

School-Based Mental Health Prevention for Asian American Adolescents: Risk Behaviors, Protective Factors, and Service Use

Yolanda Anyon
University of Denver

Seow Ling Ong
Education, Training, and Research, Inc., Scotts Valley,
California

Kelly Whitaker
University of California, Berkeley

This study drew on epidemiological data from a large urban school district to evaluate the implementation of a school-based mental health (SBMH) prevention initiative at 15 high schools. The purpose of this research was to measure the prevalence of student risk factors and protective factors by race and ethnicity and assess the engagement of Asian youth in prevention services. Results indicated statistically significant racial and ethnic group differences in the prevalence of risk factors (self-reported depressive symptoms, substance use, externalizing behavior at school, failing grades, truancy, and discrimination by school adults and peers), and protective factors (school, home, and peer assets). Controlling for gender, family structure, risk behaviors, protective factors, and school composition, Black ($OR = 2.31, p < .001$), Latino ($OR = 1.36, p < .05$), and multiracial ($OR = 1.42, p < .01$) students had significantly higher odds of using their SBMH program than Asian students. Among Asian ethnic subgroups, Cambodian youth ($OR = .62, p < .01$), were the only group that had lower odds of accessing school-based services than their Chinese peers. Findings suggest that, to reach underserved Asian American adolescents, prevention programs must address cultural and contextual influences on adolescent help seeking when program outreach and enrollment strategies are being developed. Additional research in the field of prevention science is needed to understand the mechanisms driving patterns of prevention service use by race and ethnicity.

Keywords: Asian American adolescents, school-based mental health prevention, racial and ethnic disparities, risk and protective factors

In contrast to the “model-minority” myth, there is growing evidence that Asian American youth are at higher risk for depression, self-injury, and suicide than White or African American youth (e.g., Sen, 2004). In addition to universal risk factors for depressive disorders like substance use and delinquency, Asian American youth experience culturally specific risks such as intergenerational family conflict and racial discrimination (Lee et al., 2009). On the other hand, school connectedness, support from family and peers, and living in a dual-parent household are general protective factors associated with positive mental health functioning for most adolescents (Costello, Swendsen, Rose, & Dierker, 2008). Emerging research also suggests that maintenance of cultural practices, bilingualism, and a sense of ethnic community are culturally unique factors that may also be protective against depression for Asian American youth (Zhou et al., 2012). In summary, this work demonstrates that Asian American adolescents can

benefit from prevention programs that target multiple risk and protective factors to reduce the incidence and recurrence of mental health problems.

The need for preventive interventions among this population of adolescents is compounded in light of research indicating that Asian American adults underutilize traditional mental health services (Abe-Kim et al., 2007). Yet few studies have considered whether mental health prevention programs successfully engage Asian American youth who experience risk factors or limited protective factors associated with mental health. In part, this reflects the tendency of prevention scientists to view the effectiveness of interventions exclusively in terms of their impact on psychosocial outcomes. Such a focus is understandably the priority for the field of prevention science. However, as Cauce et al. (2002) observes, the effectiveness of mental health services “quickly become[s] irrelevant if ethnic minority adolescents do not find their way into them” (p. 46). In other words, youth cannot benefit from preventive interventions they do not experience. Attention to issues of access and use is necessary to ensure that the needs of underserved populations, such as Asian Americans, are met through prevention programs.

To address this gap in the prevention science literature, this study evaluated the implementation of a school-based mental health (SBMH) prevention program in an urban community with a significant Asian population. Offering services in educational set-

Yolanda Anyon, Graduate School of Social Work, University of Denver; Seow Ling Ong, Education, Training, and Research, Inc., Scotts Valley, California; Kelly Whitaker, School of Social Welfare, University of California, Berkeley.

Correspondence concerning this article should be addressed to Yolanda Anyon, Graduate School of Social Work, University of Denver, 2148 South High Street, Denver, CO 80208. E-mail: yanyon@du.edu

tings, where barriers like transportation and insurance coverage are substantially reduced, is an increasingly popular approach to improving underserved adolescents' access to preventive care. Despite this emphasis on improved access, recent research suggests that Asian youth are underrepresented in SBMH prevention programs (Amaral, Geierstanger, Soleimanpour, & Brindis, 2011; Walker, Kerns, Lyon, Bruns, & Cosgrove, 2010). At the same time, there is growing evidence that SBMH preventive interventions are efficacious in reducing depressive symptoms for participating youth and improving their global mental health functioning (Amaral et al., 2011; Armbruster & Lichtman, 1999; M. Weist, Paskewitz, Warner, & Flaherty, 1996). Thus, our research questions were aligned with the fifth phase of the preventive intervention research cycle, focused on the evaluation of interventions implemented to scale (for more information on the preventive intervention research cycle, see: Kellam, Koretz, & Mościcki, 1999). For the purposes of this study, we framed "effectiveness" in terms of engagement of target populations, with particular attention to underserved Asian American youth, while recognizing that service access is just one aspect of success for prevention programs. As part of this endeavor, we also aimed to contribute to the notably limited research on racial and ethnic group differences in risk and protective factors by comparing their prevalence across and within racial and ethnic subgroups (Zhou et al., 2012).

Theoretical Framework: Asian American Adolescents' Mental Health Service Use

Our research questions were guided by *Cauce et al.'s* (2002) model for mental health help seeking among ethnic minority youth. This theory posits that multiple actors (e.g., family members, peers, community members, and teachers), shape Asian American adolescents' service use trajectories. In addition to youths' individual risk and protective factors, help-seeking pathways are influenced by multiple contexts: social, cultural, organizational, and structural.

Structural Conditions

On one level, structural conditions influence youths' level of need for preventive services. In particular, growing up in a neighborhood or school with concentrated poverty is associated with a host of negative psychosocial outcomes in adolescence (Leventhal & Brooks-Gunn, 2000). At the same time, structural contexts also shape conditions of access—the number, type, affordability and quality of psychosocial supports available in a community and those resources necessary to access those further away (Burns et al., 1995; Slade, 2003; Sturm, Ringel, & Andreyeva, 2003). For example, among children of immigrant families, Asian youth are more likely to lack a usual source of health care (Huang, Yu, & Ledsky, 2006). Discussions of mental health disparities often emphasize these structural contexts as barriers to service use for communities of color. However, the phenomenon of Asian American students' underrepresentation in school-based prevention programs, where structural barriers like transportation, insurance coverage, and cost are essentially eliminated, suggests that attention to other influences on help seeking and service use is also required.

