

SPECIAL NOTES

The goal of *Drugs & Society: A Journal of Contemporary Issues* is to provide the most current information pertaining to the field of substance abuse in an informative manner. Directed toward researchers, professionals, and practitioners in substance abuse related fields, and to students endeavoring to enter the field, the journal will pursue the publication of articles that will *critically* review issues and provide reports of innovative contemporary research that will have direct implications for practitioners and researchers, and that will help provide direction for research and treatment. Each issue of the journal will be devoted to a specific topic of interest.

Research on Drug Abuse Among Asian Pacific Americans

Nolan Zane
Toshiaki Sasao

There is increasing interest in the relationship between ethnicity and substance-abuse behavior in the United States, but the lack of empirical information limits our understanding of Asian Pacific Americans and their particular patterns of substance abuse (Austin, Prendergast, & Lee, 1989; Johnson & Nishi, 1976; Trimble, Padilla, & Bell, 1987). The research literature provides mixed findings about the nature and extent of substance use problems among Asian Pacific Americans. For example, a number of survey studies have found that Asian Pacific American groups do not seem to abuse illicit substances as frequently as other non-Asian Pacific groups. In contrast, clinical and anecdotal evidence suggests that serious substance abuse problems exist for certain Asian Pacific populations (Nakashima, 1986). There is an obvious need for more empirical work on Asian Pacifics that can facilitate effective prevention and treatment of substance abuse problems in these communities.

The purpose of this chapter is to provide a critical review of the

Nolan Zane is Assistant Professor of Counseling Psychology and Asian American Studies at the University of California, Santa Barbara.

Toshiaki Sasao is Research Psychologist and Project Director for California Statewide Asian Drug Service Needs Assessment at the National Research Center on Asian American Mental Health, Department of Psychology, University of California at Los Angeles.

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selected literature on substance abuse among Asian Pacific Americans, with a focus on (1) patterns of substance use and abuse, (2) the conceptual models that may be applicable in explaining the substance abuse patterns for this ethnic minority population, and (3) the effectiveness of prevention and treatment programs in serving these communities. We conclude each section by discussing some research issues and strategies that may prove helpful for advancing research on substance abuse within the larger context of Asian Pacific American health and mental health.

EXTENT OF SUBSTANCE ABUSE AMONG ASIAN PACIFIC AMERICANS

The majority of the literature consistently suggests that Asian Pacifics use and abuse substances of any kind less frequently than non-Asian Pacific individuals (e.g., Iiyama, Nishi, & Johnson, 1976; Tucker, 1985; McLaughlin, Raymond, Murakami, & Goebert, 1987; Johnson, Nagoshi, Ahern, Wilson, & Yuen, 1987; Sue, Zane & Ito, 1979; Sue & Morishima, 1982; Trimble, Padilla, & Bell, 1987). However, given the limitations of the research, acceptance of this general finding would be premature. Most of these studies have focused on the larger and more acculturated Asian Pacific groups such as Chinese and Japanese, used primarily student samples, rarely examined Asian Pacific groups who may be at greatest risk for substance abuse problems (e.g., refugees, recent immigrants, adolescents), relied on disproportionately small sample sizes, seldom controlled for socioeconomic and other demographic differences that may be confounded with ethnicity, failed to use bilingual measures, administered translated measures without evaluating conceptual equivalence, and not accounted for cultural differences that may affect self-report or self-disclosure with respect to substance use and abuse.

Estimates from Untreated Cases

Much of the evidence for infrequent abuse or the relatively lower use of substances among Asian Pacifics has been documented in

surveys of untreated cases from community samples. Most studies have compared various ethnic groups, but specific Asian Pacific groups have not been identified or differentiated from one another. This makes it difficult to determine if the findings can truly be generalized to the various Asian Pacific populations. In a study comparing Asian Pacific with non-Asian Pacific students, Sue, Zane and Ito found (1979) that Asian Pacific students consumed less alcohol, had more negative attitudes toward drinking and used fewer cues in the regulation of their own drinking than non-Asian Pacific counterparts. It was suggested that with assimilation into American culture came more lenient and positive attitudes toward alcohol consumption, including the possibility of alcohol abuse. More recent surveys of students (Newcomb, Maddahian, Skager, & Bentler, 1987; McCarthy, Newcomb, Maddahian, & Skager, 1986; Maddahian, Newcomb, & Bentler, 1985, 1986) also have revealed that the Asian Pacific respondents tend to report lower levels of substance use of cigarettes, alcohol, marijuana, cocaine, and other hard drugs when compared to other ethnic groups, particularly Whites. For example, in the Newcomb et al. (1987) study data were collected anonymously in 1985 from 2,926 7th, 9th, and 11th graders in Ventura County, California. The study assessed substance abuse frequency, perceived harmfulness of marijuana, perceived parental attitudes toward drug use, and mood state measures. When the risk factors (e.g., emotional distress, low educational aspirations, and poor psychological adjustment) were constructed for different groups, the Asians also showed the lowest level of risk for future substance abuse. As with other previous research, specific Asian Pacific groups were not differentiated; the small sample size ($n = 77$) may limit the generalizability of the findings; and the study did not examine many socio-cultural variables that reflect important individual differences among Asian Pacific Americans (e.g., acculturation level).

