Externalizing problems	60 (33.61%)	87 (29.33%)	147 (30.90%)
Specialty MHS use	78 (43.23%)	96 (32.48%)	174 (36.42%) ^c
School MHS use	89 (49.16%)	145 (44.14%)	234 (45.99%)

Note. All percentages are weighted and differences between immigrant and U.S.-born families are tested using a design-based *F* statistic to account for the complex survey design. ADM = Alcohol, drug, and mental health; MHS = Mental health service

^a The proportion of Hispanic youth was higher in the U.S.-born sample than in the immigrant sample, $F(1, 1612) = 3.72, p = .05$

^b The proportion of immigrant caregivers completing the interview in a non-English language was higher in the immigrant group than in the U.S.-born group, $F(1, 1612) = 121.04, p < .001$

^c The proportion of youth receiving specialty MHS was marginally higher in the U.S.-born group than in the immigrant group, $F(1, 1596) = 3.33, p = .07$

non-immigrant families (43.23%) than for youth from immigrant families (32.48%). However, this difference in rates of specialty MHS use did not reach statistical significance, $F(1, 1596) = 3.33, p = .07$. Conversely, 45.99% of the sample received school-based MHS, with no significant differences in use based on family immigrant status.

Specialty MHS Use

Hierarchical logistic regression analyses were used to examine the relationship between internalizing/externalizing need and subsequent MHS use in a multivariate model (see Table 2, Step 1). Results revealed that youth age was negatively associated with specialty MHS receipt (OR = .69, 95% CI = .62–.78) and girls were more likely to receive specialty MHS than boys (OR = 1.76, 95% CI = 1.04–2.96). Additionally, youths who had health insurance had an increased likelihood of specialty MHS receipt relative to uninsured youth (OR = 2.54, 95% CI = 1.24–5.21) and HA youth were more likely than API youth to receive specialty MHS (OR = 2.02, 95% CI = 1.05–3.88). Family immigrant status and the language the parent used to complete the interview were not significantly associated with specialty MHS use. For the overall sample (Table 2, Step 1), youth internalizing need was not associated with specialty MHS use (OR = 1.08, 95% CI = .57–2.02). However, youth with externalizing need at baseline were approximately two times more likely to receive specialty MHS in the 2 years following the initial interview than youth without such need (OR = 2.05, 95% CI = 1.21–3.48).

Table 2 Logistic regression analyses predicting specialty and school-based mental health service use

Variable (reference group)	Specialty services ^a		School services ^b	
	OR	95% CI	OR	95% CI
<i>Step 1</i>				
Age	.69**	.62–.78	.70**	.61–.80
Sex (Boys)	1.76*	1.04–2.96	1.08	.63–1.84
Insurance (Uninsured)	2.54**	1.24–5.21	1.43	.72–2.83
ADM Sector (No)	.92	.55–1.52	.76	.46–1.28
Hispanic (Asian/Pacific Islander)	2.02*	1.05–3.88	1.20	.67–2.16
U.S. Born (Immigrant)	.85	.47–1.55	.98	.54–1.79
Interview Language (non-English)	1.86***	.98–3.51	.99	.53–1.82
Internalizing diagnosis (No)	1.08	.57–2.02	1.47	.69–3.17
Externalizing diagnosis (No)	2.05**	1.21–3.48	3.10**	1.75–5.49
<i>Step 2</i>				
Age	.70**	.62–.79	.70**	.61–.80
Sex (Boys)	1.88*	1.11–3.17	1.08	.63–1.87
Insurance (Uninsured)	2.47*	1.22–4.98	1.40	.72–2.74
ADM Sector (No)	.94	.56–1.56	.77	.46–1.28
Hispanic (Asian/Pacific Islander)	1.93*	1.01–3.68	1.18	.65–2.12
U.S. Born (Immigrant)	.91	.43–1.91	1.08	.53–2.19
Interview Language (non-English)	1.90*	1.01–3.58	.97	.52–1.82
Internalizing diagnosis (No)	.57	.25–1.31	1.38	.50–3.82
Externalizing diagnosis (No)	3.02**	1.53–5.96	3.56**	1.76–7.19
U.S. born × internalizing	6.45**	1.63–25.46	1.32	.28–6.26
U.S. born × externalizing	.27*	.09–.81	.66	.19–2.29