Organizational Settings

The setting in which psychosocial programs are delivered also matters for those adolescents who would ultimately be served by mental health providers. Racial and ethnic disparities in service use vary by the service sector within which they are offered (e.g., education or juvenile justice; Burns et al., 1995; Wu et al., 1999). In part, this may reflect different outreach, referral, and enrollment systems used in these sectors. In community-based mental health centers, young people most often enter care because of parental concern, whereas teachers and school staff serve to identify students in need of additional support at school (Cauce et al., 2002; Srebnik, Cauce, & Baydar, 1996). Adults in educational settings tend to focus on youth who exhibit externalizing behaviors that disrupt the classroom learning environment or challenge their authority (Chang & Sue, 2003; Costello & Janiszewski, 1990). Emerging evidence suggests that teachers often expect Asian American youth to be perfectionist, anxious, and shy, while also perceiving them to be less hostile, disruptive and aggressive than Black or Latino youth (Chang & Sue, 2003; Morris, 2005). These stereotypes, consonant with the model-minority myth, may lead teachers to overlook signs of psychological distress experienced by Asian American students.

Cultural Factors

For youth and adults alike, perceptions of need for services are contingent upon one's explanatory framework for psychosocial problems—beliefs about their origin, how they can best be resolved, and what constitutes a problem that is serious enough to warrant assistance from a professional helper (Garland et al., 2005). There is compelling evidence that Asian American youth have different explanatory frameworks for mental health concerns than their peers of other racial backgrounds. Asian adolescents tend to internalize their distress and focus on the physical symptoms of psychological problems (Choi, 2002; Russell, 2008). Scholars propose that somatic symptom manifestation of emotional stress is a response to cultural norms that emphasize conformity and group interests over individual expression (Leong & Lau, 2001). These norms also shape help seeking; many Asian Americans find extrafamilial interventions, even those preventive in nature, to be stigmatizing, shameful, and a violation of the family hierarchy, reflecting inadequacy on the part of family members (Sue, 1994). As a result, Asian American youth may be less likely than peers of other backgrounds to seek help from preventive mental health services when they experience psychosocial risks.

Social Relationships

Finally, social factors, in the form of relationships and networks, shape young peoples' help-seeking pathways and their service utilization. Networks contain information about available services, their quality, and perceived efficacy; personal relationships can exert influence that encourages or deters help seeking from professionals, or such relationships can serve to provide effective support in place of more formal services (Pescosolido, 1992; Pescosolido, Brooks-Gardner, & Lubell, 1998). Young people with psychosocial challenges most often report seeking help from

their parents, friends, or teachers—not formal service providers, though this varies somewhat by problem type (Boldero & Fallon, 1995). When students do seek help from nonfamilial adults, they are more likely to turn to individuals that they already know and trust (Rickwood, 1995). Thus, both service need and service use in schools are likely influenced by outreach efforts on the part of school-based practitioners, relationships between school-based adults and youth, and students' personal networks.

Cauce et al.'s (2002) model illustrates the potential for cultural and contextual factors at multiple levels, beyond individual risk and protective factors, to constitute patterns of SBMH prevention services use for Asian American youth. In other words, epidemiologically defined "need" is certainly not the only, and may not even be the most important, factor in young peoples' decisions to seek help, or to receive services, for psychosocial concerns.

Current Study and Hypotheses

Consistent with Cauce's theoretical model for ethnic minority adolescent help-seeking (Cauce et al., 2002), we expected that increased risk factors and decreased protective factors would be positively associated with Asian American adolescents' use of SBMH prevention programs, but that racial and ethnic disparities in service use would still be evident because of unmeasured cultural and contextual influences on help-seeking. Our analysis focuses on the following risk factors for poor mental health functioning explicitly targeted by SBMH prevention programs: substance use, externalizing behavior at school, depressive symptoms, failing grades, and truancy, along with the following protective factors: internal, school, family, and peer assets (Brener, Weist, Adelman, Taylor, & Vernon-Smiley, 2007). In addition, we included culturally salient risk factors for depression among Asian American adolescents: perceptions of racial discrimination from peers and adults at school.

Method

Study Sites

The current study draws on data collected from students attending 15 public high schools participating in a district-city-county collaborative SBMH prevention initiative offering free health education, therapy, and case management services on site. The mission of the collaborative is to support student well-being through school-based behavioral health promotion, prevention, and early intervention services. In the year of this study, 2008–2009, the initiative served 6,609 youth, representing 42% of total student enrollment at participating high schools. At these sites, 49% of the students were Asian, 21% were Latino, 11% were Black, 8% were White and 11% identified with multiple or other racial groups. Disaggregated by Asian ethnicity, the student body is approximately 38% Chinese, 6% Filipino, 4% Vietnamese, 3% Asian Indian, and less than 1% each for all other groups. Forty-seven percent of these students received free or reduced lunch, often used as an indicator of family poverty, and 20% were English language learners.

The initiative's service delivery approach is informed by the interconnected systems model that includes universal, selective, and indicated approaches to mental health prevention and early

intervention (Weist, Goldstein, Morris, & Bryant, 2003; Weisz, Sandler, Durlak, & Anton, 2005). The SBMH initiative uses a standardized, site-level staffing structure that includes, at minimum, a coordinator, a school nurse, an outreach worker, and a behavioral health counselor. In partnership with community-based organizations, initiative staff members deliver universal services including health education and promotion activities delivered through school-wide events, classroom presentations, and drop-in support services. Selective services are provided to students who exhibit moderate needs, usually through support and empowerment groups. Finally, counseling and case-management services are offered to students experiencing mental health symptoms. The top three presenting issues for that year were anxiety (27%), family issues (21%), and depression (20%).

Instrument and Procedure

The California Healthy Kids Survey (CHKS), the largest statewide survey of protective factors and health risk behaviors, provided the epidemiological data used for this study (Hanson & Kim, 2007; Constantine, Benard, & Diaz, 1999). The CHKS was administered to all students at study sites during the spring of 2009. Extensive psychometric analysis of the CHKS demonstrated that the secondary school scales exhibit good internal consistency ($\alpha > .70$), moderate reliability and construct validity ($\alpha > .50$), and measurement equivalence across racial groups; the authors concluded that the survey is "appropriate as an epidemiological tool" to assess the prevalence of risk and protective factors (Hanson & Kim, 2007, p. 11).

