Developing Cultural Competence in Asian-American and Pacific Islander Communities: Opportunities in Primary Health Care and Substance Abuse Prevention

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The Development of Culturally Valid Measures for Assessing Prevention Impact in Asian-American Communities

Nolan Zane, Ph.D., Samuel Park, Ph.D., and Bart Aoki, Ph.D.

Editor’s Note: This chapter highlights the need to develop culturally competent, valid measures and instruments for assessing health status and intervention outcomes in Asian-American and Pacific Islander communities. This process requires much research and pilot testing across the diversity of AAPI groups.

Instruments should be collected from the scientific literature, then documented for specific ethnic groups, ages, and generations of Asian-Americans and Pacific Islanders. The challenge is to provide the vehicle and resources for accomplishing this work most effectively. Ultimately, primary health care for Asian-Americans and Pacific Islanders will benefit enormously from the availability of short, valid assessment instruments. These instruments could be downloaded from Federal resource centers for a small fee and be made widely available on the World Wide Web. The hope is that, once these instruments are available, computers and language translation software will facilitate communication between health care professionals and their non-English-speaking clients.
Introduction

Within the past decade, there has been an accelerated development of ethnic-specific programs to respond to the needs of ethnic/racial communities in addressing problems of substance use and abuse (Bolek, Debro, & Trimble, 1992; Catalano, Hawkins, Krenz, Gillmore, Morrison, Wells, & Abbot, 1993; Collins, 1992; Orlandi, 1992; Trimble, Zane, Chavez, & Brose, 1991). Evaluations of these demonstration projects serve several critical functions. First, sensitive outcome evaluations can determine whether a program that is purportedly culturally responsive has the anticipated impact on risk behaviors and substance use in a particular ethnic community. Second, such evaluations can identify those salient aspects of the program that may make it especially effective with the targeted population. The evaluation can delineate program features that function in a culturally responsive manner. In this way, culturally competent evaluations systematically guide the development of more culturally responsive interventions by determining which of the culturally based aspects of the intervention are related to their success. Finally, specific strategies of the evaluation itself can be examined to better define operational parameters for culturally competent evaluation (Lynch & Hanson, 1992; Orlandi, Weston, & Epstein, 1992). This chapter focuses on the third area, specifically, the development of valid outcome measures within the context of culturally competent evaluation.

Given the great need for services in ethnic/racial communities, the majority of substance abuse prevention and treatment programs have emphasized cultural competence with respect to how services are accessed, implemented, delivered, and linked instead of how these services should be evaluated (e.g., Orlandi, 1992; Peña & Koss-Chioino, 1992). Culturally competent evaluation involves theoretically based design and assessment procedures that incorporate an understanding of ethnic and cultural variables that affect the behaviors and attitudes of specific ethnic/racial populations with regard to substance abuse. Numerous researchers have emphasized that culturally valid assessments and measures are critical for the appropriate evaluation of inter-
ventions targeted to ethnic/racial groups (Beauvais & Trimble, 1992; Grace, 1992; Hui & Triandis, 1985; Lawrence, 1993; Oetting & Beauvais, 1990–91; Sue & Sue, 1987; Yen, 1992; Zane & Sasao, 1992). It is often assumed that outcome measures developed for and normed on predominantly White majority populations have some relevance and utility for assessing ethnic/racial groups. However, very few evaluations or research programs have empirically tested the applicability of these assessment instruments for culturally diverse populations. There are an increasing number of strategies and approaches for conducting culturally competent program evaluation (see Beauvais, 1992; Beauvais & Trimble, 1992; Casas, 1992; Collins, 1992; Kalichman, Kelley, Hunter, Murphy, & Tyler, 1993; Kim, McLeod, & Shantzis, 1992; Marin, 1993; Peña & Koss-Chioino, 1992; Reyes, 1993; Schinke, Gordon, & Weston, 1990; Trimble, 1990–91; Yen, 1992; Zane & Huh-Kim, 1994). On the other hand, there are few parallel, empirically based efforts to develop culturally sensitive measures that can withstand the standard tests of construct validity (Lawrence, 1993; Moncher, Holden, & Trimble, 1990; Zimmerman & Maton, 1992).

The potential value in developing and using culturally appropriate measures cannot be overstated. Researchers have often noted, particularly those within the arena of psychological and cognitive assessment, that many of the measures used in evaluation designs may be inappropriate or invalid for some ethnic/racial groups (Jones & Thorne, 1987; Sue & Sue, 1987; Westermeyer, 1987). Translation and concept equivalence problems, differential salience of particular constructs measured, differential responsiveness to the assessment procedures and formats used, and differences in the adaptive function of certain behaviors have been identified as some of the culture-based factors that can contribute to inaccurate assessments (Hui & Triandis, 1985; Manning & Tuguz, 1992; Marin, 1993). Moreover, the lack of culturally appropriate instrumentation may cause inconsistent findings about the efficacy and effectiveness of certain prevention programs with an ethnic-racial focus. These assessment problems require empirical efforts and methodologies that extend beyond the translation of mainstream instruments to address issues of
risk, abuse, and adaptive functioning within the specific social and cultural matrix of a particular ethnic/racial population or community (Marin, 1993).