Adlaf, Smart, and Tan (1989) compared drug use patterns across eight ethnic groups in Ontario, Canada. This study sought to examine inter-ethnic differences, but their operationalization of the ethnicity varied from other studies. Ethnic group affiliation was designated as the ethnicity of participant's "ancestors on the male side on coming to this continent." Based on this definition, presumably

participants of mixed ethnicity were included in the various ethnic samples. After controlling for certain demographic variables such as level of acculturation, religion, age, provincial region, and gender, the Asian Pacific group (Chinese and Japanese, $n = 102$) had the lowest use of tobacco, alcohol, and cannabis.

The survey studies appear to present convergent evidence of relatively lower substance use among Asian Pacifics from different geographical regions. However, these comparisons with other ethnic groups may be difficult to interpret because the Asian Pacific sample sizes were extremely small in both an absolute and relative sense. In each comparative study, the Asian or Asian Pacific group constituted less than three percent of the total survey sample. The actual number of respondents studied ranged from 63 to 117.

The few studies that have included sizeable samples of Asian Pacifics have been conducted in either California or Hawaii. Two studies conducted in Los Angeles on 7th and 8th graders (Projects SMART & SHARP, John Graham, personal communication, 1988) indicated that the lifetime use of cigarettes, marijuana, and alcohol was lower for Asian Pacifics compared to Blacks, Hispanics, or Whites. Similar patterns of use were found in a state-wide survey of drug and alcohol use among students in grades 7, 9, and 11 (Skager, Fisher, & Maddahian, 1986; Skager, Frith, & Maddahian, 1989). One of the few studies to examine inter-Asian Pacific differences in substance use was conducted as part of a state-wide alcohol, drug, and mental health survey in Hawaii (McLaughlin, Raymond, Murakami, & Gilbert, 1987). Using face-to-face interviews, the relative prevalence of alcohol and other drug use was determined among Chinese Americans, Japanese Americans, Filipino Americans, Native Hawaiians, and White Americans. Native Hawaiians and Whites reported a higher level of use for various drugs (e.g., barbiturates, tranquilizers, alcohol, and pain drugs) than the other three Asian Pacific American groups. Few ethnic differences existed in the relative frequency with which tranquilizers, marijuana/hashish, pain drugs, or cocaine were chosen as the respondent's primary substance of choice. However, alcohol was cited far less frequently by the Chinese, Japanese, and Filipinos than by Whites and Native Hawaiians. While the results underscore the importance of examining inter-Asian Pacific differences in substance use, it is

unclear if the differences observed can be generalized to non-Hawaiian Asian communities. A number of investigators have noted how Hawaiian Asian groups may be quite different from their mainland counterparts in terms of their non-minority status, acculturation, English language proficiency, community cohesiveness, social-political identification, etc. (Sue & Morishima, 1982; Kitano & Daniels, 1988).

A bilingual telephone survey ($n = 127$) of a predominantly Japanese community in southern California was conducted to assess the community perception of substance abuse prevalence and use of cigarettes, alcohol, and marijuana (Sasao, 1989). The results indicated that substance abuse is perceived as a significant social issue in this community. Respondents reported levels of lifetime alcohol use (73%) and cigarette use (55%) that were comparable to or greater than levels found for the American general public. Further analysis of 30-day prevalence revealed that 55% of all lifetime cigarette users and 61% of all lifetime alcohol users used the substance in the last month. The use of the telephone as a mode of data collection has been criticized with respect to biased sampling due to low survey cooperation, reliability/validity problems, and anonymity/confidentiality issues. However, in this phone survey the interview completion rate was high (82%). Important differences occurred between American-born and Japan-born Japanese. Compared to the former, the latter had a higher rate of refusing to participate and exhibited less knowledge and social concern over substance abuse. The majority of the Japan-born respondents were housewives of Japanese businessmen, who tended to reside in the United States for only a short period of time. There also appeared to be a difference in the manner by which the two subgroups defined "substance abuse." Japanese-born respondents tended to reserve this term for hard drugs such as marijuana, LSD, and heroin and did not include alcohol use and cigarette use as potential substance abuse problems. The American-born definition of substance abuse was more inclusive involving both the use of alcohol or cigarettes. This difference may have important implications for prevention work with Japanese of different generations.

In a number of studies focused only on alcohol drinking patterns among Asian Pacifics, Kitano and his colleagues questioned the

myth of Asian Pacific Americans as non-drinkers (Chi, Lubben, & Kitano, 1988, 1989; Kitano & Chi, 1985; Kitano, Lubben & Chi, 1988; Lubben, Chi, & Kitano, 1989). Surnames of Chinese, Japanese, and Korean respondents were drawn from Los Angeles phone directories, in proportion to the Los Angeles population of each group. For the Filipino respondents, the "snowball" sampling technique was used. Initial interviews with Filipinos from known organizations were followed by referral to other potential Filipino respondents. The final sample included 298 Chinese, 295 Japanese, 280 Koreans, and 230 Filipinos. The demographic characteristics indicate that most of these respondents were married men between the ages of 30 to 60 years. Results indicated that the alcohol drinking patterns of young Asian Pacific males are very similar to that found for a national sample of young adult male respondents (Cahalan & Cisin, 1976) and that certain Asian Pacific groups had a high proportion of heavy drinkers. The Japanese (25.4%) and Filipinos (19.6%) had the highest percentage of heavy drinkers followed by the Koreans (14.6%) and the Chinese (10.4%). Analyses of attitude items corroborated Sue et al.'s (1979) findings in which more permissive attitudes associated with greater acculturation were related to heavier alcohol consumption. It appears that, at least in the case of alcohol consumption, Asian Pacific substance use has been underestimated (cf. D. Sue, 1987). In a related finding, Maddahian et al. (1985) found that Asians were the largest group that tried *only* alcohol and no other substances.

