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Asian Americans' Differential Patterns of Utilization of Inpatient and Outpatient Public Mental Health Services in Hawaii

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The major purpose of the present study was to examine Asian Americans' differential patterns of utilization of mental health services in Hawaii. It was proposed that an analysis of Asian Americans' differential patterns of utilization of inpatient and outpatient mental health services may provide some clues to the reasons behind their overall pattern of underutilization. More specifically, whereas it has been established in many studies that Asian Americans tend to underutilize mental health services, the present research questions are directed at determining if Asian Americans tend to (a) underutilize inpatient mental health services, (b) overutilize or use at their representative level outpatient mental health services, and (c) exhibit different patterns in the sources of referral into the mental health system. Using a dataset from the state of Hawaii's Department of Health, mental health service utilization rates for three Asian-American groups (Chinese, Japanese, and Filipino) were compared to each other and to those of White Americans. It was found that there were ethnic subgroups (e.g., Chinese versus Filipino) and intergroup differences (i.e., Asian versus White) in the utilization of inpatient and outpatient mental health services as well as in sources of referral into the mental health system. The clinical and research implications of the findings are discussed.

In a review of the epidemiology of psychological disorders among Asian Americans, Leong (1988) was able to identify several major themes in the literature. Each of these themes raised important conceptual and methodological questions that are in need of clarification. One of the major themes, which will be examined in the present study, is concerned with finding that Asian Americans, as compared to Whites, tend to have lower rates of utilization of mental health hospitals (Berk & Hirata, 1973; Jew & Brody, 1967; Kitano, 1969; Shu, 1976; Sue & Morishima, 1982) and community mental health centers (Kinzie & Tseng, 1978; Sue & Kirk, 1975; Sue & McKinney, 1975). However, no study has been conducted yet to determine if Asian Americans within a particular community are more likely than Whites within the same community to use community mental health centers to a greater extent than mental health hospitals.

Owing to the high level of stigmatization associated with "mental illness" among Asian Americans (Sue & Morishima, 1982), one could speculate that Asian Americans may be more likely to use community mental health centers than mental hospitals when experiencing psychological disorders, even when these disorders are severe. How Asian-American groups utilize the various mental health facilities within the community is an important question that has not been adequately addressed in the existing literature. Information about such patterns would be very useful in policy decisions, treatment

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planning, and outreach efforts. For example, if it is found that Asian Americans tend to use community mental health centers much more than mental hospitals, then some effort would need to be made to equip the former type of facilities to deal with such patients, as well as devising means of encouraging greater utilization of hospitals by Asian Americans. The assumption is that certain psychological disorders (e.g., schizophrenia) can be more appropriately treated in hospitals and therefore the disproportionate use of particular types of facilities among Asian Americans may need to be corrected.

Analyses of the utilization of mental health services has been one strategy often adopted to investigate the epidemiology of psychological disorders among Asian Americans (Sue & Morishima, 1982). More specifically, a common epidemiological approach has been to compute Asian Americans' hospitalization rates for psychological disorders by using hospital records. In examining hospitalization rates, Jew and Brody (1967), for instance, reviewed the records of the California state hospitals for the mentally ill from 1854–1961. They found that the Chinese, especially males, exhibited lower rates of first admissions to mental hospitals when compared to Whites. However, the rates of hospitalization for the Chinese did increase gradually over the century. In another study using California data and focusing on Japanese Americans, Kitano (1969) found that there was a very low rate of hospitalization for mental illness among this group from 1960–1965. More specifically, the rate of hospitalization per 100,000 persons for Japanese Americans ranged from 40–60 as compared to a range of 150–180 for Whites. The rates for the Chinese Americans ranged from 70–90. Similar patterns have been found by Shu (1976).

In the first of three studies examining Asian Americans' use of community mental health services, Sue and McKinney (1975) found that Asian Americans tended to underutilize community mental health centers in the state of Washington. For example, Japanese Americans comprised 1.2% of the community but only 0.1% of the community mental health centers' patient population. The Chinese Americans comprised 0.6% of the community and 0.1% of the patient population, whereas the Filipino Americans comprised 0.6% of the community and 0.1% of the patient population. Sue and McKinney's (1975) study was based on data from 17 community mental health centers. It is interesting to note that a 10-year follow-up study by O'Sullivan, Petersen, Cox, and Kirkeby (1989) found that this pattern of underutilization was no longer true in the community mental health centers in the state of Washington. However, similar patterns were found by other investigators, with Asian Americans underutilizing services (e.g., Kinzie & Tseng, 1978; Sue & Kirk, 1975). In summary, studies of Asian-American clients in both mental health hospitals and community mental health centers have found that they tend to have a lower rate of utilization of mental health services. Even though the pattern of lower hospitalization rates is clear, the interpretation of its meaning is less so. This is especially so in light of more recent studies (e.g., O'Sullivan et al., 1989) which found no evidence of underutilization by ethnic minority groups. Hence, the question of which "utilization rate" (mental hospitals or community mental health centers) to use in understanding the mental health problems of Asian Americans is an important one because cultural factors may be associated with service utilization of different types of facilities.