The development of culturally appropriate and valid measures of risk and substance use behaviors is especially problematic for Asian-American and Pacific Islander communities because they have seldom been the focus of drug prevention or evaluation research. Zane and Sasao (1992) have identified the major measurement problems that have hampered substance use and prevention research for AAPIs. First, the assessment of substance use attitudes, patterns, and risk behaviors typically relies heavily on self-report measures. Establishing the conceptual and functional equivalence of self-report items becomes especially difficult. Words, phrases, concepts, or scale formats may be too difficult to understand, too general, or lacking contextual references and may thus be interpreted differently by Asian-Americans, particularly those whose primary language is not English. For example, many Asian languages place greater emphasis on context in describing intrapersonal and interpersonal characteristics and behaviors. Less acculturated Asian-Americans and Pacific Islanders, particularly those who are more comfortable using their native language, may experience difficulty in rating themselves in response to general statements of attitude, actions, and ability that have little context (e.g., “I have difficulty making decisions”). These difficulties may, in turn, result in inaccurate self-reports of certain attitudes, behaviors, and personal capabilities.

Another issue is the shame and stigma associated with reporting substance use and risk behaviors. Public disclosure of excessive risk behaviors or substantial drug use can elicit great shame and loss of face for many Asian-Americans (particularly if the individuals are seeking treatment for these problems or feel that they have not fulfilled their obligation to the family or community because of these problems). Because of the often public nature of self-reports of submitting substance use and risk behavior in Asian communities (e.g., the presence of bilingual interpreters may be required), respondents may be less willing to disclose the extent to which they use substances, engage in risk
behaviors, or approve of alcohol or drug use for certain problems. Issues such as shame and losing face highlight the need to carefully consider the social context in which the measure is administered as well as the characteristics of the test administrator and the specific tasks required to respond to the measure's items.

Third, culturally appropriate and valid measures must address the great variation and diversity among the various AAPI populations. Asian-Americans and Pacific Islanders include more than 30 separate groups, each with its own cultural values, norms, immigration history, sociodemographic characteristics, and so forth. For example, much of the research suggests that rates of substance use are lower among AAPIs than among non-Asians (Maddahian, Newcomb, & Bentler, 1985; McCarthy, Newcomb, Maddahian, & Skager, 1986; Sue & Morishima, 1982; Sue, Zane, & Ito, 1979; Trimble, Padilla, & Bell, 1987) and that Asian-Americans and Pacific Islanders are less at risk for substance use (Newcomb, Maddahian, Skager, & Bentler, 1987). However, when studies have disaggregated the general AAPI population, varying rates and patterns of use or abuse have emerged among different groups, and at times these rates have been similar to or higher than those of non-Asian populations (Chi, Luben, & Kitano, 1989; Kitano & Chi, 1985; McLaughlin, Raymond, Murakami, & Gilbert, 1987; Wong, 1985; Yee & Thu, 1987).

Finally, previous studies have often failed to address important individual differences within a particular AAPI population. Individual differences in terms of English proficiency, acculturation, cultural identification, socioeconomic status, and other demographic characteristics have been found to be important correlates or predictors of risk behaviors and substance use (Oetting & Beauvais, 1990-91; Zane & Sasao, 1992). The development of valid measures of acculturation and cultural identity is critical because these variables constitute some of the more important aspects of individual differences within Asian-American and Pacific Islander groups (Zane & Huh-Kim, 1994). Oetting and Beauvais (1990-91) have proposed an orthogonal model of cultural identity in which the extent of peoples' identification with their ethnic culture is independent of their identification with the majority culture. This perspective allows for the examination of ethnic
identification (or acculturation) along multiple cultural dimensions. The orthogonal approach also raises the possibility that earlier research may oversimplify the effects of acculturation and ethnic identity. Measures used in earlier studies tended to follow the traditional bipolar, assimilation-oriented model of cultural identity that assumed that people identified more with the majority culture and less with their ethnic culture. It is possible that research based on the orthogonal model can better capture different patterns of cultural adaptation especially as they relate to substance use and abuse among Asian-Americans and Pacific Islanders.