Kitano has explained that the diversity and variability among various Asian Pacifics in their drinking patterns can be attributed to the cultural patterns brought over by their ancestors. His study was one of the first large sample surveys conducted to determine the alcohol drinking practices of various Asian Pacific groups. However, the sampling methodology which involved household interviews based on the phone directories, may have omitted certain individuals in the Asian Pacific population considered at highest risk for alcohol problems (e.g., single, recent immigrant males living alone or in crowded communal arrangements with no private phones).

Another large epidemiological survey of alcohol use among Chi-

nese, Japanese, Whites, and Asian-Whites (mixed parentage) was conducted in Hawaii (Wilson, McClearn, & Johnson, 1978). This survey was designed to control for the effects of certain sociodemographic variables (e.g., social class, gender). Whites tended to drink more and flush less than either the Chinese or Japanese, whereas the two Asian Pacific groups did not differ from one another in drinking or flushing. Individuals of mixed Asian-White ancestry had mean alcohol consumption levels that were very similar to those of the White group and considerably higher than those of the Asian Pacific groups. However, Asian-Whites resembled Asian Pacifics more than Whites in their tendency to flush. The results suggest that cultural variables such as assimilation (in this case, marital assimilation) into American mainstream culture have an important influence on the extent of alcohol use.

Given the diversity of the Asian Pacific population, it would be especially important to examine the substance use patterns of Asian Pacific groups considered at high risk for health and/or mental health problems. Yee and Thu (1987) reported on the prevalence and nature of the substance use problems among one such group, Southeast Asian refugees. Their study sampled 840 refugees, mainly Vietnamese, residing in Houston, Texas, and several cities in Louisiana and employed household interviews to assess drug use and mental health status. Approximately 45% of the sample reported problems involving alcohol and/or tobacco use although the use of other drugs was not seen as problematic. A significant number of the respondents viewed alcohol and smoking as acceptable ways for directly coping with stressful situations, and for alleviating personal problems resulting from stress.

Wong (1985) investigated substance use among Chinese youth in a community associated with high-risk indicators, San Francisco's Chinatown. Using a non-random sampling of 123 Chinese youths, ages 13-19 years, Wong estimated that the prevalence of substance abuse among these youth was higher than that found among other youth in the previous study conducted in San Francisco with the same methodology (Feldman, 1984). The lifetime use of cigarettes, marijuana, cocaine, and valium by the Chinese sample was similar

to that reported by the non-Asian Pacific samples (Whites, Blacks, Hispanics). The Chinese sample tended to use Quaaludes more frequently than the other groups.

Estimates from Treated Cases

The use of treated cases or utilization data to estimate prevalence is a hazardous venture fraught with selection biases due to socioeconomic, administrative, and other nosocomial factors (Kramer & Zane, 1984). Nevertheless, this approach provides an alternative source for examining Asian Pacific substance use and abuse. Over the recent years in both San Francisco and Los Angeles, Asian Pacifics using drug abuse treatment services have been consistently underrepresented with respect to their respective proportions in the local populations. This has commonly been interpreted as reflecting service underutilization (cf. Murase, 1977) rather than a lesser need for services related to lower levels of substance abuse.

Asian, Inc. (1978) used a key informant approach and estimated that the substance use of Chinese and Filipinos is lower than that of the general population whereas the level of use for Japanese is similar to that found in the general San Francisco population. In a national study of drug abuse programs, Phin and Phillips (1978) found that Asian Pacifics (55%) and Whites (63-67%) were primarily admitted for heroin abuse. As for drug abuse patterns, Asian Pacifics relative to Whites indicated a greater involvement with barbiturates (45% to 11%, respectively). Using the information collected from a large ambulatory population using the Kaiser-Permanente Medical Care Program in Oakland and San Francisco, Klatsky, Friedman, Siegelbaum & Gerard (1977) reported that when compared to Whites, Blacks, and Others, Asian Pacific males and females ($n = 4,319$) had the highest level of abstinence from alcohol. Namkung (1976) found that of the Asian Pacifics in the California prison population, 95% were incarcerated for drug-related reasons. These studies have suffered from the same limitations as the untreated case studies by not distinguishing between different Asian Pacific groups, using relatively small samples, not controlling for important demographic variations, and assuming cultural equivalence among the self-report measures and interview procedures.

The state of California has one of the largest databases of treated cases, the California Drug Abuse Data System (CAL-DADS), which many local agencies and governments use to make policy decisions. CAL-DADS replaced the Client Oriented Data Acquisition Process (CODAP) system in July 1, 1982 when National Institute on Drug Abuse discontinued this system. The CAL-DADS admission data for Los Angeles and San Francisco counties indicate that the relative use of drugs (mainly heroin, marijuana, and cocaine) among different ethnic groups has been fairly stable from 1982 to 1989 (Sasao, 1990). Asian Pacifics had the lowest admission rates to county or federal treatment facilities. Again, this appears to reflect underutilization rather than a lower need for services on the part of Asian Pacifics.