Note. ADM = Alcohol, drug, and mental health

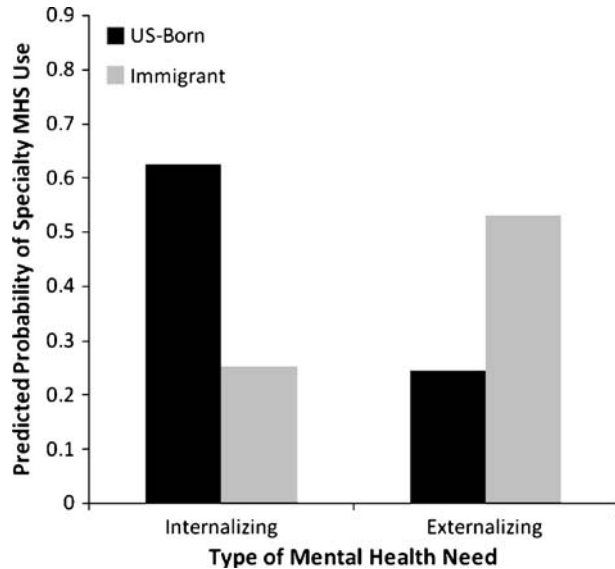
^a Includes visits to professional psychologist, psychiatrist, counselor, community mental health clinic, and/or partial hospitalization or day treatment program

^b Includes school counseling, placement in special classroom, and/or placement in a special school

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .10$

To test whether the relationship between mental health need type and youth specialty MHS use differed based on family immigrant status, interaction terms between immigrant status and internalizing and externalizing problems were added to the model in Step 2. While in the previous step the odds ratios for mental health need type (internalizing vs. externalizing) represented overall main effects, in Step 2 the same coefficients represent conditional effects of mental health need type for youth from immigrant families (the reference group) only. The odds ratios for the interaction terms represent the ratio of the odds ratios for mental health need type (internalizing or externalizing) for U.S.-born families to that of immigrant families. This resulting ratio of odds ratios is presented as the odds ratio for the interaction terms, with a value of 1 suggesting that mental health problems are similarly associated with youth MHS use across immigrant and non-immigrant families. However, the odds ratio for the interaction term between internalizing problems and family immigrant status was significantly different than 1 (OR = 6.45, 95% CI = 1.63–25.46), indicating that the relationship between youth internalizing problems

Fig. 1 Predicted probability of specialty mental health service use based on need type and family immigrant status



and specialty MHS receipt was moderated by family immigrant status. While internalizing need was not associated with specialty MHS use for youth from immigrant families (OR = .57, 95% CI = .25–1.31), internalizing need was positively associated with specialty MHS use for youth from non-immigrant families (OR = 3.66, 95% CI = 1.21–11.05). Conversely, externalizing need was not associated with specialty MHS use for youth from non-immigrant families (OR = .81, 95% CI = .34–1.94) but was significantly related to specialty MHS use for youth from immigrant families (OR = 3.02, 95% CI = 1.53–5.96). Figure 1 presents the predicted probability of specialty MHS receipt for youth based on family immigrant status and mental health need type. As depicted, youth from immigrant families had a higher probability of specialty MHS receipt when externalizing need was present (.53) than when internalizing need was present (.25). Conversely, youth from non-immigrant families evidenced the opposite pattern, with MHS use being more probable when internalizing need was present (.62) relative to externalizing need (.24).

School-Based MHS Use

Similar hierarchical logistic regression models were created to examine the relationship between internalizing/externalizing need and subsequent school-based MHS use (Table 2, Step 1). Youth age was negatively associated with school MHS use (OR = .70, 95% CI = .61–.80), but no other family or youth demographic characteristics were associated with school-based MHS receipt. Youth externalizing need was associated with an increased likelihood of receiving school-based MHS (OR = 3.10, 95% CI = 1.75–5.49). Possible differences in the association between mental health need type and school MHS use based on family immigrant status were then examined in Step 2 by including two interaction terms. However, the results of this model suggested that the association between mental health need and school MHS receipt were similar across youth from immigrant and non-immigrant families. Youth externalizing problems remained the strongest predictor of school-based MHS use.

Discussion

In the present study, we examined the relationship between family immigrant status, mental health need, and MHS use in a sample of Hispanic and Asian Pacific Islander youth at high-risk for mental health problems. We expected that, due to greater barriers to accessing MHS, family immigrant status would be associated with a lower likelihood of youth MHS use when controlling for youth mental health need. Rates of specialty MHS use were higher for youth from non-immigrant families (43.23%) than for youth from immigrant families (32.48%). However, this difference in rates of specialty MHS use was not statistically significant and multivariate analyses including demographic predictors suggested that youth's age, gender, insurance status, and race/ethnicity were more strongly associated with MHS use than immigrant status. This pattern of results was also observed for school-based MHS. Any differences in rates of MHS use between youth from immigrant and non-immigrant families therefore seemed to be better accounted for by child and family demographic characteristics, including the barriers to accessing care noted above. In terms of mental health need, youth externalizing problems emerged as the strongest predictor of both specialty and school-based MHS while internalizing problems did not independently predict use of either type of MHS. This finding is consistent with the proposition that the disruptive nature of externalizing problems leads to higher rates of problem identification and MHS utilization relative to internalizing problems (e.g., Pihlakoski et al. 2004; Thompson 2005; Wu et al. 1999).