The need to develop and implement culturally sensitive services for AAPIs is confined, in part, by our lack of understanding of substance use among these populations. Research on substance use patterns among Asian-Americans and Pacific Islanders has increased steadily over the past 15 years, but inconsistent and methodologically suspect findings have limited our understanding of substance use issues in these populations (Zane & Huh-Kim, 1994). The development of culturally appropriate measures not only facilitates effective and sensitive evaluations of ethnic-specific programs, but such efforts also assist in the implementation of sound parametric substance use research. These efforts may improve the articulation of service needs and resulting interventions for different AAPI communities. This chapter presents evaluation research that addresses these concerns. The study described below empirically tested the construct validity and reliability of instruments developed to measure substance use, attitudes related to use, risk behaviors, acculturation, family relations, and psychosocial adjustment among youths and their parents from two major AAPI populations (Chinese and Filipino). Recommendations for the development of culturally competent evaluation and assessment are also discussed.

Method

Prevention Setting and Participants

Measures were developed for the evaluation of an ethnic-specific prevention program for youth at high risk in Asian-American communities in San Francisco. The purpose of the Asian Youth Sub-
stance Abuse Project (AYSAP, 1993) was to demonstrate how different Asian ethnic groups could use a consortium of community-based agencies to develop a multilevel, comprehensive program for the prevention of alcohol and drug use among high-risk youths. AYSAP served five Asian ethnic groups (Chinese, Filipino, Japanese, Korean, and Vietnamese) whose respective communities differed in immigration history, socioeconomic level, spoken language of preference, level of community development, nativity status (foreign-born versus U.S.-born), and so forth. The prevention programs designed by each community agency reflected this diversity. AYSAP recognized that no single prevention strategy could accommodate the complexities of an urban setting, cultural and language variations, and the multiple factors associated with drug use among youth. AYSAP developed a set of coordinated prevention activities that drew from a number of empirically validated prevention approaches including social competency, community empowerment, and life skills development. The program’s interventions were targeted at four levels: individuals, families, communities, and institutional systems.

At the individual level the goal was to promote positive personal and social development by strengthening specific life skills (e.g., conflict management, social skills). The interventions included a cultural identity and alternative activities program, life skills development workshops, a youth leadership and empowerment program, and bicultural counseling services. At the family level, the goal was to support cultural strengths within Asian families and to promote effective parenting skills, especially in the management of intergenerational conflicts. Specific interventions included parent-teen communication and support workshops, parenting workshops, parent support groups, and culturally and linguistically responsive family counseling services. Interventions targeted at the community level sought to increase the involvement of Asian community members and institutions in promoting nonuse messages and activities while supporting the needs of Asian families at risk. Specific program activities included collaboration with other Asian community-based agencies in conducting drug-free recreational activities and community forums and developing of advocacy and self-help groups. AYSAP also conducted interventions to change service systems.
The goal was to increase the availability and accessibility of institutional services affecting Asian youths at high risk for substance use and their families. Program activities included training for human and social service providers designed to enhance their responsiveness to the needs of Asian-American communities as well as collaboration with human service systems to provide ethnic-specific services for high-risk Asian youths and their families. (For example, the program worked with the San Francisco Unified School District to develop an alternative high school program for Chinese youth at high risk.) The prevention approaches varied to accommodate the needs of the particular Asian group targeted, but most interventions incorporated certain features to enhance their cultural responsiveness: institutionalized mechanisms to provide community input about program development (e.g., consortium advisory committees, community focus groups), bilingual and bicultural staff, coordination of activities between community agencies and mainstream services, and curriculums that emphasized values and issues salient to Asian-Americans (e.g., loss of face, family values, shame, immigrant stress, identity conflicts, intergenerational conflicts).

Development of Culturally Appropriate Measures

Most of the evaluation measures had not been validated on Asian-Americans, particularly Asian youths. Program staff and the evaluators collaborated to conduct extensive pilot testing to determine whether the measures selected were applicable to the various Asian-American populations involved in AYSAP's prevention activities. Depending on the particular measure, items, scale formats, and instructional sets were revised to make the measures more comprehensible and appropriate for the bicultural Asian youths, their predominantly immigrant parents, and community members. Whenever possible, the original measures were retained to optimize comparability with previous substance abuse evaluations. In only a few cases, the selected measure was replaced with an alternative instrument when pilot testing indicated that the original measure was not assessing behaviors or attitudes associated with adaptive or poor
functioning in Asian-American communities (e.g., the Family Environment Scale was replaced by the Family Relations Scale, whose items appeared to better capture normative, adaptive behaviors in Asian-American families).