In summary, on the basis of research on either untreated or treated cases it is difficult to obtain good estimates of the level of substance use and abuse for the various Asian Pacific populations. Nevertheless, certain tentative conclusions can be formed. First, it appears that alcohol use has been underestimated, particularly for certain Asian Pacific groups such as Japanese males and Filipino males. Second, there is some evidence which suggests that a major substance abuse problem for older Asian Pacific groups may involve the use of barbiturates, tranquilizers, and pain drugs. Third, cultural factors appear to play an important role in limiting and, at other times, enhancing substance use among certain Asian Pacific groups. Fourth, the past research has not been very informative because it is usually unclear which Asian Pacific groups are being studied. This is a serious methodological shortcoming because the Asian Pacific groups which appear at highest risk for developing substance abuse problems have seldom been studied or have not been separately identified in previous research. Finally, it is likely that the estimates provided by these data will soon be outdated and will grossly underestimate because many of the groups with the highest risk factors (i.e., Southeast Asian refugees, Koreans, and Filipinos) also are the fastest growing groups in the Asian Pacific population. Whereas the Japanese and Chinese constituted the largest groups in 1970, it is estimated that by the year 2000 Filipinos will be the largest group followed by the Chinese, Vietnamese, Koreans, and Japanese. In the near future as significant changes in

the socio-demographic and ethnic profile of the general Asian Pacific population occur, these undoubtedly will be associated with certain changes in substance use and abuse patterns.

EXPLANATORY MODELS OF ASIAN PACIFIC SUBSTANCE ABUSE

An impressive array of theories and associated empirical work have been developed to understand the etiology of substance abuse. Explanatory models have highlighted family relationships (e.g., Clayton & Lacey, 1982), peer relationships (e.g., Oetting & Beauvais, 1987), stressful life events (e.g., Labouvie, 1986), and psychological distress (e.g., Kaplan, 1985). In contrast, most of the work on Asian Pacific substance abuse has been atheoretical and, more importantly, not linked to mainstream substance abuse research. The one exception has been in the area of alcohol research.

Models of Asian Pacific Alcohol Use and Abstinence

The low level of alcoholism among Asian Pacific Americans has been usually attributed to ethnic differences in physiological reactions (e.g., flushing, rapid heart rate, drop in blood pressure) to ethanol which are accompanied by objective and subjective symptoms of discomfort (Ewing et al. 1974; Goodwin, 1979). This dysphoria is directly linked to the higher accumulation of acetaldehyde in flushing subjects most likely as a result of less-active liver enzyme, aldehyde dehydrogenase isozyme (ALDH) in metabolizing acetaldehyde (Agarwal, Eckey, Harada, & Goedde, 1984). While it appears that the higher alcohol-related sensitivity in Asian Pacifics can reduce alcohol consumption, Chan (1986) concluded in his review of the biochemical research that socio-cultural and environmental factors must also be considered. The results of research comparing Asian Pacifics with non-Asian Pacifics generally support the idea that there are significant racial differences in social and physiological reactions to various substances, including alcohol. However, as noted by Trimble et al. (1987), such results must be

interpreted with caution because they are usually based on restricted student samples, examine "heterogeneous" Asian Pacific groups, use culturally inappropriate instruments, and erroneously assume the "context-free" nature of pharmacological research. In addition, Johnson and Nagoshi (1990) have noted that the physiological model of Asian Pacific alcohol use cannot account for the wide variation in alcohol use across different periods of Chinese history, the substantial increase in alcohol use among various Asian Pacific American groups over time, marked differences in alcohol consumption among Asian countries, and consistent sex differences in alcohol use within Asian Pacific groups. They indicate that socio-psychological and cultural factors are probably more important determinants of Asian Pacific alcohol use.

The physiological model of alcohol consumption could still account for the variations observed by Johnson and Nagoshi by positing that these were due to differences in chronic tolerance to the flushing response. However, Newlin (1989) directly examined the relationship between the flushing response and the development of alcohol tolerance and found no support for this explanation. In a comparison of Asian flushers and non-flushers he found significant cardiovascular changes in response to alcohol between the two groups but no differential development of tolerance. There were also no differences in self-reported mood between flushers and non-flushers after alcohol consumption.

Sue and Nakamura (1984) have proposed a reciprocity model to explain the alcohol consumption of Asian Pacifics. They note that previous studies comparing ethnic groups in alcohol use usually have confounded physiological differences in alcohol-related sensitivity with differences on socio-cultural factors such as acculturation. They suggest that physiological reactivity, socio-cultural factors, and alcohol consumption have mutual influences on each other. In a partial test of this model, Akutsu, Sue, Zane, and Nakamura (1989) found that both socio-cultural factors and physiological reactivity were related to drinking but not general acculturation variables.

The Akutsu et al. study has several important implications for research focused on understanding Asian Pacific substance use and abuse. First, it is important to clearly delineate how ethnic differ-

ences translate into differences on variables which have been found to be *empirically linked* to substance use. In the preceding case, familial attitudes and physiological reactivity were examined because both have been directly related to alcohol consumption among Asian Pacifics (Kitano, Lubben, & Chi, 1988; Lubben, Chi, & Kitano, 1989; Chan, 1986). Too often studies have focused on cultural variables (e.g., family size, percent of Asian Pacific friends) that are quite distal to the substance-related behavior of interest. Second, cultural variables must be on the same level of specificity as other predictors for the study to adequately test the relative effects of cultural influences. In the Akutsu et al. study no relationship was found between acculturation, as measured by generation, and drinking. However, a relationship may have been found if the acculturation variable had been operationalized to reflect a continuum of traditional to acculturated values with specific reference to drinking.

