

Ethnic Variations in Children's Problem Behaviors: A Cross-sectional, Developmental Study of Hawaii School Children

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Variations in children's problem behaviors associated with ethnicity and other demographic variables were examined in 6–18-year-old children ($N = 804$) residing in a multicultural environment. The Child Behavior Checklist–Teacher's Report Form was used to compare the frequency of behavior problems among clinic-referred and nonreferred children of Hawaiian, Asian, and Caucasian ethnicities. Children who were male, clinic-referred, or of Caucasian or Hawaiian ancestry experienced greater levels of behavioral problems. Explanations concerning ethnic variations in children's problem behaviors include: teacher's perceptual bias, differences in teacher threshold to report problem behaviors, and/or true variations in children's behavior.

Keywords: Behavior problems, cross-cultural, epidemiology, ethnicity, school, school children.

Abbreviations: CBCL: Child Behavior Checklist; CMHC: community mental health center; TRF: Teacher's Report Form.

Introduction

Over the past 30 years, increased attention has focused on the sociocultural determinants of abnormal behavior as evidenced by an accretion of publications that address the complex interactions among biological, psychological, and sociological variables and their potential influence on the manifestation of psychopathology. Accumulating evidence indicates that culture frequently plays a significant role in the epidemiology, expression, course, and outcome of psychopathology (for a review, see White & Marsella, 1982).

The preponderance of cross-cultural psychopathology research to date has focused on adults. Variations in problem behaviors associated with nationality, ethnicity, race, and socioeconomic status (SES), however, are often attributed to cultural differences without defining what aspects of culture are being measured (Betancourt & Lopez, 1993). Although nationality, ethnicity, and culture are closely intertwined, these concepts and terms are often erroneously used interchangeably. *Nationality* traditionally refers to a person's national origin, but in research studies also refers to the country in which a person currently resides. Whereas *ethnicity* is associated with culture, it denotes an affiliation with a group that is similar in terms of nationality, language, and customs. *Culture* has several definitions, but generally signifies the beliefs, values, and social norms of a particular group of

people (see Betancourt & Lopez, 1993). Studies that examine groups defined according to nationality, ethnicity, and culture often fail to recognize the important yet subtle differences among these concepts (e.g. people of the same nationality are not necessarily of the same ethnic background or culture).

Confusion regarding these concepts also occurs in the area of cross-cultural child psychopathology, where the majority of studies examine variations among samples of children defined by nationality rather than ethnocultural variables. Early studies used a variety of assessment instruments such as the Teachers' Rating Scale (Conners, 1973), the Behavior Problem Checklist (Quay & Peterson, 1967), the Children's Behavior Questionnaire (Rutter, 1967), and the Diagnostic Interview Schedule for Children (Costello, Edelbrock, Kalas, Kessler, & Klaric, 1982) to examine prevalence rates of clinical symptomatology and maladjustment in Puerto Rican (Bird et al., 1988), Chinese (Luk & Leung, 1989; Wang, Shen, Gu, Jia, & Zhang, 1989), Japanese (Matsuura et al., 1993), Canadian (Offord et al., 1987), New Zealand (Werry & Hawthorne, 1976), and American (Shekim et al., 1985) populations. Comparisons among these studies have been difficult, however, owing to disparate sample characteristics, methodologies, and measurement techniques.

Recent efforts to promote cross-national comparisons in the area of children's problem behaviors have resulted in widespread adoption of the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) and the Child Behavior Checklist–Teacher's Report Form (TRF; Achenbach & Edelbrock, 1986). Adoption of these instruments has facilitated standardized cross-national epidemiological comparisons of problem behaviors in

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children. With few exceptions (Chang, Morrissey, & Koplewicz, 1995; Weisz, Sigman, Weiss, & Mosk, 1993), studies have focused on examining cross-national differences, primarily between children in the United States and those in other countries.