Sample

The survey yielded a 71% response rate, resulting in an unweighted sample of 8,466 students at the 15 schools with SBMH programs. The sample was 58% Asian, 15% Latino, 9% Black, 6% White, 3% Pacific Islander, and 11% multiracial (see Table 1). The largest ethnic subgroups in the sample of Asian students were Chinese (67%), Cambodian (7%), Filipino (4%), and Vietnamese (4%). Compared with the general student population, survey participants were more likely to be Asian and less likely to be White, Latino or Black. Forty-six percent of the sample population was male and 54% was female. Sixty-eight percent of the sample reported living with both of their parents, though Asian students were significantly more likely to report living in a dual-parent household than their peers of other backgrounds (see Table 1). Students from all grade levels completed the survey and the distribution of grade levels were similar for Asian and White students, but there were fewer Black, Latino, Pacific Islander and Multiracial students represented in the 12th grade. Forty-two percent of the sample reported accessing the SBMH prevention program at their school, which is consistent with administrative data provided by the SBMH initiative. Asian students were significantly less likely to report using these services, which is also consistent with administrative data. Additional sample demographics and comparisons across racial and ethnic groups are presented in Tables 1 and 2.

Table 1
Sample Characteristics, Percent, or Mean (SD): Comparisons Across All Racial Groups

Variable	All students (<i>N</i> = 8,466)	Asian (<i>n</i> = 5,045)	Black (<i>n</i> = 725)	Latino (<i>n</i> = 1,191)	White (<i>n</i> = 517)	Pacific Islander (<i>n</i> = 255)	Multiracial and other (<i>n</i> = 716)
Used services (%)	42.0	34.1	63.4***	60.2***	43.6***	52.7***	52.4***
Covariates							
Male (%)	46.4	46.6	43.1	46.7	47.2	55.6	44.1
Living with 2 parents (%)	66.5	75.2	31.4***	56.3***	68.3**	60.2***	59.0***
Grade level (%)							
9th	25.4	24.8	28.4	26.3	23.6	26.7	26.3
10th	24.7	24.0	26.9	27.5	19.9	29.0	24.4
11th	27.1	27.0	24.6	25.9	29.8	29.0	29.5
12th	22.8	24.2	20.1	20.3	26.7	15.3	19.8
Protective factors							
School assets ^a	2.68 (.66)	2.63 (.65)	2.77*** (.70)	2.69 (.66)	2.85*** (.67)	2.79** (.66)	2.77*** (.63)
Home assets ^a	3.04 (.77)	2.99 (.76)	3.04 (.88)	3.11 (.79)	3.30*** (.73)	2.99 (.75)	3.15 (.75)
Peer assets ^a	3.18 (.79)	3.19 (.78)	3.09 (.86)	3.10* (.82)	3.24 (.74)	3.24 (.71)	3.25 (.77)
Internal resilience assets ^a	3.24 (.66)	3.22 (.64)	3.22 (.84)	3.25 (.67)	3.30 (.63)	3.37 (.59)	3.28 (.64)
Risk factors							
Depressive symptoms ^b (%)	26.9	24.9	24.8	33.9***	27.1	34.2	29.5
Lifetime marijuana use ^c	1.97 (1.84)	1.38 (1.22)	3.11 (2.26)***	2.76 (2.17)***	3.17 (2.28)***	2.33 (1.99)***	2.56 (2.13)***
Lifetime alcohol use ^c	2.60 (2.08)	2.09 (1.83)	2.98 (2.11)***	3.45 (2.18)***	3.90 (2.22)***	2.89 (2.13)***	3.25 (2.20)***
Lifetime tobacco use ^c	1.67 (1.56)	1.44 (1.32)	1.71 (1.57)***	2.12 (1.82)***	2.23 (2.00)***	1.87 (1.71)**	2.02 (1.81)***
Externalizing behavior at school ^c	1.23 (.70)	1.16 (.57)	1.39 (.88)***	1.33 (.80)***	1.42 (.92)***	1.33 (.83)*	1.32 (.80)**
Grades ^d	2.8 (1.67)	2.46 (1.42)	3.68 (1.97)***	3.81 (1.91)***	2.46 (1.47)	3.51 (1.79)***	2.96 (1.74)***
Truancy ^e	2.13 (1.42)	1.92 (1.28)	2.44 (1.66)***	2.57 (1.59)***	2.36 (1.48)***	2.33 (1.48)**	2.43 (1.49)***
Culturally unique risk factors							
Racial discrimination: school adults ^f	2.27 (1.19)	2.25 (1.15)	2.42 (1.28)*	2.38 (1.23)*	2.04 (1.22)*	2.27 (1.25)	2.25 (1.26)
Racial discrimination: school peers ^g	1.30 (.78)	1.26 (.74)	1.38 (.91)*	1.36 (.80)*	1.26 (.75)	1.46 (.92)**	1.34 (.84)

^a Mean (*SD*) of 4-point scale. ^b Dichotomous variable. ^c Mean (*SD*) of 6-point ordinal scale (1 = 0 times; 2 = 1 time; 3 = 2 times; 4 = 3 times; 5 = 4–6 times; 6 = 7 or more times). ^d Mean (*SD*) of 8 point scale (1 = Mostly As . . . 8 = Mostly Fs). ^e Mean (*SD*) of 6-point scale (1 = 0 times . . . 6 = More than once a week). ^f Mean (*SD*) of 5-point scale (1 = Strongly disagree . . . 5 = Strongly agree). ^g Mean (*SD*) of 4-point scale (1 = 0 times . . . 4 = 4 or more times).

Difference in proportions or mean scores (Asian = reference group) statistically significant, * $p < .05$. ** $p < .01$. *** $p < .001$.

Measures

Independent variables.

Race and ethnicity. To classify students' racial identity, participants answered the question: "How do you describe yourself? (Mark all that apply.)" Responses included: American Indian or Alaska Native, Native Hawaiian or Pacific Islander, Asian or Asian American, Black or African American (non-Hispanic), Hispanic or Latino/Latina, White or Caucasian (non-Hispanic) and other. For the purposes of this study, each racial category was recoded into dichotomous variables. The multiracial variable included students who marked multiple racial categories or other. We used the following item from the CHKS to classify students' Asian ethnicity. "If you are Asian or Pacific Islander, which groups best describe you? (Mark all that apply.)" Responses included: Asian Indian, Cambodian, Chinese, Filipino, Japanese, Korean, Laotian, Vietnamese, Native Hawaiian, Guamanian, Samoan or other Pacific Islander, and other Asian American. For the purposes of this study, Pacific Islanders were excluded from the Asian-only analyses unless their multiracial identity was based on selecting just Pacific Islander and Asian. The largest Asian ethnic groups were recoded into dichotomous variables (Cambodian, Chinese, Filipino, and Vietnamese, and students who marked multiple Asian ethnic groups), and the smaller Asian ethnic groups (Asian Indian, Japanese, Korean, and other Asian) were combined into an other Asian ethnic group.