Future Emphases

There is a great need for the work on Asian Pacific substance abuse to converge with previous research which has identified important predictors of substance use. In this way, socio-cultural variables can be examined in terms of how their effects on substance use and abuse are mediated by certain common socio-psychological processes (e.g., loss of control, peer cluster relationships). Substance abuse research on Asian Pacifics has tended to be descriptive and atheoretical in nature. There needs to be stronger links between this research and empirically-supported etiological theories of substance abuse. Given the current research emphases in Asian Pacific American health and mental health, it appears that some promising areas of convergence would be in research on stressful life events involving issues of cultural adjustment, social skills deficits, motives for use, family cohesion, and peer relationships.

Stressful Life Events

Stressful life events, such as death in the family and a transition to a new environment or culture, often enhance the use of various

substances as a means for coping with the pain and disruption caused by these events (Dohrenwend & Dohrenwend, 1981; Smith, 1985; Tolan & Thomas, 1987; Willis & Shiffman, 1985). Past research has identified several categories of stressors such as major life events, "daily hassles," life transitions, and developmental changes. However, it is unclear which stressors are related to substance use for Asian Pacifics or if the impact of these stressors is similarly experienced by Asian Pacific individuals differing in acculturation level, country of origin, etc. There may be important differences among Asian Pacific groups in the exposure to and appraisal of these stressors. For example, recent immigrant children and adolescents may be at greater risk for developing substance abuse problems because they must cope with multiple stressors, associated with cultural adjustment (e.g., demands to fit in with peers and family members, parental pressure for high academic achievement) in addition to the stress resulting from normal developmental issues involving puberty and strivings for personal autonomy. These events may affect decisions to initiate or increase substance use among new immigrant youth. Future investigations into the etiology of substance abuse among Asian Pacifics also could assess culturally acceptable and unacceptable coping strategies for different stressful events.

Social Skill Deficits

Successful outcomes in the prevention or reduction of substance abuse have occurred in programs that enhance or maximize the ability of youth to interact effectively with others (Botvin & Willis, 1985; Rhodes & Jason, 1988). There may be important cultural and ethnic differences in the development of social skills. Western-oriented social skills often emphasize open self-expression, assertiveness, and individualism that can directly conflict with traditional Asian Pacific values and role expectations held by Asian Pacific parents. For Asian Pacific youth the development and application of these skills may be adaptable outside of the family but not reinforced or even discouraged within the family. A study of Vietnamese adolescents illustrates this cultural dilemma (Charron & Ness, 1983). Youth who did not form friendships with American-born

peers were more prone to develop emotional problems, but youth who had such school-based friendships were more at risk for conflicts with parents. The acquisition of adequate social skills may be especially important for refugees and other recent immigrant Asian Pacifics because such skill deficits often are the source of social discrimination and interpersonal conflict at school or home (Beiser, Turner, & Ganesan, 1989; Cohon, 1981). However, it is still unclear how applicable or appropriate various social skill programs are for Asian Pacific individuals. For example, Zane, Sue, Hu, and Kwon (in press) have raised several concerns about the use of certain anxiety management treatments for Asian Pacifics with assertion difficulties.

Motives for Use

With the increasing use of cognitive-behavioral and community education programs, substance abuse intervention and prevention efforts have adopted a strong cognitive emphasis to changing drug-using habits and behaviors. The assessment of the perceived reasons for using drugs can serve to better target such interventions. In a study of cognitive motivations for using alcohol and marijuana Newcomb et al. (1988) found important gender and age differences in the perceived reasons for using these drugs. Similar studies may be helpful in determining if different Asian Pacific groups vary in their reasons for substance use. Such research may also yield important acculturation differences in motivations for use.

Family Cohesion

The family system is of central importance to the psychosocial functioning of Asian Pacific individuals (Sue & Morishima, 1982). Asian Pacific families and extended kinship networks have often been cited as an important protective factor against many health and mental health problems (Hsu, 1973). On the other hand, others have noted that Asian Pacific families can become a significant source of stress for the individual as evidenced by intergenerational and family role conflicts (Lee, 1982). More empirical work is needed to determine which aspects of Asian Pacific families and their extended networks prevent or facilitate drug use.

Peer Relationships

In a path analysis study, Oetting and Beauvais (1987) found that socialization factors such as family strength, family sanctions against drugs, school adjustment, and religious involvement only indirectly influence drug use. It appears that these influences are mediated through their effects on peer cluster associations which, in turn, directly affect drug use. Peer clusters are not synonymous with peer groups but instead refer to small, close-knit groups in which members share very similar attitudes, values, and lifestyles. The peer model of substance abuse suggests that most socialization experiences affect the formation of certain types of peer relationships which either facilitate or discourage drug use. Research is needed to determine if this causal model is generalizable to Asian Pacific individuals. Given the great emphasis placed on family and kinship involvement, it is possible that a more direct influence on drug use may be found for the family socialization experiences of Asian Pacifics. Such differences in the causal pathways would have important implications for the development of substance abuse prevention programs for Asian Pacific communities.

METHODOLOGICAL ISSUES IN RESEARCH ON ASIAN PACIFIC SUBSTANCE ABUSE

Research in any of the previously mentioned areas would greatly enhance our understanding of substance abuse among Asian Pacifics, but such empirical work must consider certain methodological issues that are particularly relevant when examining this population. What follows are specific methodological caveats that can facilitate substance abuse research on Asian Pacifics.