The use of institutional records or "treated-prevalence rates" to provide estimates of the prevalence of mental disorders among Asian Americans has been criticized (Sue & Morishima, 1982). However, until large-scale community surveys on the mental health

problems of Asian Americans are available, institutional records can provide some useful information by helping to describe the population that uses the existing services, as long as it is recognized that these figures may not generalize to the general population. What is needed are more sophisticated studies with these clinical records (e.g., Sue, Fujino, Hu, Takeuchi, & Zane, 1991). For example, it would be useful to determine the characteristics of Asian Americans who typically use the various types of mental health services (e.g., Hu, Snowden, Jerrell, & Nguyen, 1991). Accurate information about the problems (i.e., treated prevalence rates) they bring to mental health professionals and knowledge about the outcomes of help seekers' interaction with the traditional mental health system would enable psychologists to provide more efficient and culturally relevant services as well as correcting possible weaknesses in the current mental health system.

Related to the question of patterns of underutilization of mental health services among Asian Americans is the question of sources of referral. It has been observed that some minority groups are more likely to be referred to the mental health system via the law enforcement system than other groups. An examination of the patterns of referral into the mental health system for Asian Americans is another approach that can provide useful clues to understanding Asian Americans' utilization of the mental health system (e.g., see Lin, Tardiff, Donetz, & Goresky, 1978). Disproportionate rates in sources of referrals identify areas for future research. Why are some groups more likely to be referred to the mental health system by police than others?

The major purpose of the present study is to contribute to psychology's knowledge base on Asian Americans' patterns of utilization of mental health services. An analysis of Asian Americans' differential patterns of utilization of inpatient and outpatient mental health services may provide some clues to the reasons behind their overall pattern of underutilization. A major advantage of the current study is that the dataset provided information on specific Asian-American groups (e.g., Chinese, Japanese), which permitted the study of between-group differences, in contrast to previous studies that have treated Asian Americans as a culturally homogeneous group (e.g., Sue & Kirk, 1975; Sue, 1977). Other studies (e.g., Japanese, Filipino, or Korean) (Berk & Hirata, 1973; Brown, Stein, Huang, & Harris, 1973; Duff & Arthur, 1967; Jew & Brody, 1967) have examined one specific Asian-American group at a time without comparable data from other Asian-American groups within the same study. More specifically, whereas it has been established in many studies that Asian Americans tend to underutilize mental health services, the present research questions are directed at determining if Asian Americans tend to (a) underutilize inpatient mental health services, (b) overutilize or use at their representative level outpatient mental health services, and (c) exhibit different patterns in the sources of referral into the mental health system. The following hypotheses were tested in the present study:

Hypothesis 1: There will be significant differences in the utilization rates of mental health hospitals (inpatient facilities) between the four racial/ethnic groups (White, Chinese, Japanese, and Filipino) relative to their proportions in the Hawaiian population.

Hypothesis 2: There will be significant differences in the utilization rates of community mental health centers (outpatient facilities) between the four racial/ethnic groups (White, Chinese, Japanese, and Filipino) relative to their proportions in the Hawaiian population.

Hypothesis 3: There will be a significant difference in the sources of referral between the four racial/ethinic groups (White, Chinese, Japanese, and Filipino) relative to their proportions in the Hawaiian population.

Method

Sample

This study was based on archival data from the Mental Health Division of Hawaii's Department of Health. The subjects were clients who used Hawaii's mental health centers from December, 1972, to December, 1981. The data used for the current study were selected from certain racial/ethnic groups. The subsamples included the following racial ethnic groups: White (N = 15,275), Chinese (N = 773), Filipino (N = 3,097), and Japanese (N = 3,707). Although data are available for most Asian-American groups in Hawaii, this study was confined to three major groups, Chinese, Japanese, and Filipino, for several reasons. First, the number of cases for the other Asian-American groups, such as the Southeast Asians, was generally insufficient to provide stable estimates when specific diagnostic categories were investigated. Second, Pacific Islanders, such as the Hawaiians and Samoans, are sufficiently culturally distinct to warrant separate study. Third, related epidemiological studies have been conducted on these major groups (Chinese and Japanese) on the United States mainland (e.g., Sue & Morishima, 1982) and these existing studies would allow for a comparison of patterns between Asian Americans in Hawaii and those on the mainland.