Universal risk factors. Risk factors were operationalized as student self-report of engagement in five types of risk behaviors that are targeted by SBMH programs and widely used in the empirical literature on adolescent risk factors for poor mental health functioning, including substance use, failing grades, truancy, school property damage (as a proxy for externalizing behavior at school) and depressive symptoms (Amaral et al., 2011; Costello et al., 2008). The following items from the CHKS were used to assess risk factors: "During the past 12 months did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?" Responses were either *yes* or *no*. "During the past 12 months, how would you describe the grades you mostly received in school?" Responses included *As and Bs, mostly Bs, Bs and Cs, mostly Cs, Cs and Ds, mostly Ds, and mostly Fs*. "During the past 12 months, how many times did you skip school or cut class?" Responses were *0 times, 1–2 times, a few times, once a month, once a week, and more than once a week*. "During the past 12 months, have you damaged school property on purpose?" Responses included *never, once, two or three times, more than three times*. Substance use was assessed with the following questions for each substance, "During your life, how many times have you used or tried cigarettes?" "During your life, how many times have you had at least one full drink of alcohol (such as a can of beer, glass of wine, wine cooler, or shot of liquor)?" and "During your life, how many times have

Table 2
Sample Characteristics, Percent, or Mean (SD): Comparisons Within Asian Ethnic Subgroups

Variable	All Asian students (<i>n</i> = 5,048)	Chinese (<i>n</i> = 3,383)	Cambodian (<i>n</i> = 370)	Filipino (<i>n</i> = 220)	Vietnamese (<i>n</i> = 198)	Multiethnic Asian (<i>n</i> = 550)	Other Asian ^a (<i>n</i> = 327)
Used services (%)	34.1	32.0	24.6*	46.9***	41.0*	40.6**	46.1***
Covariates							
Male (%)	46.6	45.7	46.1	45.8	48.0	44.2	58.2***
Living with 2 parents (%)	75.2	80.3	50.0***	54.1***	78.3	71.1**	66.1**
Grade level (%)							
9th	24.8	24.4	23.5	26.4	22.2	29.8	24.5
10th	24.0	22.8	28.6	21.8	21.2	26.7	28.7
11th	27.0	26.9	31.1	27.7	32.8	23.5	26.6
12th	24.2	26.0	16.8	24.1	23.7	20.0	20.2
Protective factors							
School assets ^b	2.63 (.65)	2.63 (.63)	2.34 (.63)***	2.70 (.66)	2.69 (.62)	2.67 (.65)	2.75 (.69)
Home assets ^b	2.99 (.76)	3.00 (.74)	2.85 (.81)	2.93 (.89)	3.06 (.68)	2.93 (.77)	3.14 (.79)
Peer assets ^b	3.19 (.78)	3.21 (.77)	2.91 (.82)***	3.29 (.81)	3.21 (.75)	3.23 (.79)	3.24 (.79)
Internal resilience assets ^b	3.22 (.64)	3.24 (.62)	2.93 (.75)***	3.37 (.75)	3.24 (.65)	3.24 (.67)	3.30 (.64)
Risk factors							
Depressive symptoms (%) ^c	24.9	22.5	23.4	38.4***	35.3**	30.0*	29.1
Lifetime marijuana use ^d	1.38 (1.22)	1.28 (1.05)	1.21 (.90)	1.93 (1.81)***	1.29 (1.08)	1.59 (1.44)***	2.07 (1.90)***
Lifetime alcohol use ^d	2.09 (1.83)	1.91 (1.69)	2.21 (1.86)	2.62 (2.05)***	2.27 (1.90)	2.43 (2.01)***	2.84 (2.17)***
Lifetime tobacco use ^d	1.44 (1.32)	1.34 (1.17)	1.69 (1.59)***	1.75 (1.58)***	1.37 (1.16)	1.50 (1.37)	2.04 (1.90)***
Externalizing behavior at school ^d	1.16 (.57)	1.14 (.54)	1.15 (.57)	1.31 (.77)**	1.19 (.62)	1.22 (.69)	1.16 (.60)
Grades ^e	2.46 (1.42)	2.35 (1.32)	2.78 (1.72)***	2.93 (1.65)***	2.44 (1.35)	2.63 (1.46)**	2.70 (1.71)**
Truancy ^f	1.92 (1.28)	1.82 (1.20)	1.98 (1.35)	2.28 (1.44)***	2.13 (1.37)	2.17 (1.41)***	2.22 (1.49)***
Culturally unique risk factors							
Racial discrimination: school adults ^g	2.25 (1.15)	2.18 (1.13)	2.73 (1.12)***	2.19 (1.17)	2.17 (1.11)	2.30 (1.22)	2.34 (1.24)
Racial discrimination: school peers ^h	1.26 (.74)	1.23 (.71)	1.39 (.85)**	1.28 (.72)	1.23 (.70)	1.33 (.82)	1.38 (.86)*

^a Other Asian includes Asian Indian (*n* = 39), Korean (*n* = 70), Japanese (*n* = 54), and all other Asian groups (*n* = 148). ^b Mean (SD) of 4-point scale. ^c Dichotomous variable. ^d Mean (SD) of 6-point ordinal scale (1 = 0 times; 2 = 1 time; 3 = 2 times; 4 = 3 times; 5 = 4–6 times; 6 = 7 or more times). ^e Mean (SD) of 8-point scale (1 = *Mostly As* . . . 8 = *Mostly Fs*). ^f Mean (SD) of 6-point scale (1 = 0 times . . . 6 = *More than once a week*). ^g Mean (SD) of 5-point scale (1 = *Strongly disagree* . . . 5 = *Strongly agree*). ^h Mean (SD) of 4-point scale (1 = 0 times . . . 4 = 4 or more times). Difference in proportions or mean score (Chinese = reference group) statistically significant, * *p* < .05. ** *p* < .01. *** *p* < .001.

you used marijuana (pot, weed, grass, hash, bud)?" Responses included *0 times*, *1 time*, *2 times*, *3 times*, *4–6 times*, and *7 or more times*.