Population Heterogeneity

Any examination of Asian Pacific American substance use and abuse patterns must address the wide range of diversity among different Asian Pacific groups. The immediate implication is that most research cannot assume that Asian Pacifics can be aggregated into a single population entity. Often this inter-group diversity has

gone unrecognized or underappreciated. More than 20 Asian Pacific groups have been identified by the U.S. Bureau of the Census. The three largest in descending order are Chinese, Filipino, and Japanese. The diverse nature of the population is evident in a number of demographic characteristics. The vast majority of Vietnamese, Koreans, Asian Indians, Filipinos, and Chinese in the United States were born overseas. However, Samoans, Japanese, Guamanians, and Hawaiians were largely born in the United States (U.S. Bureau of the Census, 1989). Considerable age differences can be seen within the Asian Pacific American population, with Japanese and Asian Indians having median ages that exceed the national average and with other Asian Pacific groups having median ages lower than the national average. In terms of economic indices, the median family income of Japanese Americans (\$27,400) was substantially higher than that of Vietnamese Americans (\$12,800). Great variation also exists among Asian Pacific groups in educational attainment and achievement. The drop-out rates for Filipinos are much higher compared with other Asian Pacific groups and White Americans. It is possible that the level of specific risk factors such as drop-out rate may be quite different depending on the Asian Pacific group examined. Finally, concomitant with this inter-group diversity are important within group differences in terms of acculturation, ethnic identity, primary language dialect, country of origin, etc. Some of these variables may be important predictors of substance use for a particular Asian Pacific population. For example, a number of studies have found that acculturation is a strong predictor of alcohol consumption for certain Asian Pacific groups such as the Chinese and Japanese.

Cultural Differences versus Ethnic Differences

Too often substance abuse research on Asian Pacific Americans has been focused at a descriptive level in which ethnic differences are examined. The distinction between ethnic and cultural differences is an important one to make because it appears that the latter constitutes the more proximal determinants of substance use and abuse. Ethnic differences refer to variations on those personal-social characteristics (e.g., social class) which an individual tends to have

simply by being a member of a certain ethnic group. Cultural differences, on the other hand, imply certain differences in attitudes, values, and perceptual constructs as a result of different cultural experiences. Whereas the former simply involves group membership, the latter constitutes a host of socio-psychological variables which are linked to different cultural lifestyles and perspectives. Ethnicity implies cultural differences but often these socio-psychological variables have not been directly assessed in substance abuse research. That Chinese Americans drink less than White Americans does not contribute much to our understanding of substance use in Asian Pacific communities. However, if it was found that this difference in drinking is related to variant cultural attitudes toward drunken behavior, this information would have important implications for prevention and intervention efforts with Chinese. At a minimum, research on cultural differences must achieve two empirical tasks. First, a study must demonstrate that differences exist on a socio-cultural variable. Second, there must be some evidence that there is a functional link or relationship between these differences and the behavior of interest, in this case, substance abuse. In previous research, studies either have simply described ethnic differences in drug consumption or have examined cultural differences but not linked these differences to differential substance use. Clearly, studies that do both are needed.

Measure Development and Application

There have been excellent reviews (Sue & Sue, 1987; Hui & Triandis, 1985) of the problems and methodological issues that must be addressed in the development of reliable measures that are conceptually equivalent and possess construct validity for culturally-diverse populations. The purpose of this section is to highlight only those issues that may be particularly relevant for research on substance problems within Asian Pacific American communities. Many of the measures utilized in substance abuse research rely on self-report. A number of problems can occur when using self-report measures with certain Asian Pacific populations. First, many Asian Pacifics whose primary language is not English may have difficulty in responding to items that have very little context in terms of time,

place, and person. Most East Asian languages are very contextualized in that the context often establishes the tense, status of the person, etc. For example, in attempting to respond to the item, "I have difficulty making decisions," an Asian Pacific respondent may want to know the time period involved (e.g., during the past month) and the type of decisions considered (e.g., financial, career, or family) before an appropriate response can be made.

Second, there is often significant stigma and shame associated with having personal problems such as substance abuse that impair a person's ability to fulfill role responsibilities and obligations to the family or community group. Consequently, self-report responses may vary greatly depending on the public or private nature of the measure's administration. Many self-report measures need be administered under highly public conditions because many Asian Pacifics are non-English speaking and, thus, require bilingual interviewers who can translate the questionnaire. In these cases, the public nature of the administration may seriously compromise open self-disclosure of sensitive problems such as substance abuse. Special efforts must be made to move the report of substance abuse problems into a more private context to minimize shame and loss of face on the part of Asian Pacific respondents. In our study of Chinese elderly at a health clinic at first no elderly reported having suicidal thoughts in response to an interview-based questionnaire (Zane, 1982). Only when we administered the questionnaire by means of a tape recorder in which participants could respond without the interviewer present were we able to obtain some variance on this item.