Instrument

Data on the clients came from a standard form routinely completed on every patient in Hawaii's Mental Health Divison. The admission form consisted of 33 items and was completed by mental health professionals such as social workers, psychologists, and psychiatrists, according to their clinical judgment. The items pertained to demographic information such as the patient's sex (item 7), age (item 8), ethnicity (item 32), education completed (item 24), marital status (item 22), and monthly family income (item 25). The education completed item consisted of 11 categories (where the second and last categories were eliminated from the analyses): (1) None, (2) Ungraded, (3) First–Fifth, (4) Sixth-Eighth, (5) Ninth-Eleventh, (6) Twelfth, (7) Voc/Bus/Tech, (8) College 1–3 years, (9) College Grad, (10) Grad. School, and (11) Unknown.

The ethnic group item was divided into 18 categories: Samoan, Caucasian, Pure Hawaiian, Black, Chinese, Filipino, Japanese, Puerto Rican, Korean, Other, Unknown, Part Hawaiian, Portuguese, South-East Asian, American Indian, and Mixed Race.

The Admission form also contained clinical data such as items 29 (overall degree of impairment), 30 (problem duration), and 31 (problem appraisal). The overall degree of impairment item had four intervals: (1) None, (2) Mild, (3) Moderate, (4) Severe. The problem duration item was divided into 5 time periods: (1) 1 week, (2) 1 month, (3) 1 year, (4) 2 years, and (5) 2 years and over. Finally, item 33 consisted of the patient's psychiatric diagnosis code assigned by the intake clinician. Given the time span of the dataset, that is from 1972–1981, all diagnoses were based on DSM II (American Psychiatric Association, 1968).

The present dataset from Hawaii was based on a standardized system of data collection of psychiatric clients, called the Multi-State Information System (MSIS). The MSIS was part of a grant from the National Institute of Mental Health (MH 14934) to develop an automated and standardized system for various states to use in collecting and maintaining mental health data. The original system was developed in six states (i.e., Connecticut, Maine, Massachusetts, New York, Rhode Island, Vermont) and Washington, DC. As indicated in the MSIS manual, the system was designed to be used

as a means for following the patient through all phases of psychiatric service and to record his or her experience at key points. The present study was based on a major component within the MSIS system, namely the Admission System. All mental health professionals in this study who provided data for the system were familiarized with the data collection system and had access to the Manual, which contained detailed instructions on how the data forms were to be completed.

Research Design

The present study used a between-group design to answer a series of epidemiological questions concerning Chinese, Japanese, and Filipino clients relative to White clients in Hawaii's mental health centers. All of the hypotheses involved analyzing the four racial/ethnic groups as independent groups.

The use of the archival data determined to a large extent the research design of the present study. For example, no random selection of subjects from the general population of experimental manipulation of variables was possible with the current dataset. Hence, there are both advantages and disadvantages of a study using archival data and these will be reviewed in the Discussion section.

Results

For Hypotheses 1 and 2, the entire clinical sample was used for the data analysis. For Hypothesis 3, which was examined in conjunction with a separate study, the following five diagnostic categories were examined: schizophrenia, neurosis, personality disorders, transient situational disorders, and behavioral disorders. The other diagnostic categories within the dataset were omitted because their numbers were too small for meaningful comparisons. For example, according to the statistics supplied by Hawaii's Department of Health at the outset of this study, among the Chinese clients there were only 11 individuals from a total sample of 800 with the diagnosis of psychophysiological disorders. For Hypotheses 1, 2, and 3, chi-square analyses were conducted because there was only one independent variable (ethnicity) and the data were nominal level.

Utilization rates were operationalized as the numbers of individuals from a particular ethnic group who used either inpatient or outpatient mental health facilities in Hawaii as compared to their numbers in the Hawaiian population. Hypothesis 1 predicted that the utilization rate of inpatient mental health facilities between the four racial/ethnic groups would be different from each other. Hypothesis 2 predicted that the utilization rate of outpatient mental health facilities between the four racial/ethnic groups would be different from each other. Of particular concern for Hypotheses 1 and 2 were the utilization rates of each Asian-American group (i.e., Chinese, Filipino, and Japanese) as compared to that of Whites. Separate analyses were conducted for Hypotheses 1 and 2 because it was possible that clients may have used both types of facilities and, consequently, type of facility may have been an overlapping category.