Cross-national studies of *nonreferred* (i.e. those not receiving mental health or special education services within the past year) children provide important information about prevalence rates of problem behaviors and expectations concerning normal behavior in different countries. Comparisons of children's total problem scores in the United States and Asian countries have yielded mixed and sometimes contradictory results. Non-significant differences in total problem scores have been reported between nonreferred samples in China (Weine, Phillips, & Achenbach, 1995) and Thailand (Weisz, Suwanlert, Chaiyasit, Weiss, et al., 1993) when compared to children in the United States. Earlier studies, however, found significantly higher and lower scores for children from Thailand (Weisz, Suwanlert, Chaiyasit, Weiss, et al., 1987) and China (Li, Su, Townes, & Varley, 1989), respectively. Similarly, differences in broad-band behavioral dimensions (internalizing/externalizing) among Thai and Chinese children (when compared to those in the U.S.) are mixed and vary according to informant source and sample (Li et al., 1989; Weine et al., 1995; Weisz, Suwanlert, Chaiyasit, Weiss, et al., 1987; Weisz et al., 1989; Weisz, Sigman, et al., 1993; Weisz, Suwanlert, et al., 1993). Discrepant findings for the Thai and Chinese samples are likely to be due to informant source (i.e. higher problem scores reported by teachers than parents), methodological, and sampling differences.

Although studies of nonreferred children provide important information about expectations concerning normal behavior in different countries, they reveal limited information about potential interactions among ethnic and cultural variables (e.g. referral practices) and their influence on abnormal behavior. Relative to cross-national investigations on nonreferred samples, there is a paucity of comparisons involving *clinic-referred* children. The results of these studies have been more consistent across studies of Asian populations, although this may be due to the small number of studies conducted with clinic samples of children. Differences in broad-band scores have been noted in cross-national comparisons of clinic-referred children in the United States with children in China (Li et al., 1989) and Thailand (Weisz, Suwanlert, Chaiyasit, & Walter, 1987). American children receive higher externalizing scores than do children in China and Thailand, whereas higher rates of internalizing behaviors are reported for children in Thailand. These studies have relied exclusively on parent report and only one has examined a broad range of behavioral and emotional problems for clinically referred children across an extended age range. Collectively, cross-national investigations suggest that nationality may play a role in the expression and/or reporting of behavior problems among children.

In contrast to the cross-national comparisons of child psychopathology, there is a dearth of cross-ethnic studies of children's problem behaviors. A review of the literature revealed only a handful of articles examining problem behaviors among Asian-American and Pacific-Island

children (Chang et al., 1995; Gordon & Gallimore, 1972; Touliatos & Lindholm, 1980; Yao, Solanto, & Wender, 1988). These studies found similar factor structure (Gordon & Gallimore, 1972), less hyperactivity (Yao et al., 1988), and fewer overall behavioral problems (Touliatos & Lindholm, 1980) for Asian-American children when compared to their Caucasian peers. The only study to use the CBCL (Chang et al., 1995) found that Chinese-American children received significantly lower total problem, internalizing, and externalizing scores than did Achenbach's (1991) standardization sample. When compared to 9- to 11-year-old boys in China (Chang et al., 1995), however, Chinese-American children received significantly higher scores on several syndrome scales such as withdrawn, anxious/depressed, social problems, thought problems, and aggressive behaviors. These differences may be attributed to the stress associated with acculturative difficulties and minority experiences encountered in the United States. Generalizability of these results are constrained by the sample population, which was drawn from one Chinese school and cannot be considered representative of Chinese-American children.

The present study augments existing knowledge of cross-ethnic variations in children's behavior problems by comparing teacher ratings of nonreferred and clinic-referred children in Hawaii—a region known for its ethnic and cultural diversity.

Method

Subjects

Nonreferred sample. The nonreferred sample consisted of 396 children between 6 and 18 years of age who were attending public and private schools in the Honolulu (Oahu) area, where approximately 75% of the state's population resides (U.S. Bureau of Census, 1990). Four public schools and one private school were selected for participation to obtain samples of school children throughout the state. Schools were selected based on available data suggesting that their ethnic and socioeconomic composition were reasonably similar to the demographic composition of children residing in Hawaii (i.e. approximately 84% and 16% of children attend public and private schools in Hawaii, respectively; State of Hawaii Databook, 1995).

Clinic-referred sample. The clinic-referred sample consisted of 408 school children between 6 and 18 years of age who were referred to from one of the nine community mental health centers (CMHC) in the state of Hawaii for mental health services. CMHCs are responsible for servicing all children who reside or attend public school within their specified catchment area. Demographic information for participating children is presented in Table 1.