Aside from examining the overall association between immigrant status and MHS use, we also explored whether patterns of service use based on youth problem type would differ between minority youth with immigrant parents and those with U.S.-born parents. Specifically, we expected that youth from non-immigrant families would be more likely to receive MHS for internalizing problems relative to youth from immigrant families. Consistent with this hypothesis, internalizing problems were associated with a predicted probability of MHS receipt of 62% for non-immigrant youth but only 25% for immigrant youth. Furthermore, we found that a greater proportion of youth from immigrant families (53%) were likely to receive specialty MHS for externalizing problems than youth from non-immigrant families (24%).

Together, these findings did not support the contention that greater access barriers associated with immigrant status result in overall differences in specialty MHS use among minority youth. However, there was some evidence that immigrant youth may be more likely to have certain types of mental health need met but less likely to have other types of need met. The results were largely consistent with predictions based on the adult distress threshold model, wherein differential levels of caregiver distress over youth internalizing and externalizing problems may derive from cultural value orientations. We examined minority families from Asian, Pacific Island, and Hispanic cultures that can be characterized as interdependent, where greater levels of concern would be expected for externalizing problems than for internalizing problems. These heritage cultural considerations may be more likely to organize caregiver responses to youth problems among immigrant parents than among U.S.-born minority parents. The finding of a significant interaction between family immigrant status and mental health problem type was consistent with predicted cultural differences in adult distress thresholds.

The current study therefore extended previous research on racial disparities in youth MHS by considering the potential role of practical and cultural factors associated with immigrant status, and a more precise differentiation of patterns of service use by mental health problem type. The merits of this study included a large sample of Hispanic and

Asian Pacific Islander families, a definition of mental health need that utilized data from multiple informants and used multiple methods of assessment, and a longitudinal design that examined MHS use prospectively over a 2-year period. The sample was comprised of high-risk youth in contact with public sectors of care, representing a policy relevant population. However, the extent to which the results may be generalized to a community sample is unclear. Furthermore, while the differential patterns of specialty MHS use among immigrant and non-immigrant families found in the current study are consistent with the adult distress threshold model, we did not directly examine caregivers' cultural beliefs or attitudes about these types of youth mental health problems. Rather than being driven by parental influences, the observed differences in MHS use may have instead resulted from systemic forces coming together to promote higher levels of system responsiveness for some youth problems but not others.

Although we relied on interdependence as an overarching framework for understanding cultural values of Hispanic and Asian Pacific Islander cultures, there is much complexity and heterogeneity within cultural groups (Tamis-LeMonda et al. 2008). Additionally, while we examined MHS using broad racial/ethnic categories of Hispanic and Asian Pacific Islanders, it is important to consider that these broad categories include heterogeneous populations. Immigrant families in the current study largely hailed from Mexico, the Philippines, and other South/Southeast Asian countries. Though shared experiences of immigration or adherence to values emphasizing interdependence are helpful for exploring commonalities in patterns of MHS use, groups classified under these broad racial/ethnic categories also differ with respect to reasons for immigration and cultural values, and may evidence differential patterns of MHS need and use (e.g., Leong and Lau 2001). The current examination of MHS use in these populations represents an initial extension of MHS research to an understudied area and it is hoped that future research will increase our understanding of MHS use by examining both common and specific patterns and processes associated with MHS use. Future research should also explore the association between immigrant status and MHS use in additional racial/ethnic groups, at it is unclear if these findings extend to families from other cultural backgrounds.

Notwithstanding the limitations of the current study, however, these findings are among the first to elucidate differential patterns of MHS use within minority families based on immigrant status. While racial disparities have been previously reported, it is likely that these differences emerge as a result of a constellation of socio-demographic, systemic, and cultural factors in addition to the measures of mental health need. A clearer understanding of MHS utilization patterns therefore requires continued examination of the more proximal variables that account for any disparities. It is here where the greatest potential for decreasing levels of unmet need lies. There is some indication, however, that youth from immigrant families may be particularly vulnerable to having internalizing mental health problems go untreated. Efforts to reduce barriers to MHS use might involve outreach and the promotion of mental health education to immigrant and minority communities, schools, primary care providers, and in other routine care settings. While increasing awareness and recognition of mental health need is important, adult gatekeepers of mental health services would also benefit from specific education about disparities in the recognition of internalizing and externalizing need for minority and immigrant youth. Movements to increase evidence-based mental health screenings of youth internalizing and externalizing mental health needs may provide one promising avenue for detecting unmet mental health needs. Finally, after youth needs are identified, it is imperative that effective and culturally competent services are provided to meet the needs of youth. In this manner, we can begin to reduce disproportionate levels of

unmet mental health need and ensure that the primary determinant for the receipt of appropriate and effective MHS is youth need.

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