For Hypothesis 1, a significant difference was found between the racial/ethnic groups' utilization of inpatient mental health facilities ($\chi^2 = 84.84$, $N = 702{,}303$; $df = 3$, $p < .001$) (see Table 1). Because the overall chi-square analysis was significant, three post hoc chi-square tests were conducted to determine if there was a significant difference between the Whites and each of the Asian-American groups in the utilization of inpatient mental health facilities when compared to their respective proportions in the general population. As indicated in Table 2, all three Asian-American groups tended to underutilize inpatient mental health facilities relative to their proportion in Hawaii's

population, whereas Whites tended to overutilize services. Underutilization was assumed when a group's proportion in a mental health facility was below their proportion in the general population. Overutilization was assumed when a group's proportion in a mental health facility exceeded their proportion in the general population.

Table 1
Comparison of Racial/Ethnic Differences in Utilization of Inpatient Facilities in Hawaii's Mental Health System

Frequencies/ percentage	Racial/ethnic groups							
	White		Chinese		Filipino		Japanese	
	Yes	No	Yes	No	Yes	No	Yes	No
Observed frequencies[a]	222	308,263	11	54,262	31	113,821	56	226,237
(Percentage)	0.07	99.93	0.02	99.98	0.03	99.97	0.02	99.98
Expected frequencies[b]	140	308,345	25	54,248	52	113,800	103	226,190
(Percentage)	0.05	99.95	0.05	99.95	0.05	99.95	0.05	99.95

Chi square (3 *df*) = 84.84**
**$p < .001$.
[a]Observed frequencies based on the number of clients from each racial/ethnic group (divided by 9 because the dataset is from December 1972–December 1981) and the average of the 1970 and 1980 U.S. Census data estimate for each racial/ethnic group in the general population in Hawaii. This is also true for Tables 2–4.
[b]The expected frequencies and percentages were generated by their chi-square program. The expected frequency for each cell was obtained by multiplying the marginal totals and then dividing this product by the number of cases (Siegel, 1956). This is also true for Tables 2–4.

To test Hypothesis 2, the utilization rates of outpatient facilities between White, Chinese, Japanese, and Filipino clients were compared using a chi-square analysis. Significant racial/ethnic group differences were found in the utilization of outpatient mental health facilities ($\chi^2 = 431.65$, $N = 705{,}235$; $df = 3$, $p < .001$) (see Table 3). Given that the overall chi-square analysis for this hypothesis was also significant, three post hoc chi-square tests were also conducted to determine if there was a significant difference between the Whites and each of the Asian-American groups. Each of the Asian-American groups, in comparison to the Whites, revealed a pattern of underutilization of outpatient mental health facilities with a slight variation in the Filipino group (Table 4). Relative to inpatient facilities, the Filipino clients tended to underutilize outpatient mental health factilities less than inpatient facilities. The Whites tended to overutilize both inpatient and outpatient facilities relative to their proportion in Hawaii's population.

To test Hypothesis 2, chi-square analyses were also conducted to compare the four groups in their sources of referral. Because the overall chi-square analysis was significant (Table 5), post hoc chi-square analyses were conducted. As revealed in Table 6, several patterns emerged: (a) Chinese and White clients had a different distribution of sources of referral, with the Chinese clients being more likely to have been referred by family and friends, social institutions, police/courts, and mental health professionals and less likely to have been referred by medical personnel or to be self-referred; (b) Filipino and White clients also had a different distribution of sources of referral, with the Filipino clients being more likely to have been referred by police/courts, medical personnel, and

Table 2
Post hoc Comparisons Between White and Specific Asian-American (AA) Groups' Utilization of Inpatient Facilities in Hawaii's Mental Health System

Comparison groups	Observed frequencies				Expected frequencies				Chi square
	White		AA Group		White		AA Group		
	Yes	No	Yes	No	Yes	No	Yes	No	
White vs. Chinese	222	308,263	11	54,262	198	308,287	35	54,238	19.22**
(Percentage)[a]	0.07	99.93	0.02	99.98	0.06	99.94	0.06	99.94	
White vs. Filipino	222	308,263	31	113,852	185	308,300	68	113,784	27.79**
(Percentage)[a]	0.07	99.93	0.03	99.97	0.06	99.94	0.06	99.94	
White vs. Japanese	222	308,263	56	226,237	160	308,325	118	226,175	56.01**
(Percentage)[a]	0.07	99.93	0.02	99.98	0.05	99.95	0.05	99.95	

[a]The derivations of observed and expected frequencies are the same as in Table 1.
**$p < .001$.