Finally, it may be wise to reappraise the measurement of acculturation and cultural identity variables. These variables constitute one of the most important domains of individual differences within Asian Pacific groups. Previous research has assumed that acculturation and cultural identity development reflect a bipolar model. This model posits that as people become more acculturated or identified with Western culture they become less acculturated or identified with their particular Asian Pacific culture. In other words, to be highly acculturated in Western culture presumes low acculturation in East Asian or Pacific Islander culture. Oetting and Beauvais (1989) have raised the possibility that acculturation and changes in

cultural identity may not proceed according to the bipolar model. They suggest that a person's identification with one culture is independent or orthogonal to his or her identification with another culture. Oetting and Beauvais found empirical support for the model in their study of American Indian and Mexican American youth. If applicable to Asian Pacific acculturation and cultural identity, this orthogonal model of cultural identity implies a change in how acculturation variables are measured. It may be necessary to assess acculturation in two cultures, American culture and the respondent's specific Asian Pacific culture. On the basis of this model, a number of interesting comparisons can be made. For instance, the substance abuse and use patterns of mono-cultural individuals (highly acculturated in one culture but lowly acculturated in the other culture) can be compared to bicultural individuals (highly acculturated in both cultures) as well as "alienated" individuals (lowly acculturated in both cultures).

TREATMENT OF ASIAN PACIFIC SUBSTANCE ABUSE

To date, few studies have directly examined the outcomes (in terms of decreased drug use) of Asian Pacific clients in substance abuse treatment. Phin and Phillips (1978) compared the treatment of outcomes of Asian Pacifics and Whites using retention in treatment, drug use patterns, change in employment, and legal status as indices of treatment outcome. Asian Pacific clients reported that treatment had positive effects on living conditions and/or health and led to decreased drug use. Compared to Whites, Asian Pacific clients stayed in therapy longer but had higher rates of continuing drug abuse. These outcome data are difficult to interpret because the Asian Pacific and White samples were not comparable in age or drug abuse patterns at admission to treatment.

Culturally-Responsive Services and Programs

Given that Asian Pacifics tend to underutilize substance abuse treatment programs, it is not surprising that relatively more emphasis has been placed on developing programs which are responsive

to the specific needs of Asian Pacific communities and their youth. Various strategies and solutions have been proposed to develop effective services for Asian Pacifics. Murase (1977) has identified the following structural and organizational characteristics that facilitate the provision of culturally relevant services to Asian Pacific American communities: (1) location of delivery site within the community itself; (2) involvement of a broad cross-section of the community in decisions concerning the service programs; (3) employment of full bilingual and bicultural staff; (4) cultivation and utilization of existing indigenous formal and informal community care/support systems; and, (5) development of innovative intervention methods. Specifically, such treatment approaches should recognize the family as an integral part of treatment, establish an active, highly personalized therapeutic relationship, focus on survival-related tasks to facilitate the engagement process, address the possible conflict between the cultural dynamic of "loss of face" and the confessional character of psychotherapy, differentiate between cultural behavioral propensities and pathology, reevaluate the self-determination construct, permit flexibility in session scheduling and duration, and recognize the ameliorative effect of a familiar and predictable cultural milieu.

In terms of program development, Sue (1977) has proposed three alternative strategies for implementing such changes: (1) train personnel from existing agencies to be culturally-sensitive, (2) develop independent but parallel services (i.e., service units or programs which are operationally and, at times, physically separate from mainstream agencies but remain similar in function and organizational structure) or (3) establish new, nonparallel service programs and agencies that do have comparable entities in the conventional service delivery system (Sue, 1977). As Uba (1982) indicated, research has not determined the relative merit of the various alternative forms of service delivery. However, in the related area of mental health treatment, it has been demonstrated that when services are provided by bilingual, bicultural personnel working from community-based agencies, such services are utilized by Asian Pacific American clients. In Seattle, an Asian Pacific American counseling and referral service served as many Asian Pacific Americans in one year as were served by 18 other community mental health centers

over a three-year period (Sue & McKinney, 1975). True (1975) found that in Oakland a county out-patient and emergency mental health facility served only 3 Chinese Americans from a total of 500 clients. During that same year, an Asian Pacific American community-based agency initiated operations and served 131 Chinese Americans. A community-supported mental health center in San Francisco saw more Asian Pacific American clients in its first three months of operation than the total number of Asian Pacific Americans served in that catchment area during the previous five years (Wong, 1977). Zane (1989) found that the premature termination problem often found for Asian Pacifics using mental health services was reduced to such an extent at a parallel service agency that no differences in premature termination were evident between Asian Pacific and White clients.

Despite these encouraging signs, the question of whether culturally responsive and appropriate substance abuse treatments have been developed for Asian Pacifics remains unanswered. The development of parallel service substance abuse programs in areas where Asian Pacifics have concentrated (e.g., San Francisco, Los Angeles) implies that drug abuse treatment may require modification in some way to make it effective and culturally responsive to the needs of Asian Pacific clients. There is an obvious need to conduct studies that determine if treatment equity in effectiveness has been achieved for Asian Pacific clients, but it is also important for outcome research to help identify those aspects of the treatment that make it culturally responsive. Oftentimes, outcome designs comparing ethnic groups have been able to accomplish the former but not the latter.

Identification of Culturally-Responsive Aspects of Treatment

Kiesler (1966) has argued that the traditional process-outcome distinction is not a useful one because outcome research can involve the study of process while process research can investigate outcomes; in essence, they are equivalent. The dichotomy has fostered the misconception that in-treatment client changes are not legitimate variables of interest to outcome researchers. However, the identifi-

cation of aspects of a treatment that work to make it effective for Asian Pacific clients requires a clear conceptualization of how substance abuse treatment procedures and their impact are related to final targeted outcomes of the program.