Assessment

The Child Behavior Checklist-Teacher's Report Form (TRF) was used to obtain standardized ratings of children's behavior for purposes of the present investigation. The psychometric properties of the TRF are well established (Achenbach, 1991). The instrument was designed to elicit teachers' reports of their students' problems over a 2-month time-frame. The behavior problem portion of the TRF profile is derived from 120 specific behavior items, resulting in eight narrow-band scales or clinical syndrome scales (anxious/depressed, withdrawn, somatic complaints, thought problems, attention problems, delinquent, aggressive), two broad-band behavioral dimensions

Table 1
Sample Characteristics

Age group	Nonreferred				Clinic-referred			
	Boys		Girls		Boys		Girls	
	6-11 (<i>N</i> = 111)	12-18 (<i>N</i> = 88)	6-11 (<i>N</i> = 118)	12-18 (<i>N</i> = 79)	6-11 (<i>N</i> = 144)	12-18 (<i>N</i> = 149)	6-11 (<i>N</i> = 52)	12-18 (<i>N</i> = 63)
SES ^a								
Mean	2.93	2.79	2.89	2.75	4.64	4.87	4.97	4.79
SD	1.16	1.13	1.12	1.01	1.43	1.29	1.62	1.51
Ethnicity								
Part Hawaiian	34	44	48	31	80	88	24	35
Asian	53	29	49	35	19	20	14	14
Caucasian	24	15	21	13	45	41	14	14

^a Hollingshead (1957) seven-step index for parental occupation.

(internalizing/externalizing), and a total problem score. The TRF is self-explanatory and was completed independently by the teacher.

Procedure

Among nonreferred children, an informational and consent letter was mailed to parents of children who were attending regular education classes in the Hawaii public and private schools detailing the project's purpose and soliciting consent for children's participation in the project. Consent was obtained for 65% of nonreferred school children. Children who had received clinic services within the past year were excluded from the sample. Parents completed a detailed demographic information questionnaire that solicited information concerning ethnicity of the family, parent's education level, and occupational status; they did not, however, complete a CBCL on their child. Each child's primary (homeroom) teacher completed the TRF for participating children in their classroom. Standardized instructions for administering the instrument were routinely followed during the study (for details, see McConaughy, Stranger, & Achenbach, 1992).

Among clinic-referred children, parents completed a detailed background information summary sheet during the initial intake session that solicited information concerning ethnicity, parent education level, and occupational status. The TRF was selected by the Hawaii Department of Health as an integral part of its state-wide assessment survey for all children receiving mental health services. The primary (homeroom) teacher was asked to complete a TRF for every child who was receiving mental health services from one of the state's CMHCs. Usable TRFs were obtained for 98% of children in the CMHC system.

Ethnicity was classified using the following procedure: children whose parents indicated they were of Hawaiian or Part-Hawaiian ancestry were classified as Hawaiian; children whose parents indicated they were of Asian ancestry (i.e., Chinese, Japanese, Korean, or Southeast Asian) were classified as Asian; children whose parents indicated they were of Caucasian or Anglo-European descent were classified as Caucasian. Details of ethnicity and referral status groupings are presented in Table 1. Children of all other ages and ethnicities (*N* = 638) were excluded from the study owing to small sample size (e.g. students of African-American, Filipino, Latin-American and Mixed ancestry). Socioeconomic status (SES) for families of children participating in the study was determined using Hollingshead's (1957) Index (scored from 1 = highest to 7 = lowest). Mean SES scores for nonreferred and clinic-referred samples are presented in Table 1.