Table 3
Comparison of Racial/Ethnic Differences in Utilization of Outpatient Facilities in Hawaii's Mental Health System

Frequencies/ percentage	Racial/ethnic groups							
	White		Chinese		Filipino		Japanese	
	Yes	No	Yes	No	Yes	No	Yes	No
Observed frequencies[a]	1,268	307,217	61	54,212	264	113,588	315	228,310
(Percentage)	0.41	99.59	0.11	99.89	0.23	99.77	0.14	99.86
Expected frequencies[b]	835	307,650	147	54,126	308	113,544	619	228,006
(Percentage)	0.27	99.73	0.27	99.73	0.27	99.73	0.27	99.73

Chi square (3 *df*) = 431.65**
**$p < .001$.
[a]The derivations of observed and expected frequencies are the same as in Table 1.

less likely to have been self-referred and referred by mental health professionals; and (c) Japanese and White clients did not have a different distribution of sources of referral.

Discussion

In order to expand the empirical literature on the mental health problems and concerns of Asian Americans, the present study used an archival dataset from Hawaii to examine the patterns of mental health service utilization as well as the sources of referral. With regard to utilization of mental health services, the results of the present study indicated that all three Asian-American groups, Chinese, Filipino, and Japanese, tended to underutilize inpatient facilities relative to their distribution in the general population. Whites, on the other hand, tended to overutilize inpatient facilities. This set of results is quite consistent with the existing studies on Asian Americans' utilization of mental health/psychiatric hospitals which found a pattern of underutilization (Jew & Brody, 1967; Kitano, 1969; Shu, 1976; Sue & Morishima, 1982), including more recent studies (e.g., Hu et al., 1991) even though these studies tend not to examine subgroup differences.

With the exception of the Filipino group, a similar pattern was found in utilization of outpatient mental health facilities. Both the Chinese and Japanese groups seem to underutilize outpatient facilities at approximately the same rate as they do inpatient facilities. Although the Whites overutilized outpatient facilities slightly more than they did inpatient facilities, their pattern of overutilization is unmistakable. The Filipino clients underutilized inpatient facilities much more than they did outpatient facilities.

The finding that Chinese and Japanese clients when examined as separate ethnic groups underutilized outpatient mental health facilities is also quite consistent with the existing literature (Kinzie & Tseng, 1978; Sue & McKinney, 1975). However, the present study seems to be the first to examine the pattern of utilization of both inpatient and outpatient facilities by the same sample of Asian Americans. Whereas previous studies have suggested that Asian-American clients in general may underutilize both inpatient and outpatient facilities, the present study specifically demonstrated that Chinese and

Table 4
Post hoc Comparisons Between White and Specific Asian–American (AA) Groups' Utilization of Outpatient Facilities in Hawaii's Mental Health System

Comparison groups	Observed frequencies				Expected frequencies				Chi square
	White		AA Group		White		AA Group		
	Yes	No	Yes	No	Yes	No	Yes	No	
White vs. Chinese	1,268	307,217	61	54,212	1,130	307,355	199	54,074	112.77**
(Percentage)[a]	0.41	99.59	0.11	99.89	0.37	99.63	0.37	99.63	
White vs. Filipino	1,268	307,217	264	113,588	1,119	307,366	413	113,439	73.85**
(Percentage)[a]	0.41	99.59	0.23	99.77	0.36	99.64	0.36	99.64	
White vs. Japanese	1,268	307,217	315	228,310	909	307,576	674	227,951	333.67**
(Percentage)[a]	0.41	99.59	0.14	99.86	0.29	99.71	0.29	99.71	

**$p < .001$.
[a]The derivations of observed and expected frequencies are the same as in Table 1.

Table 5
Chi Square Analysis of Racial/Ethnic Group Differences in the Distribution of Sources of Referral

Sources of referral	Racial/ethnic groups			
	White	Chinese	Filipino	Japanese
Self[a]	119	87	76	92
	29.8	22.0	19.3	23.1
Family/friend	81	98	83	90
	20.3	24.8	21.1	22.6
Social institutions	49	69	57	56
	12.3	17.5	14.5	14.0
Police court	38	47	60	48
	9.5	11.9	15.2	12.0
Mental health	30	39	21	37
	7.5	9.9	5.3	9.3
Other medical	82	55	97	76
	20.6	13.9	24.6	19.1

Chi square = 39.41, n = 1,587, df = 15, $p < .01$.
[a]First row consists of frequencies and second row consists of percentages from each racial/ethnic group with that particular source of referral.