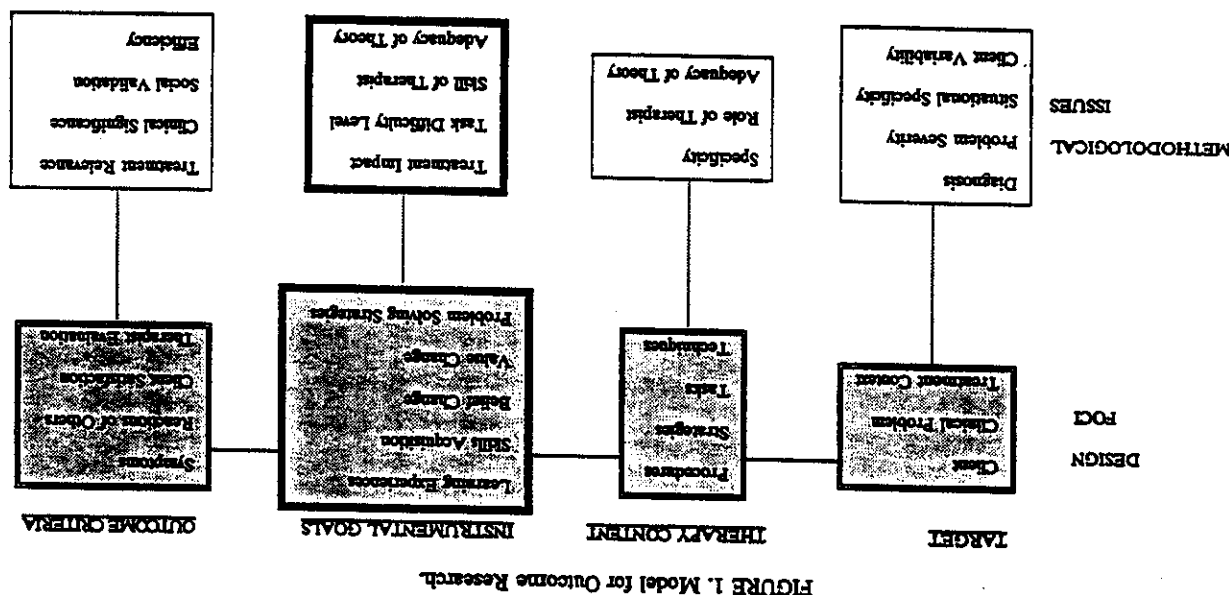
Instrumental versus Ultimate Criteria

Dependent measures can be classified as pertaining to either a final goal of treatment (ultimate criteria) or a condition required (instrumental criteria) for attaining this final goal (Fiske et al., 1970). Substance abuse outcome studies typically have focused on assessing ultimate criteria to determine treatment efficacy. It is proposed that treatment studies also incorporate instrumental criteria into the research design. The inclusion of instrumental criteria provides the critical empirical link between treatment procedures and substance abuse outcome needed to identify aspects important for culturally responsive treatment. Figure 1 shows how instrumental criteria are to be included in outcome research designs and the concomitant methodological issues that must be addressed.

Treatment Impact versus Treatment Relevance

In terms of the proposed model, treatment efficacy becomes a multi-faceted issue. Rather than one, at least two questions are involved: Did treatment have the desired impact by achieving its instrumental goals? and was the achievement of these instrumental goals relevant to making it effective for Asian Pacific or other ethnic minority clients? Within the context of program evaluation, Weiss (1972) has distinguished between a program failure as opposed to a theory failure. Programs attempt to activate a "causal process" which then leads to some desired effect. Program failure occurs when the program has not achieved its desired impact such that the "causal process" has been set in motion. Theory failure occurs when the program is successful in producing the intended impact but the resultant "causal process" does not lead to the desired end-goals.

In a similar manner, treatment failure with Asian Pacifics can involve either procedure or theory failure. The treatment may be



ineffective because its procedures did not have the expected impact; the targeted learning experiences did not occur because the treatment as implemented may have clashed with certain cultural values held by the client or adversely affected certain peer or family relations supporting the client's adaptive behavior. On the other hand, the theory on which the treatment is based may not be that applicable to Asian Pacific communities such that achievement of the desired changes in treatment are not related to the substance abuse problem resulting in little improvement in personal functioning.

The proposed strategy allows for a more refined interpretation of outcome results with respect to cultural influences in treatment. Because the measurement of both instrumental and ultimate goals prevents the confounding of procedure failure with theory failure, researchers can determine which is in need of revision or further development to facilitate its effectiveness with culturally diverse clients. As a result, technique-building is systematically tied to theory development. In addition to impact and relevance, a third issue can be considered when evaluating treatments: How efficient is the treatment? Treatment efficiency essentially involves a cost-effectiveness analysis of the substance abuse treatment. The costs involve the difficulty level of the therapeutic tasks (which is often influenced by the cultural differences between client and therapist) and the level of skill (including cultural sensitivity skills) needed by the therapist to implement these tasks. These costs are weighed against the improvement in the client's substance abuse problem.

CONCLUSION

Many Asian Pacific communities are concerned about substance use and abuse, but the available research has not been adequate in guiding the development of effective and efficient substance prevention and treatment programs for these communities. Clearly, more empirical work is needed to examine substance abuse issues for each separate Asian Pacific group, particularly the Pacific Islanders and the Southeast Asian refugees. There are serious conceptual and methodological issues that require closer scrutiny in future investigations. However, it appears that most of these problems are not

insurmountable. Hopefully, the issues and the research strategies discussed in this paper can serve as a preliminary step to the development of empirical efforts that can more successfully capture the etiological underpinnings and substance abuse patterns of various Asian Pacific populations.

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