Culturally unique risk factors. The 2009 CHKS included two measures of culturally specific risk factors for poor mental health (racial discrimination) among Asian American youth (Lee et al., 2009). The following items were used to assess students' perceptions of racial discrimination: "You have been disrespected or mistreated by an adult at this school because of your race, ethnicity, or nationality." Responses included *strongly disagree*, *disagree*, *neither disagree or agree*, *agree*, and *strongly agree*. To assess student perceptions of racial discrimination by peers, the following question was used: "In the past 12 months, how many times on school property were you harassed or bullied about your race/ethnicity?" Responses included *0 times*, *1 time*, *2 times*, *3 times*, *4–6 times*, and *7 or more times*.

Protective factors. Student-reported assets (school, home, peer, and internal assets) were measured by the CHKS Resilience and Youth Development Module (RYDM). School and home assets were measured through three scales (nine items total) capturing students' perceptions of protective factors present in the school and home environments, including (a) caring relationships (3 items), (b) high expectations (3 items), and (c) meaningful participation (3 items). Scores on these three scales have been shown to have excellent internal consistencies (Cronbach's alphas of .80, .86, and .80, respectively; Hanson & Kim, 2007). In our sample, our Cronbach's alphas for these scales ranged between .77

and .87. The RYDM module also assesses caring relationships and high expectations in the peer domain (Cronbach's alphas of .78 and .93). Internal assets were measured using a composite variable created by the CHKS survey developers Constantine, Benard, & Diaz (1999) that relies on six scales, each of which contains 3 items: (a) cooperation and communication, (b) self-efficacy, (c) empathy, (d) problem solving, (e) self-awareness, and (f) goals and aspirations. These subscales also show favorable psychometric properties, with Cronbach alphas ranging between 0.79 and 0.89.

Dependent variable. To assess students' participation in school-based prevention programming, a question was added to the CHKS, which read, "During the past school year, how often have you visited your school's [SBMH initiative] for information or services?" Responses included: *never*, *one or two times*, *three to five times*, *six to 10 times*, and *more than 10 times*. For this study, the dependent variable was recoded to be dichotomous, indicating whether a student used school-based services at least once or never.

Covariates. Student-level covariates were nonmalleable risk factors for poor mental health and previously established correlates of adolescent SBMH service utilization, including grade-level, gender, and family structure (Amaral et al., 2011). The following items from the CHKS were used: "In what grade are you?" Responses included *9th grade*, *10th grade*, *11th grade*, and *12th grade*. "What is your sex?" Responses were *male* or *female*. "What best describes where you live?" Responses: *a home with both parents*, *a home with only one parent*, *other relative's home*, *a*

home with more than one family, friend's home, foster home, group care, awaiting placement, hotel or motel, migrant housing, shelter, on the street (no fixed housing), car or van, campground or abandoned building, other transitional or temporary housing, or other living arrangements. We recoded this variable into a dichotomous form, indicating whether a student lived in a home with both parents or not.

Analytic strategy. The prevalence of risk and protective factors by race and ethnicity was assessed by computing group mean scores for each variable. Analysis of variance tests and Bonferroni post hoc tests were performed to determine if group mean scores were significantly different by race or ethnicity, with Asian students as the reference among the primary race groups, and Chinese students as the reference among the Asian subgroups (Tables 1–2). Intercorrelation analyses of all study variables were also conducted for the larger sample and Asian-only groups (Tables 3–4).

A series of random-effects logistic regression (multilevel) models, which account for the nested nature of the dataset (students within schools), were employed using STATA software to estimate the relationships between risk and protective factors, student race or ethnicity, and use of SBMH services (Tables 5–6). Models only included covariates and independent variables that were statistically significant for the sample at the bivariate level (Tables 3 and 4). Model 1 included only individual student covariates, risk and protective factors. In Model 2, student race or ethnicity was added to see how the odds changed for risk and protective factors. Finally, in Model 3, a school-level variable for the racial composition of each school was added to determine whether the odds changed for each racial/ethnic group in Model 2. Sensitivity analyses were also conducted to test whether different measurements or analytic approaches led to different results. Results were similar using ordered logistic regression methods in which the dependent variable was constructed as an ordinal (scale) measure of service use, collapsing risk factors into a cumulative measure instead of separate indicators and recoding risk factors as dichotomous variables indicating high risk.

Results

Prevalence of Risk and Protective Factors by Race and Ethnicity

There were statistically significant racial and ethnic group differences in the prevalence of most risk and protective factors (see Table 1). In general, Asian youth tended to report lower levels of developmental assets and lower risk behaviors (an important exception was depressive symptoms) than their peers of other racial backgrounds. Among Asian subgroups, Cambodian youth consistently reported lower assets and Filipino and other Asian students reported higher risk behaviors than Chinese or Vietnamese adolescents (with the exception of depressive symptoms in the Vietnamese student population; see Table 2).

Results From Multilevel Models

In the full sample that included all racial groups, all study variables were significantly related to service use except grade level (see Table 3). In the sample of Asian youth, grade level and home assets were the only variables not significantly associated

Table 3
Intercorrelation of Study Variables: All Students (N = 8,466)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Service use	1	.09**	-.10**	-.01	.10**	.04*	.04**	.08***	.08***	.15***	.15***	.10***	.08**	.17***	.15***	.05***	.06***
2. Male		1	-.01	-.00	-.03*	-.05*	-.21***	-.09**	-.06**	.04**	.01	.07**	.09***	.07***	-.01	.07***	.07***
3. Living w/both parents			1	.01	.00	.07***	.07***	.05**	-.06**	-.17***	-.14***	-.12***	-.07***	-.15***	-.14***	-.05***	-.05***
4. Grade level				1	.07***	-.01	.06**	.04*	-.01	.10**	.18***	.08**	-.02**	-.04**	.18**	-.00	-.03*
5. School assets					1	.40***	.35***	.42***	-.09**	-.01	-.01	-.10**	-.09**	-.18***	-.07***	-.09**	-.06**
6. Home assets						1	.49***	.64***	-.15**	-.06**	-.10**	-.13**	-.14**	-.18**	-.18**	-.04**	-.11**
7. Peer assets							1	.60***	-.07**	-.03*	-.01	-.09**	-.13**	-.13**	-.07**	-.08**	-.12**
8. Internal assets								1	-.07**	-.04*	-.03*	-.11**	-.16**	-.15**	-.09**	-.04*	-.11**
9. Depressive symptoms									1	.07**	.13***	.14***	.11***	.14***	.16***	.07***	.16***
10. Marijuana use										1	.62***	.54***	.23***	.25***	.35***	.05***	.08***
11. Alcohol use											1	.53***	.21***	.39***	.39***	.06***	.10***
12. Tobacco use												1	.11***	.20***	.08***	.22***	.22***
13. Externalizing behavior at school													1	.39***	.10***	.07***	.07***
14. Grades														1	.09***	.09***	.10***
15. Truancy															1	.11***	.11***
16. Racial discrimination: school adults																1	.11***
17. Racial discrimination: school peers																	1

* p < .05. ** p < .01. *** p < .001.