Table 6
Post hoc Comparisons between White and Specific Asian-American (AA) Groups in the Distribution of Sources of Referral (Percentages)

Comparison groups	Sources of referral						Chi square
	Self	Family/ friends	Social institutions	Police/ courts	Mental health	Other medical	
White vs.	29.8	20.3	12.3	9.5	7.5	20.6	17.40*
Chinese	22.0	24.8	17.5	11.9	9.9	13.9	
White vs.	29.8	20.3	12.3	9.5	7.5	20.6	17.86*
Filipino	19.3	21.1	14.5	15.2	5.3	24.6	
White vs.	29.8	20.3	12.3	9.5	7.5	20.6	6.52
Japanese	23.1	22.6	14.0	12.0	9.3	19.1	

*$p < .05$.

Japanese clients tended to underutilize both inpatient and outpatient facilities. It was not possible to compare directly the racial/ethnic groups' use of both inpatient and outpatient facilities because the current dataset did not treat the two types of facilities as mutually exclusive. Clients could have used both types of facilities and, without access to confidential information such as clients' social security numbers, there was no way to identify the overlapping groups. Consequently, there was no way to determine the degree of overlap between clients' utilization of the two types of facilities. Therefore, service utilization among the racial/ethnic groups was analyzed separately for inpatient and outpatient facilities.

One possible interpretation of this finding is that Chinese and Japanese Americans tend to underutilize the public mental health system, regardless of the type of facility

(inpatient and outpatient), because of the stigma associated with mental health problems (Sue & Morishima, 1982). The hypothesis that there may be greater stigma associated with the use of inpatient facilities (i.e., hospitalization for mental health problems) than outpatient facilities does not seem to hold true for Chinese and Japanese Americans in Hawaii. This pattern is in conflict with Lin et al.'s (1978) finding that Chinese families were extremely resistant to the use of mental health hospitals (inpatient) presumably due to the intense stigma associated with mental illness. That outpatient facilities may have less stigma associated with them than inpatient facilities was also suggested by Sue and Kirk's (1975) finding that Asian-American students were more likely to use the counseling services than psychiatric services at a large California university. The assumption underlying the hypothesis that Asian Americans may exhibit a differential response to inpatient versus outpatient facilities is that the former may be associated with mental illness while the latter may be associated with adjustment or mental health problems. The corollary to this assumption is that there will be more stigma associated with mental illness than mental health problems given the results from Lin et al. (1978) and Sue and Kirk's (1975) studies. Yet, the present results indicated that Chinese and Japanese Americans tended to underutilize both inpatient and outpatient facilities.

It appears that Filipino clients tended to underutilize outpatient facilities somewhat less than they did inpatient facilities. The Filipino group used outpatient facilities 8.4 times more than inpatient facilities. The Whites used outpatient facilities 5.7 times more than inpatient facilities, the Chinese 5.6 times, and the Japanese 5.6 times (i.e., number of outpatient clients divided by number of inpatient clients). One possible interpretation of this differential utilization pattern is that Filipino clients feel less stigma associated with seeking help with mental health problems on an outpatient basis than on an inpatient basis; while Chinese- and Japanese-American clients feel both types of facilities to be equally stigmatizing. Supporting evidence for this interpretation comes from a study that compared the problem perception of Asian-American college students who used a university's counseling service (Tracey, Leong, & Glidden, 1986). It was found that the Filipino students/clients were somewhat more likely to present a personal problem for counseling (31%) than the other Asian-American groups (Chinese 26% and Japanese 22%). Another possible interpretation for this differential utilization pattern among Filipino clients is that they may have psychological disorders that are more amenable to outpatient than inpatient treatment.

In general, there are two common ways of comparing epidemiological data from different groups. The first and older method involves converting the observed frequencies to a rate of X number of cases per 1,000 persons in a population (e.g., Morris, 1975, p. 266). This rate is computed by taking the number of actual cases (sample) and dividing it by the number of all possible cases (population) and then multiplying the result by 1,000. The second method is based on a percentage that is computed by taking the number of actual cases and dividing it by the number of all possible cases and then multiplying the result by 100 (e.g., Dohrenwend et al., 1980). Given that the percentages are already available in the results tables, this approach will be used in discussing the results.