Several strategies were used in the selection and development of the measures. Using consultations with experts on Asian-American assessment along with youth focus groups, key informant interviews, and staff interviews, the evaluators reviewed measures that demonstrated adequate psychometric properties with youth populations. Each group of consultants was asked to review the following features of each measure: instructional set; item content; item format; item familiarity; item suitability for translation; risk or adaptive function of the behavior or attitude given the cultural or community context; cultural relevance of the behavior or attitude to the targeted construct (e.g., behaviors that are typical of parental support in Asian families); and cultural factors (e.g., shame) that may affect a person’s response to the items. The measures that were eventually selected tended to be ones that had been used with other ethnic/racial youth and had demonstrated good psychometric properties. If two or more groups of consultants identified problems with a particular measure, the troublesome aspects of the measure were revised. In a few cases, the existing measure was found to be inadequate or inappropriate for assessing the construct of interest and was replaced with a newly developed measure. After 1 year of pilot testing, the measures were examined for internal consistency and concurrent validity. On the basis of the psychometric results and a second round of consultations, the measures were revised as needed. The measurement modifications tended to involve format changes to decrease item ambiguity; content changes to increase applicability to urban, immigrant populations; and the removal of jargon to increase comprehension. With respect to format changes, many personality-oriented items with a true-false format presented problems for immigrant adults and some youths. The typical item stem usually included a conditional clause such as “at times,” “usually,” or “often” so that respondents could answer true or false without feeling that the statement was an absolute
judgment. This format was confusing for Asian youth and parents, who often asked about the actual frequency to which "at times" referred. To decrease ambiguity, the conditional clauses were removed and replaced with direct descriptive statements (e.g., "I doubt my abilities"), and the true-false response format was replaced with a Likert frequency scale.

A total of 27 measures were used in the AYSAP program to assess outcomes in the five ethnic-specific prevention components. These measures assessed issues including substance use, knowledge about drugs and their effects, high-risk behaviors, acculturation, cultural identification, family support, parenting style, and specific life skills (e.g., problem-solving, goal-directedness).\(^1\)

Different sets of measures were developed for specific types of intervention programs such as counseling services or alternative recreational activities. Consistent with the ethnic-specific focus of AYSAP, different Asian youth groups received different types of interventions. Consequently, specific sets of measures were developed for the groups involved in a particular intervention. The measures reported in this study were those selected for the evaluation of the prevention counseling program developed for Chinese and Filipino youth, and they are a subset of the 27 outcome measures used across the 10 prevention programs implemented as part of AYSAP.

**Counseling Outcome Measures**

The measures described below assessed change in major areas of functioning: psychological maladjustment, self-esteem, interpersonal distress, family relations, substance use, and risk behaviors. A measure of acculturation level was also administered to examine important individual differences among Asian youths and their parents. All measures were completed by the participants with the exception of the Brief Psychiatric Rating Scale (BPRS) (Overall and Gorham, 1962), which was completed by the AYSAP counselors.

**Psychological Maladjustment**

The BPRS assesses 18 symptom areas: somatic concern, anxiety, guilt, suspiciousness, grandiosity, hostility, depressive mood,
hallucinatory behavior, emotional withdrawal, conceptual disorganization, tension, mannerisms and posturing, motor retardation, uncooperativeness, unusual thought content, excitement, disorientation, and blunted affect. Counselors rated participants on the severity of each symptom on a 7-point Likert scale ranging from “not present” to “extremely severe.” The counselors were trained for a minimum of 2 hours on the use of the measure. The measure can be used with a wide range of clinical and subclinical populations. Numerous validation studies including cross-cultural investigations (Hedlund & Vieweg, 1980; Overall & Hollister, 1982) using contrasting groups, concurrent-measures approaches, and factor analysis have supported the reliability, validity, and effectiveness of the BPRS. This measure has been successfully used with Asian clients seeking outpatient services (Zane, Enomoto, & Chun, 1994).

Self-Esteem
The self-esteem measure was adapted from the self-esteem subscale of the Life Skills Training Student Questionnaire developed by Botvin, Baker, Resnick, Filazzola, and Buthen (1984). The 13-item measure assesses aspects of self-esteem including self-confidence, self-satisfaction, and autonomy. Respondents indicate the extent to which they agree with each self-descriptive statement on a 5-point Likert scale ranging from “almost never” to “almost always.” The original measure demonstrated adequate reliability and validity for predominantly White-American adolescent samples (Botvin et al., 1984).

Interpersonal Distress
This subscale of the Omnibus Personality Inventory (OPI) (Heist & Yonge, 1968) is a 23-item, true-false measure that assesses the quality of one’s interpersonal relationships. Numerous reliability and validity studies have documented the sound psychometric properties of the OPI and its subscales. The Interpersonal Distress subscale had been used in previous mental health research with Asian-American youth (Abe & Zane, 1990; Sue & Zane, 1985).
Family Relations

Originally, the Moos Family Environment Scale (FES) (Moos & Moos, 1981) was selected to assess changes in family relations. However, the pilot study indicated that FES contained a number of subscales that did not appear to be appropriate for assessing Asian family relations. For example, the Expressiveness scale assesses the extent to which family members openly express their feelings where more openness is seen as adaptive. There was a strong consensus among the consultants, community key informants, and youth focus groups that this type of emotional expressiveness was not necessarily normative or adaptive for many immigrant Asian families. There were similar problems with other FES subscales. FES was replaced by a modified version of a family relations measure that had been field tested with Asian families (Song, 1986). Factor analysis of the Family Relations Scale uncovered two factors (accounting for 34 percent and 20 percent of the variance, respectively) reflecting family support (e.g., “My family members ask each other for help” and “My family members feel very close to each other”) and family discord (e.g., “We fight in my family” and “My family members criticize each other”).