Table 4
Intercorrelation of Study Variables: Asian Students (n = 5,048)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Service Use	1	.07***	-.05**	-.01	.08***	.00	.04*	.05*	.07***	.10***	.11***	.09***	.09***	.11***	.15***	.04**	.08***
2. Male		1	-.05**	-.01	-.06***	-.07**	-.23***	-.11**	-.02	.10***	.07***	.11***	.07***	.11***	.01	.07***	.07***
3. Living w/both parents			1	-.01	.05**	.07***	.09***	.05*	-.03	-.09***	-.10***	-.09***	-.05	-.07**	-.09**	-.04	-.03*
4. Grade level				1	.08***	-.02	.05*	.05*	-.01	.12***	.19***	.07**	-.02	-.01	.22**	.01	-.02
5. School assets					1	.39***	.37***	.45***	-.11**	-.04	-.02	-.10***	-.09***	-.22***	-.07**	-.11	-.06**
6. Home assets						1	.48***	.62***	-.17**	-.10	-.14**	-.14**	-.15**	-.24**	-.21	-.06**	-.11**
7. Peer assets							1	.61***	-.07**	-.03	.00	-.08**	-.10**	-.15**	-.06**	-.10**	-.11**
8. Internal assets								1	-.08**	-.00	.01	.14**	-.13**	-.21**	-.08**	-.06**	-.10**
9. Depressive symptoms									1	.08**	.16**	.14**	.12**	.15**	.16**	.08**	.14**
10. Marijuana use										1	.54***	.57***	.15**	.20**	.30**	.05**	.11**
11. Alcohol use											1	.52***	.16**	.18**	.39**	.07**	.11**
12. Tobacco use												1	.15**	.20**	.29**	.05**	.14**
13. Externalizing behavior at school													1	.09**	.17**	.08**	.23**
14. Grades														1	.38***	.10**	.09**
15. Truancy															1	.09**	.12**
16. Racial discrimination: school adults																1	.12**
17. Racial discrimination: school peers																	1

* p < .05. ** p < .01. *** p < .001.

with service use (see Table 4). Variables that were not significant at the bivariate level were excluded from the regression analyses.

All students. As can be seen in Table 5, boys ($OR = .67, p < .001$) and youth living with both parents ($OR = .79, p < .001$) had significantly lower odds of using school-based services. Controlling for these covariates, students reporting higher risk and protective factors generally had significantly greater odds of using their SBMH program. Specifically, youth with higher school assets, ($OR = 1.44, p < .001$), higher internal assets ($OR = 1.21, p < .05$), depressive symptoms ($OR = 1.18, p < .05$), higher alcohol use ($OR = 1.05, p < .05$), more externalizing behavior at school ($OR = 1.21, p < .001$), lower grades ($OR = 1.19, p < .001$), higher truancy rates ($OR = 1.09, p < .05$), greater experience with adult discrimination at school ($OR = 1.05, p < .05$), and racial discrimination from peers ($OR = 1.13, p < .01$) all had significantly higher odds of accessing their SBMH program. Home and peer assets were not significantly related to students' odds of using services after adjusting for covariates, so these variables were excluded from subsequent models.

After adding student race to the model (see Table 5, Model 2), the odds of SBMH access did not change substantially. Accounting for gender, family structure, and risk and protective factors, Black ($OR = 2.40, p < .001$), Latino ($OR = 1.42, p < .01$), and multiracial ($OR = 1.43, p < .01$) youth all had significantly higher odds of using their SBMH program than Asian students had (see Table 5, Model 2). To strengthen confidence that the higher odds of service use among Black, Latino, and multiracial youth, compared with Asian students, were not simply a reflection of the racial composition of their school sites, we added school-level variables that controlled for the proportion of the student body that was Asian in Model 3 (see Table 5; the proportion of students who are Asian is highly correlated with the proportion of students who are Black, $r = -.77$ and Latino $r = -.84, p < .001$; the school district does not report racial identity in a similar fashion to the CHKS for other groups). Adding this school contextual variable to the model did not substantially change the results, but, even after controlling for race at the individual level, students at schools with higher proportions of Asian students had significantly lower odds of using services ($OR = .28, p < .001$).

Asian students only. Asian boys ($OR = .69, p < .001$) and youth living with both parents ($OR = .80, p < .05$) had significantly lower odds of using SBMH prevention programs than their peers (see Table 6, Model 1). Controlling for these covariates, Asian youth who reported higher cigarette use ($OR = 1.07, p < .05$), greater externalizing behavior at school ($OR = 1.27, p < .001$), lower grades ($OR = 1.14, p < .001$), truancy ($OR = 1.13, p < .001$), and additional experiences with racial discrimination from adults ($OR = 1.07, p < .05$) or peers ($OR = 1.13, p < .05$) all had significantly higher odds of accessing school-based services. However, unlike the general student population, Asian students with depressive symptoms, marijuana use, or alcohol use were not more likely to use SBMH prevention programs in shown in Model 1 (see Table 6). The only protective factor that was significantly associated with service use for Asian students was school assets ($OR = 1.43, p < .001$). Internal and peer assets were not significantly related to students' odds of using services, so these variables were excluded from subsequent models.