Results

Prevalence of Overall Behavior Problems

A 2 (age) × 2 (gender) × 2 (referral status) × 3 (ethnicity) between-groups analysis of covariance (ANCOVA) was conducted on children's total problem scores. To control for effects associated with SES, the Hollingshead (1957) index score was included as a covariate. Significant main effects for ethnicity [$F(2,779) = 9.54, p < .001$], gender [$F(1,779) = 26.15, p < .001$], and referral status [$F(1,779) = 201.19, p < .001$] emerged from the analysis. None of the interaction effects were significant. According to Cohen's (1988) criteria for evaluating the magnitude of effect size, the ethnicity and gender effects were small, accounting for 3% of variance, whereas the referral status effect was large, accounting for 25% of the variance. Males and clinic-referred children received significantly higher total problem scores than females and nonreferred children, respectively (see Table 2). Subsequent post-hoc tests (Tukey HSD) indicated that Asian children received significantly lower total problem scores than Caucasian and Part-Hawaiian children ($p < .05$), with no significant differences between the latter two groups. Collectively, the first series of analyses indicated higher rates of total problem behaviours for children who are male, clinic-referred, and of Caucasian and Hawaiian ancestry.

Patterns of Behavioral Dysfunctions among Children

Composite scores for each syndrome scale, as well as broad-band scales, were computed. Internal consistency (Cronbach's alpha) estimates for the syndrome scales in the present sample are presented in Table 3. They were uniformly high, ranging from .71 (Thought Problems) to .96 (Aggressive Behavior), with a mean internal consistency of .85 across the eight clinical syndrome scales. Internal consistency estimates for the broad-band dimensions were .90 and .96 for the internalizing and externalizing dimensions, respectively.

Separate 2 (age) × 2 (gender) × 2 (referral status) × 3 (ethnicity) between-groups multivariate analyses of covariance (MANCOVAs) were conducted on the eight

Table 2
 Summary of SES-adjusted Raw Scores for Overall Problems and Broad-band Dimensions

Variable	Total problems		Internalizing dimension		Externalizing dimension	
	Mean	SD	Mean	SD	Mean	SD
Ethnicity						
Caucasian ($N = 187$)	38.72	46.41	8.03	9.24	13.26	15.41
Part Hawaiian ($N = 384$)	38.30	38.27	7.49	9.89	13.96	17.01
Asian ($N = 233$)	27.84 ^{a*}	25.94	6.40	6.61	8.96 ^{a*}	10.64
Gender						
Male ($N = 489$)	40.69	41.54	7.38	9.80	15.07	16.41
Female ($N = 315$)	2.21*	30.50	7.23	7.70	9.03*	12.44
Age group						
5–11 yrs ($N = 425$)	33.24	40.16	6.88	8.73	11.12	14.91
12–18 yrs ($N = 379$)	36.65	37.73	7.73	9.46	12.98	16.51
Referral status						
Clinic-referred ($N = 408$)	54.82	39.74	11.66	9.97	19.10	16.45
Nonreferred ($N = 396$)	15.08*	17.64	2.95*	4.37	5.00*	7.62

^a Lower scores reported for children of Asian ancestry than of Caucasian and Hawaiian ancestry.

* $p < .001$.

syndrome scales (Aggressive, Attention Problems, Delinquent, Withdrawn, Somatic Complaints, Anxiety/Depression, Social Problems, Thought Problems) and two broad-band behavior dimensions (internalizing, externalizing) of the TRF. To control for effects associated with SES, the Hollingshead (1957) index score was included as a covariate. Significant interactions were followed by post-hoc comparisons using univariate F tests and Tukey HSD. The magnitude of each significant effect was evaluated according to criteria outlined by Cohen (1988): effects accounting for 1% to 5.9% of variance are considered small, 5.9% to 13.8% medium, and > 13.8% large.

Internalizing and externalizing dimensions. The MANCOVA revealed significant main effects for ethnicity [Wilks = .97, $F(4,1584) = 5.80$, $p < .001$], gender [Wilks = .94, $F(2,792) = 24.63$, $p < .001$], and referral status [Wilks = .81, $F(2,792) = 93.80$, $p < .001$] as well as a gender by referral status interaction effect [Wilks = .99, $F(2,792) = 4.44$, $p < .02$]. The referral status main effects were large, accounting for 14–19% of the variance, while all other significant effects were small, accounting for $\leq 5\%$ of the variance.

Separate univariate F -tests were performed to elucidate the main effects on the internalizing and externalizing dimensions. Ethnicity emerged as a main effect [$F(2,793) = 11.19$, $p < .001$] on the externalizing dimension, with post-hoc comparisons revealing significantly lower scores for children of Asian than of Hawaiian and Caucasian ancestry ($p < .05$). The omnibus F -test for the effect of ethnicity on internalizing behavior problems revealed a nonsignificant trend [$p = .06$] (see Table 2).