By applying the percentage approach to inpatient mental health facilities, we find that the utilization percentage for Whites was 0.07, for Chinese 0.02, for Japanese 0.02, and for Filipinos 0.03. In terms of the outpatient facilities, the utilization percentage for Whites is 0.41, for Chinese 0.11, for Japanese 0.14, and for Filipino 0.23. Although the White groups tended to overutilize both inpatient and outpatient facilities, and the Chinese and Japanese groups tended to underutilize both inpatient and outpatient

facilities, the Filipino group utilized the outpatient facilities (0.23%) much more than the inpatient facilities (0.03%). Put differently, the ratio of outpatient to inpatient service utilization for Filipinos is 8.5 to 1, for Chinese 5.5 to 1, Japanese 5.6 to 1, and for Whites 5.7 to 1.

The utilization percentage can also allow a comparison to other studies in order to determine if there are any regional differences. For example, Sue and McKinney (1975) examined the utilization of community mental health centers (outpatient facilities) by various Asian-American groups in the state of Washington. The utilization percentages for Sue and McKinney's (1975) study were as follows: for Chinese 0.1%, for Japanese 0.1%, and for Filipinos 0.3%. In comparison to the utilization percentage for outpatient facilities for the current data (i.e., Chinese .11, Japanese .14, Filipinos .23), these Asian-American groups seem to have underutilized outpatient facilities in the state of Washington as much as they did in Hawaii. However, in a recent study in California, Hu et al. (1991) found that Asians were more likely than Whites to use outpatient mental health services.

The correspondence in the outpatient utilization percentages between the present study and Sue and McKinney's (1975) study provides further evidence of underutilization of mental health services by Asian Americans. It also indicates that as far as outpatient utilization rates are concerned, Asian Americans in Hawaii are quite similar to Asian Americans in the state of Washington. The different results from Hu et al. (1991) may point to either regional differences or period effects since the Hu et al. (1991) data are more recent (i.e., dataset from San Francisco and Santa Clara County from July 1987–June 1988). In fact, the Hu et al. (1991) study points to important regional differences that should not be ignored. It remains for future research to determine if regional differences or period effects are responsible for the divergent results in Asian Americans' utilization of outpatient services.

In a separate analysis using the same dataset as cited above but including Asian-American subgroups, Hu, Snowden, Jerrell, and Kang (1993) found somewhat different results from the present study. Their results indicated that Chinese, Filipino, and Southeast Asian users all had a lower probability of using inpatient services (about 2–3% less) than Japanese clients. They found no significant differences among Asians in their use of individual outpatient visits. The results from the Hu et al. (1993) study further confirm that Asian Americans tend to underutilize inpatient mental health services but they also point to the importance of examining intragroup differences. In their study, Japanese tended not to underutilize inpatient services, whereas in our sample, all three Asian groups (Chinese, Japanese, and Filipino) underutilized inpatient services. Although they found no subgroup differences in use of outpatient services, we found that Filipinos tended not to underutilize outpatient services while the Chinese and Japanese did.

The major implication of the current findings, besides confirming a pattern of underutilization among Asian Americans found by previous studies, is that research is needed to identify what factors may be responsible for this underutilization and their differential patterns among Asian-American subgroups. A framework for conducting research to identify these causal factors has been provided by Lacayo (cited by Escovar & Kurtines, 1983). Although her work was focused on Hispanic elderly, these factors contributing to Hispanic underutilization may also contribute to Asian Americans' underutilization of services. More specifically, Lacayo (cited by Escovar & Kurtines, 1983), in her review of the literature on the underutilization of services by Hispanic

elderly, identified four factors that have been hypothesized as possible causal variables in the pattern of underutilization:

1. Folk Culture Hypothesis: The culture of poverty which is typical of certain minority groups serves as a self-sustaining cycle and cultural style that fosters marginality, helpessness, dependence, and a high tolerance of pathology, which results in underutilization.
2. Informal Support Network Hypothesis: Hispanics, as a group, tend to turn to family and other informal support systems in times of need and consequently underutilize formal support systems.
3. Sociodemographic Hypothesis: Variance in service utilization rates can be explained by sociodemographic factors such as education and income and that underutilization by Hispanic elders is a consequence of their relative lack of education and financial resources.
4. Institutional Racism Hypothesis: The dominant society, either through design or inadvertent omission, provides social service support from which Hispanics feel excluded (Escovar & Kurtines, 1983, p. 355).