Substance Use

The Substance Use Inventory (SUI) is a modification of a widely used self-report measure of substance use (Skager, Fisher, & Maddahian, 1986) that was specifically designed to assess drug use patterns among adolescents. The inventory measures use of alcohol, nicotine, cocaine, heroin, marijuana, barbiturates, amphetamines, and other substances. Respondents indicate the frequency with which they use a particular drug within the past month, from “none” to “more than once a day.” The SUI has been used successfully in another evaluation project for Asian-American substance abuse prevention programs (Sasao, 1991). In that study, meaningful variance was found only for the drinking and smoking items, and only these types of substance use were reported in the results.
Risk Behaviors

The High Risk Behaviors Inventory consists of items selected from Jesser and Jesser's (1977) Attitude Towards Deviance Scale and Swisher, Shute, and Bribeau's (1984) Primary Prevention Awareness, Attitude, and Usage Scale. The items chosen from these two measures referred to risk behaviors that had been identified by both the prevention staff and the community focus groups as characteristic of Asian youths who use drugs. High-risk behaviors such as fighting, cheating, having drugs offered by peers, and skipping classes were assessed. Respondents indicated the frequency with which they had engaged in or been exposed to each high-risk behavior during the previous month on a 6-point Likert scale ranging from "zero times" to "20 or more times." The two risk measures were administered only to the youth.

Acculturation Scale

The acculturation measure was adapted from the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA), which measures a person's general level of acculturation to American culture (Suinn, Rickard-Figueroa, Lew, & Vigil, 1987). The original scale consists of 20 multiple-choice items that measure language, identity, friendship, behaviors, generation and geographic history, and attitudes toward Asian and White-American cultures. The scale demonstrates good reliability, internal consistency, and validity (Suinn et al., 1987). Pilot testing indicated that many of the SL-ASIA items were not good discriminators of acculturation levels among the Asian-American participants in AYSAP. This is not surprising, since the cultural diversity of the San Francisco population provides people with an array of multicultural experiences that may not adhere to the bicultural model upon which most acculturation measures, such as the SL-ASIA, are based (i.e., it is assumed that acculturation involves contact primarily between two cultures). Consequently, a shortened version of the SL-ASIA was used that focused on social affiliation (three items), contact with one's East Asian country of origin (two items), language preference (one item), and ethnic identity (two items).
Results

Reliability

Table 3.1 presents the reliability (internal consistency) coefficients for both youth and parent samples. The reliabilities ranged in Cronbach's alphas from .69 to .91. The reliabilities for the youth measures are somewhat higher than those for the parent measures, particularly in the assessment of family relations. It appears that most of the measures are internally consistent. Moreover, the measures are sufficiently reliable, which should minimize problems in interpreting the subsequent correlations used to examine the concurrent validity of these measures.

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Youth</th>
<th>Parent</th>
<th>No. Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPRS</td>
<td>.82</td>
<td>82</td>
<td>18</td>
</tr>
<tr>
<td>Acculturation</td>
<td>.81</td>
<td>72</td>
<td>7</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>.75</td>
<td>76</td>
<td>13</td>
</tr>
<tr>
<td>Family support</td>
<td>.91</td>
<td>87</td>
<td>15</td>
</tr>
<tr>
<td>Family discord</td>
<td>.83</td>
<td>69</td>
<td>5</td>
</tr>
<tr>
<td>Interpersonal distress</td>
<td>.90</td>
<td>91</td>
<td>22</td>
</tr>
<tr>
<td>Personal risk*</td>
<td>.75</td>
<td>—</td>
<td>10</td>
</tr>
<tr>
<td>Peer risk*</td>
<td>.88</td>
<td>—</td>
<td>4</td>
</tr>
</tbody>
</table>

Note. Coefficients are expressed as Cronbach’s alpha values. Filipino and Chinese samples are combined. BPRS = Brief Psychiatric Rating Scale.

*Antisocial acts related to maladaptive behavior (e.g., beating up another kid, stealing something from another person); contains six additional items related to conduct in school.

*Peer pressure to use drugs.

Validity

Most of the measures, with the exception of the acculturation and substance use indices, assess some aspect of psychosocial functioning. Of these, two measures—psychological maladjustment and self-esteem—refer to more global appraisals of a person's adaptive status; the former reflects maladaptive behavioral patterns and symptoms, and the latter reflects more resiliency tendencies and personal resources. Given their global reference bases,
we would expect both measures to be associated with a range of more specific psychosocial indicators but in the opposite directions. Three measures—interpersonal distress, family support, and family discord—focus on the quality of a person’s relationships, so these measures should be associated more with each other and less with other aspects of functioning. Because acculturation has been found to be one of the most sensitive individual difference measures among Asian-Americans (Sue & Morishima, 1982; Zane & Huh-Kim, 1994), we would expect this measure to be associated with a broad array of variables including psychosocial functioning, substance use, and risk behaviors. Finally, most of the measures were selected because previous research had identified these as important predictors of substance use and other health-related behaviors among Asian-Americans (Zane & Sasao, 1992). Thus, we would expect most of these measures to be associated with the measures of alcohol use and nicotine use, especially those involving risk behaviors (personal risk and peer risk).