Follow-up univariate ANCOVAs for gender revealed a significant gender by referral status interaction on the externalizing dimension [$F(1,793) = 8.37$, $p < .005$] and significant main effects on the externalizing [$F(1,793) = 43.11$, $p < .001$], but not the internalizing dimension. The significant interaction effect indicated a larger discrepancy among externalizing scores for clinic-referred males and females than their nonreferred peers.

Finally, significant main effects were found for referral status on both the internalizing [$F(1,793) = 149.81$, $p <$

.001] and externalizing [$F(1,793) = 117.27$, $p < .001$] dimensions. As expected, classroom teachers reported significantly higher levels of internalizing and externalizing behavior problems for children receiving mental health services than for nonreferred children, regardless of ethnicity, age, or gender (see Table 2).

Collectively, the results indicated that teachers perceived: (1) children of Asian compared to Hawaiian and Caucasian ancestry as experiencing fewer externalizing behaviour problems; (2) clinic-referred as experiencing higher levels of internalizing and externalizing behavior problems compared with nonreferred children; and (3) boys as displaying disproportionately large gender differences in externalizing behavior among clinic-referred compared to nonreferred children.

Clinical syndrome scales. The MANCOVA revealed significant effects for ethnicity [Wilks = .95, $F(16,1572) = 2.73$, $p < .001$], gender [Wilks = .92, $F(8,786) = 8.55$, $p < .001$], age group [Wilks = .92, $F(8,786) = 8.79$, $p < .001$], and referral status [Wilks = .77, $F(8,786) = 29.59$, $p < .001$]. Significant interaction effects of ethnic group [Wilks = .97, $F(16,1572) = 1.71$, $p < .05$], age group [Wilks = .95, $F(8,786) = 5.13$, $p < .001$], and gender [Wilks = .97, $F(8,786) = 2.69$, $p = .006$] by referral status were also found at the multivariate level. The referral status effect was large, accounting for 23% of the variance; gender and age effects were medium, accounting for 8% of the variance; and ethnicity and interaction effects were small, accounting for $\leq 3\%$ of the variance.

Follow-up univariate ANCOVAs for ethnicity revealed significant main effects on the Aggressive Behavior [$F(2,793) = 10.43$, $p < .001$], Attention Problems [$F(2,793) = 9.72$, $p < .001$], Delinquent Behavior [$F(2,793) = 7.08$, $p = .001$], and Social Problems [$F(2,793) = 7.44$, $p = .001$] scales (see Table 3). Although there was a significant ethnicity by referral status interaction effect at the multivariate level, only a nonsignificant trend emerged on the Aggressive Behaviour scale [$F(2,793) = 2.56$, $p = .06$], reflecting the highest scores for nonreferred children of Caucasian ancestry and clinic-referred children of Hawaiian ancestry. Main effects of ethnicity in syndrome scale scores reflected