As with Hispanic elders, it could be argued that these factors may also be responsible for the underutilization of mental health services by Asian Americans. What is needed is systematic research to test out each of these variables with regard to Asian Americans' utilization of mental health services, both inpatient and outpatient. As Leong (1986) has pointed out, if we find increased rates of utilization as a result of changes in these factors, the increased rates would provide conclusive evidence that present rates of underutilization are due to ethnic differences.

The analyses of ethnic group differences in sources of referral also support the resistence to treatment explanation. Filipino clients (15%) as compared to White clients (9%) were significantly more likely to have been referred to the mental health system by the police and court system. Resistance to treatment as an explanation is further supported by the finding that Filipino clients were much less likely to be self-referred (19%) than White clients (29%). However, it should be noted that this source of referral data is confounded by a higher number of lower class individuals among Filipino clients. That is, lower social class clients may be reluctant to use mental health services regardless of their race/ethnicity. The general pattern of all three Asian-American groups' lower tendency for self-referral combined with higher rates of referral from relatives, social institutions, and medical personnel supports the argument that there is a high level of shame and stigma associated with mental illness within the Asian-American community (see Sue & Morishima, 1982). It seems worthwhile to develop some educational interventions to overcome this form of resistance to help seeking among Asian Americans.

The results of the present study should be interpreted within the context of several limitations inherent in the study. First, it should be pointed out that the present findings on service utilization among Asian Americans directly pertain only to the public mental health system in Hawaii. It will have to be left to future research to determine if similar or different patterns of service utilization exist among Asian Americans in the private mental health system. The private mental health system is thought to be composed of mental health professionals (e.g., social workers, psychologists, psychiatrists in individual and group private practice) as well as private mental health hospitals.

Second, because the study used archival data, the nature of the data was quite limited. Although there was the advantage of a large dataset with a high level of ecological validity (i.e., real clients in real mental health settings), as with many institutional records,

the current data were primarily categorical with no information concerning reliability and validity. In addition, the categorical data did not allow for the use of more robust parametric statistics to test the various hypotheses. Third, by combining archival data spanning the period of 1972 to 1980 into a single dataset, any temporal effects or historical changes were inadvertently masked by the current analyses. This was necessary in order to obtain sufficient cases of Chinese, Filipino, and Japanese clients for racial/ethnic group comparisons.

Finally, there is the limitation created by the fact that the current dataset is from Hawaii. The uniqueness of Asian Americans' experiences in Hawaii, relative to the U.S. mainland, has been a basis for questioning the relevance of studies based on the Hawaiian population. The underlying assumption of this line of questioning is that Hawaii is a very multicultural environment and therefore research conducted on minorities in Hawaii may not generalize to the minorities on the U.S. mainland. For example, Hawaii is the only state in the United States in which Asian Americans are not a minority group. Even states with a high proportion of Asian Americans (e.g., California) have only a small percentage of Asian Americans (less than 10%) in comparison to Hawaii's 47% of Asian Americans (1980 U.S. Census data). However, the relevance or generalizability of research findings from Hawaii to the rest of the United States is really an empirical question that can be examined directly. In addition, even if the Asian-American experience in Hawaii proves to be different from that of Asian Americans on the U.S. mainland, studies such as the current one should not be avoided on that basis alone. Indeed, few would argue that the mental health problems of 452,000 Asian Americans in Hawaii can and should be ignored because they may not be similar to those on the U.S. mainland.

Although the present study has provided confirmation concerning the underutilization of mental health services by Asian Americans, further research is needed to understand this phenomenon fully. Little or no empirical research has been conducted to determine what specific factors may be underlying this pattern of underutilization. Speculations concerning the various factors that may be responsible, such as unresponsive services or cultural stigmatization of mental illness (e.g., Sue & Morishima, 1982), need to be examined empirically. In addition, given the differential pattern of mental health service utilization exhibited by Filipino clients, further research is needed to determine what factors may be responsible for this pattern. Any information concerning the facilitative and inhibitory conditions related to service utilization would help both the Filipino Americans and the other Asian Americans to make better use of existing services.

The differences in service utilization between Filipino, Chinese, and Japanese Americans point to the importance of conducting research on specific Asian-American groups rather than combining all of the Asian-American groups together. The results of the present study call into question the assumption of homogeneity among Asian-American groups and argue for further research to identify between-group differences among Asian Americans. Research that combines various Asian-American groups may be expedient, but it may also be masking important between-group differences. Finally, the present study revealed that there were also significant ethnic differences in the sources of referral into the mental health system. Future research should examine what factors account for the differences in how Asian Americans, relative to White Americans, enter the mental health system.

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