Youth Measures

The intercorrelations among the youth measures are presented in the top half of table 3.2. As predicted, the global measure of psychological maladjustment was significantly related to a wide range of psychosocial functioning and to alcohol abuse, and its correlations with personal and peer risk approached significance. As predicted from previous research (e.g., Smith, 1985), individuals with greater maladjustment also reported more substance abuse and more frequent personal and peer risk behaviors. However, the other global outcome measure, self-esteem, was only related to two indices of interpersonal functioning, and it was not related to acculturation, risk behaviors, or substance abuse. Except for self-esteem and interpersonal distress, acculturation was significantly related to (or approached significance with) every other variable, including the risk behavior and substance use indices, and these relationships were in the expected directions as predicted by previous research on Asian-Americans (Uba, 1993). For example, those who were more acculturated reported more substance abuse and more frequent engagement in risk behaviors. As predicted, the three measures that focused on the
quality of an individual's interpersonal relationships were most highly correlated with each other. With the exception of their correlations with self-esteem, interpersonal distress and family support correlated most highly with each other and with family discord. Similarly, family discord correlated most highly with family support and interpersonal distress. Family discord also was significantly related to substance abuse and risk behaviors, whereas interpersonal distress and family support tended to be domain-specific in that their only significant correlations were with other interpersonally oriented measures and self-esteem. With respect to the risk measures, peer risk correlated most highly with personal risk and with both nicotine and alcohol abuse, and it tended to be a better correlate of substance abuse than the psychosocial indicators or acculturation. Personal risk correlated with alcohol abuse at a level similar to that found for acculturation and the psychosocial indicators, and it was not significantly related to nicotine use. Consistent with the earlier research (e.g., Newcomb et al., 1987), personal and peer risk were also significantly associated with many indices of psychosocial functioning.

In sum, it appears that with the possible exception of self-esteem, most of the outcome variables used in the evaluation of functioning and substance abuse among Filipino and Chinese youth demonstrated concurrent validity. Moreover, most of the outcome indices were significantly related to substance abuse and risk behaviors. Only family support, interpersonal distress, and self-esteem showed nonsignificant correlations with the substance use-related variables. It also appeared that peer risk was a better predictor of substance use than was personal risk.

Parent Measures

The bottom half of table 3.2 presents the intercorrelations among the outcome measures for the parent sample. Neither of the measures that assess global psychosocial functioning showed the expected pattern of correlations across other more specific measures of psychosocial functioning. Psychological maladjustment was related only to acculturation and family support, whereas self-esteem was related only to family support. Neither was related to substance use, although psychological maladjustment's
Table 3.2: Intercorrelations of posttest outcome measures for counseling programs

<table>
<thead>
<tr>
<th>BPRS</th>
<th>Accul</th>
<th>Esteem</th>
<th>Support</th>
<th>Discord</th>
<th>Distress</th>
<th>Nicotine</th>
<th>Alcohol</th>
<th>Pers Risk</th>
<th>Peer Risk</th>
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<tr>
<td><strong>Youth</strong></td>
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<td>Brief Psychiatric Rating Scale (BPRS)</td>
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<td>Acculturation (Accul)</td>
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Note. Filipino and Chinese samples are combined.

*p<.10; *p<.05; **p<.01; ***p<.001.
relationship with alcohol use approached significance. The only other significant association found involved family discord, which correlated significantly with interpersonal distress, and its correlation with nicotine use approached significance. The convergent associations expected among the interpersonally oriented measures (i.e., family support, family discord, and interpersonal distress) were not found to the extent that they were found in the youth sample. Family discord correlated significantly with interpersonal distress, but this was the only significant relationship among these three variables. Contrary to our predictions, acculturation was not associated with a wide range of outcome variables or indices of substance use. Only one outcome measure correlated significantly with substance use: Parents who reported more conflict in their families smoked more. Psychological maladjustment approached significance in its relationship with alcohol use, but the relationship was in the direction contrary to what has been found in previous research: Those who experienced more maladjustment drank less.

The outcome measures used with Asian-American parents did not demonstrate as strong convergent validity relationships as strong as those found for the youth sample. Most of the measures were not correlated with other measures to the extent predicted by their underlying constructs or by the previous literature. For example, the interpersonally oriented measures did not have strong correlations with each other. Also, the self-esteem and psychological maladjustment measures did not show strong associations across specific areas of functioning as predicted by their global nature. Moreover, few measures correlated with substance use. The acculturation measure demonstrated moderate validity relationships, as it correlated with family support and psychological maladjustment and approached significance in its association with self-esteem. However, it was not associated with substance abuse as it was in the youth sample.