Table 3
Summary of Mean Raw Syndrome Scale Scores

Variable (Cronbach's alpha)	Withdrawn Behaviors (.81)	Anxious/ Depressed (.88)	Somatic Complaints (.93)	Social Problems (.81)	Thought Problems (.71)	Attention Problems (.93)	Delinquent Behaviour (.80)	Aggressive Behavior (.96)
Ethnicity								
Caucasian	3.03	4.65	0.71	4.29	1.22	11.99	2.57	10.54
Part Hawaiian	2.73	4.34	0.79	3.50 ^b	1.04	11.82	3.05	10.66
Asian	2.57	3.60	0.64	2.85 ^{a***}	1.04	8.72 ^{a***}	1.95 ^{a***}	7.08 ^{a**}
Gender								
Male	2.74	4.30	0.72	3.88	1.20	12.93	3.06	12.02
Female	2.82	4.09	0.71	3.21*	1.01	8.75 ^{a**}	1.98 ^{a**}	6.84 ^{a**}
Age group								
6-11 yrs	2.51*	4.14	0.50*	3.79	1.00	11.01	1.79 ^{a**}	9.09
12-18 yrs	3.05	4.25	0.93	3.30	1.20	10.67	3.25	9.76
Referral status								
Clinic-referred	4.38	6.97	1.23	5.64	2.07	16.00	3.77	14.50
Nonreferred	1.18 ^{a**}	1.43 ^{a**}	0.19 ^{a**}	1.45 ^{a**}	0.14 ^{a**}	5.69 ^{a**}	1.28 ^{a**}	4.36
Clinic-referred children								
6-11 yrs	4.15	7.17	0.93 ^{a**}	6.51	1.94	18.64*	3.67 ^{a**}	17.78
12-18 yrs	4.45	7.40	1.53	5.55	2.17	16.65	5.41	17.75
Nonreferred children								
6-11 yrs	0.90	1.28	0.23	1.31	0.17	4.36	0.72	3.23
12-18 yrs	1.42	1.60	0.21	1.20	0.19	5.65	1.31	3.79
Clinic-referred children								
Male	4.44	7.60	1.29	6.18	2.26	18.65	4.68	19.51
Female	4.36	6.74	1.28	5.35	1.85	14.07	3.53	11.49*
Nonreferred children								
Male	1.00	1.27	0.17	1.72	0.13	6.85	1.56	5.42
Female	1.00	1.42	0.18	0.94	0.06	3.45	0.84	2.58

^a Lower scores for children of Asian than of Caucasian and Hawaiian ancestry.

^b Lower scores for Hawaiian than Caucasian children.

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

fewer problems for children of Asian than of Hawaiian and Caucasian ancestry (all differences significant at $p < .05$ level). Additionally, children of Causasian ancestry were rated by teachers as experiencing more social problems than those of Hawaiian ancestry, with both ethnic groups exhibiting higher levels of social problems compared to children of Asian ancestry. All significant effects were small, accounting for $\leq 3\%$ of variance.

Follow-up univariate ANCOVAs for *gender* revealed significant main effects on the Aggressive Behavior [$F(1,793) = 49.09, p < .001$], Attention Problems [$F(1,793) = 40.76, p < .001$], Delinquent Behavior [$F(1,793) = 15.67, p < .001$], and Social Problems [$F(1,793) = 6.50, p = .01$] scales and a significant gender by referral status interaction on the Aggressive Behavior scale [$F(1,793) = 10.57, p = .001$]. Main effects reflected consistently higher scores for males than for females, whereas the interaction effect indicated disproportionately large gender differences in aggressive behavior among clinic-referred but not among non-referred children. Collectively, the teacher ratings indicated that males evidence higher rates of aggressive behavior than females, particularly those referred for mental health services. Regardless of referral status, males display higher levels of delinquent behavior, social problems, and attentional difficulties than females. Aggressive behavior was a medium effect, accounting for 6% of the variance, whereas all other effects were small, accounting for 1–5% of the variance.

Follow-up univariate ANCOVAs for *age* revealed significant age by referral status interaction effects on the Delinquent Behavior [$F(1,793) = 7.20, p = .005$], Attention Problems [$F(1,793) = 6.74, p < .01$], and Somatic Complaints [$F(1,793) = 5.12, p = .01$] scales, and significant main effects on Delinquent Behavior [$F(1,793) = 28.21, p < .001$] and Somatic Complaints [$F(1,793) = 4.96, p < .05$] syndrome scales (see Table 3). The age by referral status interaction indicated that older children experience more attentional problems than do younger children in the nonreferred group, whereas the opposite pattern was found for clinic children. Interaction effects also indicated disproportionately large age discrepancies in delinquent behavior and somatic complaints among clinic-referred but not among nonreferred children. Age effects accounted for 1–3% of the variance.

Follow-up univariate ANCOVAs for *referral status* revealed significant main effects for each of the eight clinical syndrome scales (all effects significant at the $p < .001$ level). Clinic-referred children consistently scored higher on all clinical syndrome scales compared with their nonreferred counterparts, regardless of age, gender, and ethnicity (see Table 3). Somatic complaints was a small effect, accounting for 4%; aggressive behavior, delinquent behavior, social problems, and thought problems were medium effects, accounting for 9–13%; anxiety/depression and attention problems were large effects accounting for 14–18% of the variance.