After adding Asian students' ethnicity to the model (see Table 6, Model 2), the odds of SBMH access did not change substantially

Table 5

Adjusted Odds Ratios From Random-Effects Logistic Regression (Multilevel Model) Predicting Use of Mental Health Prevention Programming (All Students, N = 8,466)

Variable	Model 1 (n = 5,221)		Model 2 (n = 5,334)		Model 3 (n = 5,334)	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Covariates						
Male	.67***	(.59, .76)	.70***	(.62, .79)	.70***	(.60, .77)
Lives with 2 parents	.79***	(.69, .91)	.82**	(.72, .94)	.82**	(.72, .94)
Protective factors						
School assets ^a	1.44***	(1.29, 1.62)	1.42***	(1.27, 1.58)	1.41***	(1.27, 1.58)
Home assets ^a	1.01	(.87, 1.18)				
Peer assets ^a	.97	(.86, 1.10)				
Internal assets ^a	1.21*	(1.0, 1.48)	1.16*	(1.02, 1.33)	1.17*	(1.02, 1.33)
Risk factors						
Depressive symptoms ^b	1.18*	(1.01, 1.38)	1.16*	(1.00, 1.35)	1.16*	(1.00, 1.35)
Lifetime use of marijuana ^c	1.05	(.99, 1.11)				
Lifetime use of alcohol ^c	1.05*	(1.01, 1.09)	1.06**	(1.02, 1.10)	1.06**	(1.02, 1.09)
Lifetime use of cigarettes ^c	1.00	(.95, 1.06)				
Externalizing behavior at school ^c	1.21***	(1.08, 1.35)	1.21***	(1.08, 1.34)	1.20***	(1.08, 1.34)
Grades ^d	1.19***	(1.13, 1.25)	1.16***	(1.10, 1.22)	1.16***	(1.10, 1.22)
Truancy ^e	1.09**	(1.03, 1.16)	1.10***	(1.04, 1.17)	1.10***	(1.03, 1.17)
Culturally unique risk factors						
Racial discrimination: school adults ^f	1.05*	(1.00, 1.11)	1.05*	(1.00, 1.11)	1.05*	(1.00, 1.11)
Racial discrimination: school peers ^g	1.13**	(1.03, 1.23)	1.13**	(1.03, 1.22)	1.13**	(1.03, 1.22)
Race (ref. group = Asian)						
Black			2.40***	(1.62, 3.57)	2.31***	(1.55, 3.43)
Latino			1.42**	(1.07, 1.88)	1.36*	(1.02, 1.79)
Pacific Islander			1.46	(.87, 2.59)	1.44	(.85, 1.42)
Multiracial			1.43**	(1.10, 1.87)	1.42**	(1.09, 1.84)
White			1.03	(.76, 1.45)	1.03	(.75, 1.43)
School context						
% of Asian students in school					.28**	(.12, .66)

^a 4-point scale. ^b Dichotomous variable. ^c 6-point ordinal scale (1 = 0 times; 2 = 1 time; 3 = 2 times; 4 = 3 times; 5 = 4–6 times; 6 = 7 or more times). ^d 8-point scale (1 = Mostly As . . . 8 = Mostly Fs). ^e 6-point scale (1 = 0 times . . . 6 = More than once a week). ^f 5-point scale (1 = Strongly disagree . . . 5 = Strongly agree). ^g 4-point scale (1 = 0 times . . . 4 = 4 or more times).

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

(see Table 6). However, accounting for gender, family structure, and risk and protective factors, Cambodian students ($OR = .61$, $p < .01$) were the only Asian ethnic subgroup that had lower odds of accessing school-based services than their Chinese counterparts. Only other Asian youth ($OR = 1.31$, $p < .05$) had significantly higher odds of using their SBMH program than Chinese students. The odds ratios for other subgroups also trended in this direction, but were not statistically significant: Filipino ($OR = 1.25$, $p > .05$), Vietnamese ($OR = 1.30$, $p > .05$), and multiethnic Asian ($OR = 1.20$, $p > .05$). To assess whether these ethnic group differences were driven by the ethnic composition of Asian students at the study sites, we added the proportion of Chinese youth in the general student population at each school to Model 3. Ethnic disparities remained the same after adding the school context variable, which was not significantly associated with service use ($OR = .31$, $p > .05$).

Discussion

These findings indicate that, generally, Asian students in this urban school district report significantly lower risk factors for poor mental health than other racial minority adolescents, with an important exception being depressive symptoms. Self-report of most risk factors targeted by SBMH prevention programs increased youths' odds of service use, which demonstrated that

this local initiative is responsive to the needs of many at-risk young people. On the other hand, it is troubling that self-reports of depressive symptoms were not significantly associated with higher odds of service use for Asian students. We were unable to determine a statistical explanation for this finding; for example, when compared with the full sample, the Asian-only group had similar variance on depressive symptoms and comparable degrees of overlap between depressive symptoms and other risk factors and protective factors. It may be that help-seeking barriers such as stigma, cultural norms, and perceptions of gatekeepers explain why depression among Asian youth is not associated with increased use of school-based prevention services. Although mental health treatment is stigmatized across all racial and ethnic minority groups, negative attitudes toward formal services and preferences to rely on friends and family during times of stress may be stronger for Asian adolescents and could offer more explanatory power in their case (Kuhl, Jarkon-Horlick, & Morrissey, 1997). Moreover, unlike the other risk factors that were significantly associated with access among the Asian-only sample, such as truancy and cigarette smoking, depressive symptoms are less visible to referral sources and are consonant with the model-minority myth. In light of emerging research that suggests teachers expect Asian students to be quiet, anxious, and perfectionistic

Table 6

Adjusted Odds Ratios From Random-Effects Logistic Regression (Multilevel Model) Predicting Use of School-Based Mental Health Prevention Programming: Asian Students, n = 5,048

Variable	Model 1 (n = 4,435)		Model 2 (n = 4,435)		Model 3 (n = 4,435)	
	Adj. OR	(95% CI)	Adj. OR	(95% CI)	Adj. OR	(95% CI)
Covariates						
Male	.69***	(.59, .78)	.67***	(.58, .76)	.67***	(.58, .77)
Lives with 2 parents	.80*	(.69, .92)	.77***	(.67, .90)	.78***	(.67, .90)
Protective factors						
School assets ^a	1.43***	(1.26, 1.62)	1.45***	(1.30, 1.61)	1.45***	(1.30, 1.61)
Peer assets ^a	.97	(.85, 1.12)				
Internal assets ^a	1.14	(.96, 1.36)				
Risk factors						
Depressive symptoms ^b	1.16	(.97, 1.38)				
Lifetime use of marijuana ^c	1.01	(.94, 1.09)				
Lifetime use of alcohol ^c	1.03	(.98, 1.08)				
Lifetime use of cigarettes ^c	1.07*	(1.00, 1.14)	1.10***	(1.04, 1.16)	1.10***	(1.04, 1.16)
Externalizing behavior at school ^c	1.27***	(1.11, 1.44)	1.26***	(1.11, 1.43)	1.26***	(1.11, 1.43)
Grades ^d	1.14***	(1.07, 1.21)	1.14***	(1.07, 1.20)	1.14***	(1.07, 1.21)
Truancy ^e	1.13***	(1.05, 1.21)	1.13***	(1.06, 1.21)	1.13***	(1.06, 1.21)
Culturally unique risk factors						
Racial discrimination: school adults ^f	1.07*	(1.00, 1.13)	1.08**	(1.02, 1.14)	1.08**	(1.02, 1.14)
Racial discrimination: school peers ^g	1.13*	(1.03, 1.25)	1.14**	(1.04, 1.26)	1.14*	(1.03, 1.25)
Race (ref group = Chinese)						
Cambodian			.61**	(.45, .83)	.62**	(.46, .84)
Filipino			1.25	(.90, 1.73)	1.22	(.88, 1.78)
Vietnamese			1.30	(.94, 1.79)	1.28	(.93, 1.78)
Multiethnic Asian			1.20	(.98, 1.48)	1.20	(.98, 1.48)
Other Asian ^h			1.31*	(1.01, 1.72)	1.31*	(1.00, 1.72)
School context						
% of Chinese students in school					.31	(.10, 1.01)