Sensitivity to Inter-Asian Variation

A major problem that limits empirical studies of substance abuse issues in Asian-American communities is the lack of attention paid to the great heterogeneity among various Asian-American
groups (Zane & Sasao, 1992). Quite often Asian-American groups may differ on important sociodemographic and psychosocial variables that are assessed in program evaluations. When such differences are expected or predicted, evaluation outcome measures must reflect this variation. Studies have consistently found differences between Filipino and Chinese populations on a number of social indicators and psychosocial variables, including immigration history, acculturation, socioeconomic status, health and mental health status, and substance use (e.g., Kitano, 1991; Kitano & Daniels, 1988). Similarly, health officials in San Francisco have noted that these two Asian populations are quite different with respect to substance abuse issues and health service needs (P. Janero, personal communication, 1994). Thus, another criterion of cultural validity is whether the measures are sensitive to these inter-Asian group variations.

To test for overall differences between Filipino and Chinese youth prior to the intervention, a multivariate analysis of variance (MANOVA) was conducted on all the youth outcome measures at pretest. Important differences were found between the two groups, $F(20, 57) = 4.7, p < .001$. Table 3.3 presents a summary of the univariate comparisons between the Chinese and Filipino groups on the outcome measures for both parent and youth samples. The univariate comparisons indicate that Filipino youths differed significantly from their Chinese counterparts on all measures except self-esteem and family support. Filipino youths reported more psychological maladjustment, greater acculturation to American culture, more family discord, greater interpersonal distress, and greater frequency of personal and peer risk behaviors. An overall ethnic group effect was also found for the parent measures, $F(16, 18) = 4.6, p < .01$. The differences between Filipino and Chinese parents were not as numerous as those found for the youth. However, the group variations that were found tended to parallel the youth results. Filipino parents reported more psychological maladjustment, greater acculturation, and higher self-esteem. They also reported more family discord, which approached significance. It appears that both sets of measures were sensitive to important group variations between the
Filipino and Chinese samples, and these differences were especially evident in the youth measures.

Table 3.3. Ethnic group comparisons of pretest measures for youth and parent counseling programs

<table>
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<tr>
<th></th>
<th>Filipino Mean</th>
<th>Filipino Standard Deviation</th>
<th>Chinese Mean</th>
<th>Chinese Standard Deviation</th>
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</table>

Note. BPRS = Brief Psychiatric Rating Scale.
*p<.10; *p<.05; **p<.01; ***p<.001.

Discussion

There is widespread argument about the need to develop program evaluation outcome measures that are valid for different ethnic/racial groups, but few empirical programs have been devoted to systematically developing and validating such instruments. This chapter presented one effort to develop culturally
valid measures for Asian-American populations. Three criteria were used to assess the adequacy of the measures for evaluating prevention impact on Asian-American populations. First, the measures had to be reliable with respect to internal consistency. Second, they had to demonstrate concurrent validity in terms of their correlations with other related measures in the directions as predicted by previous substance abuse and prevention research. Finally, the measures had to be sensitive to differences among specific Asian-American groups. The last criterion was especially important in view of the great heterogeneity observed among different Asian groups with respect to psychosocial variables.

In general, the evaluation measures developed and selected for the Chinese and Filipino populations appear to have adequate reliability, concurrent validity, and intergroup sensitivity when the measures are used with youth (ages 12 to 18). The self-esteem measure was the only one that showed poor concurrent validity, and it was not sensitive to differences between the two Asian groups. The acculturation measure performed well as the core individual difference measure in that it was correlated with most other indices and in the directions predicted by previous research. The family relations measures—family support and family discord—were of particular interest because other family relations measures (e.g., the Moos Family Environment Scale) had not performed well when used with Asian-American groups (1993). Moreover, researchers have noted that the greater emphasis on collectivism in Asian-American cultures situates the family unit and its relationships as critical determinants of psychosocial functioning for Asian-American individuals (Shon & Ja, 1982). The family support and family discord measures were developed specifically to assess relationships in Asian-American families. When used with the youth samples, the measures were reliable, showed convergent relationships with related measures (e.g., interpersonal distress), and reflected differences between Filipino and Chinese samples as predicted by earlier studies. The results strongly suggest that these measures are valid indices of Asian family relations. The family discord measure may be especially useful because it was also significantly correlated with risk behaviors and substance use.
Measures significantly associated with alcohol or nicotine abuse included psychological maladjustment, acculturation, family discord, personal risk, and peer risk. Peer risk had some of the highest correlations with both nicotine and alcohol abuse, and this type of risk was a stronger correlate of drug use than was personal risk. This pattern of relationships is consistent with the research on peer influences (e.g., Oetting & Beauvais, 1987) in which peer influences have been found to be better predictors of drug use than were personal risk behaviors (e.g., truancy, school adjustment).