Specific Problem Behaviors

Separate 2 (age) \times 2 (gender) \times 2 (referral status) \times 3 (ethnicity) ANCOVAs were conducted on each of the 118 TRF problem items, as well as the 2 open-ended items.

Significant ethnic, gender, age, and referral status effects emerged and were generally consistent with the higher order (i.e. broad-band and syndrome scale) results; they will not be reported in detail at this time¹.

Discussion

The present study provides an extension of previous cross-national comparisons of children's problem behaviors and is unique in examining cross-ethnic differences among children residing within the same multicultural environment. Variations in problem behaviors among a broad age-range of clinic and non-referred children of Caucasian, Asian, and Hawaiian ancestry were compared to delineate prevalence rates and differential patterns of behavioral dysfunction.

The results indicate that higher rates of overall problems (total problem score) and externalizing behaviors are reported by teachers for children who are male, referred for mental health services, and of Caucasian and Hawaiian ancestry. The more severe levels of behavior problems reported for clinic-referred children is consistent with previous studies and supports the discriminant validity of the CBCL-TRF in distinguishing between clinic-referred and nonreferred children (Achenbach, 1991). The failure to find significant age group differences in the total problem score or broad-band indices is consistent with previous comparison studies using teacher reports (Achenbach, Verhulst, Edelbrock, Baron, & Akkerhuis, 1990; Weisz, Suwanlert, Chaiyasit, Weiss, et al; 1987; Weisz et al., 1989). Finally, the significant gender effects reported herein concur with previous findings. Higher teacher-rated externalizing and total problem scores (Achenbach et al., 1987; Weisz et al., 1989) have been reported for males than for females (Achenbach et al., 1990). These findings support robust between-gender differences and indicate possible gender-specific behaviors that transcend ethnicity and nationality.

Essential to epidemiological comparisons of children's problem behaviors is the representativeness of the sample. The ethnic composition of the referral status groups raises concerns regarding this very issue, particularly for clinic-referred children of Asian ancestry (who comprise 16% of the clinic sample and 42% of the nonreferred sample). One possibility is that SES or other confounding factors resulted in disproportionately low numbers of Asian children receiving services at CMHCs. Another is that, although disproportionate, the ethnic composition of all the children receiving mental health services is an accurate depiction of the population. Although information on the ethnic backgrounds of children receiving private clinic services is not available for direct comparison, this pattern of underutilization is evident in past research on Asian populations. Several samples of Asian-Americans have been observed to use mental health services across different treatment settings (i.e. public and private) at less than 50% of the expected rate (see Uba, 1994). The current sample of children with Asian ancestry

¹ Results of item analyses are available from the first author to interested readers.

appear to be representative of and similar to other Asian groups who do not use mental health services to the extent that would be expected based on the size of the population.

Salient differences emerged on the CBCL-TRF among the three ethnic samples studied. Children of Asian ancestry received significantly lower total problem and broad-band scores than did children of Caucasian and Hawaiian ancestry. Differences and patterning of behavior problems found among the three ethnic samples studied are in accord with several hypotheses. Some have suggested, for example, that interpretation of child behavior ratings must consider both the child's behavior and the adult's perception of the behavior (Weisz & Weiss, 1991). Hypotheses stemming from this dichotomy suggest that child ratings may reflect (1) teacher's perceptual bias, (2) differences in teacher threshold to report problem behaviors for children, (3) true variations in children's behavior, or (4) some combination of the above factors.

Teachers' perceptual bias. Teacher reports of child behavior problems may be influenced by community stereotypes of how children of Asian, Caucasian, and Hawaiian ancestry behave and may be reified by confirmation bias. For example, the highest level of social problems is reported for children of Caucasian ancestry, who constitute 20–30% of the school population (State of Hawaii Databook, 1995). The stereotype of interpersonal difficulties is consistent with their minority status in Hawaii and related difficulties of being accepted by peer groups. Conversely, the lowest scores reported for Asian children may reflect the stereotype of the "model minority" (Uba, 1994) owing to their compliant social deportment and academic performance in school. The lack of significant differences for children and adolescents of Hawaiian ancestry, however, is not consistent with this explanation given the high rates of depression, suicide, and delinquent behaviors that have been reported in previous research (Blaisdell & Mokuau, 1991). The patterning of results supports this possibility, but only for Caucasian and Asian ethnic groups.