^a 4-point scale. ^b Dichotomous variable. ^c 6-point ordinal scale (1 = 0 times; 2 = 1 time; 3 = 2 times; 4 = 3 times; 5 = 4–6 times; 6 = 7 or more times). ^d 8-point scale (1 = Mostly As . . . 8 = Mostly Fs). ^e 6-point scale (1 = 0 times . . . 6 = More than once a week). ^f 5-point scale (1 = Strongly disagree . . . 5 = Strongly agree). ^g 4-point scale (1 = 0 times . . . 4 = 4 or more times). ^h Other Asian includes Korean (n = 70), Japanese (n = 54), Loatian (n = 16) and other Asian (n = 148).

* p < .05. ** p < .01. *** p < .001.

(Chang & Sue, 2003), it may be that these cultural stereotypes also lead teachers to overlook Asian students' depressive symptoms.

With respect to protective factors, Asian youths' home, peer, and internal assets were comparable to Black, Latino, Pacific Islander, and multiracial students (though lower than White youth). However, Asian students in this district reported lower school assets than their peers of other backgrounds. We hypothesized that lower assets would be positively associated with service use, as this SBMH prevention program targets students who are isolated from their peers, disconnected from school, experiencing family conflicts, or lack social skills. Instead, students with higher school and internal assets had greater odds of service use, and there was no clear relationship between SBMH access and home or peer assets. It may be that the scale for internal assets, which includes problem solving and self-efficacy, is picking up attitudes or behaviors related to help seeking—but this variable was not significant in the Asian-only youth model. It is also possible that the scale for school assets, which includes caring relationships and high expectations from adults at school, indicates greater social support and attention from school “gatekeepers” like teachers, who refer students to SBMH prevention programs (Stiffman, Pescosolido, & Cabassa, 2004).

Although our data suggest that Asian adolescents generally experience lower risks and comparable assets to other racial mi-

nority youth (except in school), accounting for these risk and protective factors in our models did not eliminate racial disparities in service use. After controlling for gender, family structure, and a wide range of risk and protective factors, Asian students were still significantly less likely than their peers of other backgrounds to access their SBMH prevention programs. Among Asian students, Cambodian and Chinese youth appear to be especially underserved.

Study Limitations

Findings from this study are only generalizable to other similarly designed SBMH programs serving a comparable population of students in urban settings. Further investigation of these patterns using a larger sample of schools and districts with measures of multiple contextual influences would substantially further knowledge development. Furthermore, as with all cross-sectional studies, it was not possible to draw causal connections between the variables of interest. This study was exploratory and only intended to highlight the potential for racial and ethnic disparities in prevention programs, even when help-seeking barriers like cost and transportation are eliminated, as they are in school-based programs. A number of unmeasured variables associated with mental health functioning and help seeking also weaken the validity of the findings from this study. For example, we were not able to account

for family socioeconomic status, individual exposure to violence or trauma, acculturation or cultural orientation, availability and use of services outside of school, English language proficiency, or immigrant status. Without these covariates, we are unable to conclusively rule out “need” as an explanation for patterns of service use by race and ethnicity. However, the validity of our findings is strengthened by the use of risk and protective factors that are highly correlated with many of these unmeasured variables. Furthermore, these limitations are balanced with several strengths of this study including the use of a large, multilevel epidemiological data and analyses of both cross-ethnic and within-group comparisons.

Implications for Prevention Science

Our findings indicate that providers involved in prevention programs cannot assume that students with the greatest need will find their way into services unless their outreach efforts, enrollment strategies, and programming are culturally and contextually responsive. Greater attention to these issues in prevention research, program development, and implementation is warranted given the strikingly low probability of service use among Asian students, particularly those of Chinese and Cambodian backgrounds, in this study. More robust and culturally tailored outreach practices, less reliance on adult referrals to identify youth in need of preventive interventions, increased Asian language capacity on the part of school-based providers, and educational campaigns to normalize help-seeking and program engagement among underserved groups may reduce the racial and ethnic disparities in service use observed in this study (Anyon, Whitaker, Shields, & Franks, 2013). In particular, because school assets were associated with students’ service use for students of all races, it may be beneficial to provide training for teachers and school staff on the importance of their relationships with students on their help-seeking trajectories. Caring adults at school appear to be especially well-positioned to encourage underserved youth to access the care they need through SBMH prevention programs. Finally, school-based screening for protective factors (students’ school, home, and peer assets), as well as culturally unique risk factors (for e.g., racial discrimination from peers at school), may also help providers identify Asian American youth in need of services.

Further research is also needed to understand the unique relationship between assets and risk behaviors among Asian subgroups whose lower assets did not correspond with higher risk behaviors, as is usually the case for other racial and ethnic groups. Moreover, there is a need for additional theory and research that considers how these multiple risk and protective factors and processes operate together. For example, is the racial and ethnic variability observed in this study due to an interaction between adults’ referral practices and youths’ cultural norms? Replications of this study with a wider range of student-level demographic covariates (particularly socioeconomic status and exposure to trauma) and cultural and contextual variables, like help-seeking orientation and referrals, could inform the development of outreach and service strategies that correlate with Asian students’ needs and help-seeking preferences. A larger sample of prevention programs in different communities and settings would also provide evidence that these patterns are not unique to the school district that was the focus of this study. However, patterns of underrepresentation in

SBMH programs have already been documented in several other Western cities, suggesting that these findings may hold even in communities where Asian youth make up less of the student population (e.g., Amaral et al., 2011; Walker et al., 2010). Therefore, we suggest that a priority for prevention science should be to develop and test strategies to improve the engagement of Asian Americans in preventive interventions.

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Received January 4, 2013

Revision received September 24, 2013

Accepted October 3, 2013 ■