The measures appeared to be less adequate for assessing functioning in Asian-American adults. Although the parent measures were internally consistent and sensitive to inter-Asian group differences, in general the concurrent validity correlations were weaker or nonexistent. The measures that demonstrated the most adequate validity coefficients were the family support variables and psychological maladjustment. It is possible that the difference in results between the youth and parent samples simply reflected differences in language proficiency. However, several conditions suggest that language proficiency was not the major differentiating factor. First, many Chinese youths were not proficient in language, so bilingual measures were used for both the youth and parent Chinese samples. Second, all of the Filipino parents were proficient in English so bilingual measures were not used with either the youth or parent Filipino samples. Finally, when necessary, each measure was translated and back-translated to establish conceptual equivalence between the English and non-English versions.

A more likely explanation for the lower validity coefficients is that the parent validity study lacked sufficient power. Assuming an effect size of .30, the parent study with its sample of 35 had somewhat low power of .45. In contrast, with a sample size of 78, the youth study had moderately high power of .78. On the other hand, cultural factors may be implicated. A high proportion of the parents were immigrants, while most of the Asian youth were American-born. Except for the family relations scales and the acculturation measure, the measures were originally developed for non-Asian, American-born populations. Thus, the pos-
sibility still exists that the measures may be better suited for assessing more acculturated samples.

The results of this validation study must be interpreted within the obvious constraints of the samples in terms of the specific Asian groups selected (Filipino and Chinese), the problem behaviors targeted for intervention (risk behaviors for substance use and abuse), and the particular community and geographic region sampled. Even with these limitations, several tentative conclusions can be drawn about empirical efforts to develop culturally valid instrumentation. It appears that the position taken by cultural relativists advocating the development of cultural-specific measures is not always warranted. Certain psychosocial measures originally developed for non-Asian populations were valid, particularly when used with Asian youth. On the other hand, the position taken by mainstream proponents promoting the use of Western-based instruments with minor modifications to accommodate cultural differences is also not wholly supported by the results of this study. Certain measures developed for non-Asian populations, in particular those that focused on family relations, were inappropriate for assessing Asian youth and parents. Moreover, the cultural-specific measures of these constructs demonstrated sound psychometric properties, were sensitive to inter-Asian group differences, and evinced significant associations with the targeted behavioral domain, namely, the risk behaviors and substance abuse of Asian youths. It appears that the relative appropriateness of a culture-specific and mainstream approach depends on the particular construct assessed and the specific ethnic population sampled.

Future studies should investigate the cultural parameters that would make a measure more or less appropriate for a particular cultural group. One parameter may involve the degree to which the phenomenon or construct may be affected by value differences between cultures. In the present study, a culture-specific approach to assessing family relations was needed because it appeared that a major value difference between American and Asian cultures—an individualist versus a collectivistic orientation—was reflected in the way family members relate to each other. Regardless of the approach, it appears that certain format
changes to items and responses are needed to provide more contextual information to Asian-American respondents. Lynch and Hanson (1992) noted that one of the major communication differences among cultures involves the extent to which people use context in their languages. East Asian languages tend to have more context than English. Response formats and item stems should be changed so that the context is adequate to provide a meaningful inquiry for Asian-American respondents.

The outcomes of this study strongly suggest that efforts to develop more appropriate measures for ethnic/racial groups not only are needed but can be quite productive. A key step in such efforts is to move past the nonfunctional debate over cultural relativity to the more practical and empirically grounded questions of how the measure performs psychometrically and how it captures important individual variations in a particular cultural group. Subsequent, more sophisticated efforts in this area can only enrich the nomological net of constructs relevant to the study and evaluation of interventions to prevent substance abuse in culturally diverse communities.

References


**Endnote**

1. The following measures were used in AYSAP: Acculturation Scale; Assertiveness Scale; Attitudes Toward Drugs Scale; Brief Psychiatric Rating Scale; Knowledge Test—Substance Abuse; Knowledge Test—Client Assessment; Knowledge Test—Treatment and Phases of Recovery; Knowledge Test—Asian-American Issues in Substance Abuse; Client Satisfaction Form; Community Opinion Survey; Community Services Awareness Form; Cultural Identity Measure; Family Relations Scale I; Family Relations Scale II; Global Assessment Scale; Goal-Setting Scale; High-Risk Behaviors Inventory (two versions); Interpersonal Distress Scale (youth and parent versions); Problem-Solving Skills Scale; Self-Efficacy Scale; Self-Esteem Scale (youth version; long and short form); Self-Esteem Scale (parent version); Substance Abuse Knowledge Inventory; and Substance Use Inventory: Copies of these measures can be obtained from the first author.