Threshold differences. Teachers' reports may also be affected by their own ethnocultural standards of what constitutes appropriate childhood behavior in the classroom. Approximately 70% of classroom teachers in Hawaii are female and of Asian ancestry (State of Hawaii Databook, 1995). Teachers whose ethnic background is similar to the rated child may exhibit greater tolerance (i.e. threshold differences) for behavioral difficulties that are consistent with their cultural standards (Weine et al., 1995; Weisz, Chaiyasit, Weiss, Eastman, & Jackson, 1995; Weisz et al., 1989). The lower total problem, broad-band, and clinical syndrome scores for both nonreferred and clinic-referred Asian children were consistent with this hypothesis. An analysis of scores by teacher ethnicity would have addressed this question, but was not possible as the data were unavailable. A recent study examining the effect of ethnicity on teacher's behavioral ratings, however, found that teachers from America and Japan gave similar ratings of children's behavioral problems, regardless of the child's ethnic background (Mueller et al., 1995). Furthermore, the American teachers did not exhibit a systematic tendency to rate children's problem

behaviors differentially based on whether the child was of Caucasian or Japanese ancestry. Although not mentioned in the article, the participating American teachers were recruited from Hawaii (who are predominantly female and of Asian ancestry), and thus probably similar to the participating Asian teachers in the present study. The Mueller et al. findings contradict the hypothesis that teacher ethnicity affects their threshold to report children's problem behaviors. Empirical validation of this possibility using multimodal methods (e.g. Weisz et al., 1995) is required in future studies.

True variations in behavior problems. Differences in frequency and severity of behavioral problems among children of different ethnicities may be accurate representations of their behavior in the classroom. That is, children of Caucasian and Hawaiian ancestry may in fact experience more serious behavioral difficulties compared to those of Asian ancestry. The present results are consistent with previous studies that have found that Asian children exhibit fewer behavioral problems (Touliatos & Lindholm, 1980; Yao et al., 1988) and better social/classroom deportment when compared to American (presumably Caucasian) children (Chang et al., 1995; Stevenson & Stigler, 1992; Weisz et al., 1995). Biological factors such as temperament (Freedman, 1979; Hsu, 1985) or behavioral inhibition (e.g. Gray, 1982; Kagan, 1989) have been hypothesized as playing a causal role in these cross-cultural differences found among children.

The temptation to conclude that children of Asian ancestry are psychologically healthier and better adjusted than their peer groups must be tempered by consideration of cultural factors. For example, children of Asian ancestry may be less likely to exhibit behavioral dysfunction in school owing to cultural and family values such as filial piety (Chao, 1992). For this reason, Asian-American children may be more likely to suppress problems in the school environment rather than to express them overtly to avoid causing their family to "lose face." The low scores reported for Asian children on all dependent variables are consistent with this possibility. Whether children of Asian ancestry are psychologically healthier than their peers as opposed to manifesting behavior problems in more discrete ways or only in specific settings remains an empirical question. It can be addressed in future studies by incorporating more molecular measures of overcontrolled behavior problems coupled with comparisons of teacher-parent ratings of child behavior.

The findings in this study are subject to several limitations. First, the results can only be considered valid for this sample and are exploratory due to small cell sizes for clinic-referred children who are female and of Asian ethnicity as well as nonreferred children of Caucasian ethnicity. Additionally, the ratings are based solely on teacher report. Other sources of information (e.g. parent and self-report) are needed for different perspectives on inter-ethnic differences in children's problem behaviors. Finally, each broad ethnic grouping (i.e. Hawaiian, Caucasian, Asian) includes children of different ancestry, and the results may differ if each ethnic group is analyzed separately. For example, included in the Asian group are children of Japanese, Chinese, and Vietnamese ancestry.

Separate analysis of each ethnic group might yield different patterns of behavioral dysfunction, as they have for samples of children who are Thai and Chinese (Weine et al., 1995; Weisz et al., 1989; Weisz, Suwanlert, Chaiyasit, Weiss, et al., 1987). Analyses of individual ethnic groups were not possible, however, due to small cell sizes.

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