KŪKULU I NĀ HŪLILI:

BUILDING BRIDGES TO THE UNDERSTANDING

OF NATIVE HAWAIIAN MENTAL HEALTH

SooJean Choi-Misailidis and C. Malina Kaulukukui

This article examines the progress that has been made in the

understanding of Native Hawaiian mental health issues since the

1985 E Ola Mau report. Literature published since 1985 is reviewed

and a critical analysis of this body of knowledge is discussed.

Implications of current knowledge and suggestions for future

studies are presented. Recommendations on bridging the gap

between Westernized views of mental illness and research, and

a culturally derived and culturally based understanding of mental

health in Native Hawaiian communities are offered.

CORRESPONDENCE MAY BE SENT TO:

SooJean Choi-Misailidis, Department of Psychiatry, John A. Burns School of Medicine, University of Hawai'i at Mānoa, 1356 Lusitana Street, 4th Floor, Honolulu, Hawai'i 96813.

Email: MisailidisS@dop.hawaii.edu

Hülili: Multidisplinary Research on Hawaiian Well-Being Vol. 1 No.1 (2004) Copyright © 2004 by Kamehameha Schools.

223

'A'ohe pau ka 'ike i ka hālau ho'okahi.

All knowledge is not taught at the same school.

One can learn from many sources.

-Mary Kawena Pukui, 'Ölelo No'eau

ttention to Native Hawaiian well-being and health was generated by E Ola AMau: The Native Hawaiian Health Needs Study, which was published in 1985 as the first comprehensive health study of Native Hawaiians (The Native Hawaiian Health Research Consortium, 1985a). The data reported in E Ola Mau addressed four areas: history/culture, mental health, medicine, and dental health/nutrition. The mental health section of E Ola Mau was compiled from readily available reports from state health agencies and community organizations serving Native Hawaiians, as well as from brief surveys with mental health officials and workers. Though E Ola Mau was not a formal research study, it yielded important information that drew public attention to the dismal health status of the Native Hawaiian for the first time—including the fact that Native Hawaiians have high proportions of social problems, alcohol and other substance use, suicides, child abuse and neglect, school performance impairments and failures, and high levels of stress as indexed by leading stress markers (The Native Hawaiian Health Research Consortium, 1985b). The report also noted that the data reported were inadequate to understand the nature of mental health of Native Hawaiians, and that for the most part, it did not consider the context of Native Hawaiian culture or the "economic, political, educational, and social circumstances which have deprived the Native Hawaiians of those psychosocial foundations which are necessary for promoting and maintaining good mental health" (The Native Hawaiian Health Research Consortium, 1985b).

Recommendations from E Ola Mau were broad-based and reflected a holistic perspective on well-being. Recommendations included supporting Native Hawaiian values, alternative mental health services and healing centers, the education of Native Hawaiians in mental health professions, and enhanced identity and empowerment activities. The research recommendations were made within an overarching set of guidelines that stressed sensitivity to culture and the inclusion

of the community and knowledgeable, culturally competent Native Hawaiian researchers in the process. Research recommendations highlighted the need for social/epidemiological studies, methodology and measurement sensitive to Native Hawaiian culture, examination of service delivery issues and alternative healing options. Subsequently, Native Hawaiian health organizations successfully lobbied the federal government for the passage of the 1988 Native Hawaiian Health Care Act. Legislation was also passed to establish professional scholarships for Native Hawaiians, and federal funding was secured to establish a Native Hawaiian Mental Health Research Development Program at the University of Hawai'i.

The findings of the E Ola Mau report, in combination with the work of prominent Native Hawaiian scholars (e.g., Blaisdell, 1989; Blaisdell & Mokuau, 1991; Hammond, 1988; Mokuau, 1990; Streltzer, Rezentes, & Arakaki, 1996), called attention to the need to address the health status of Native Hawaiians. Health experts generally agree that Native Hawaiians are more at-risk than any other major racial or ethnic group in the state of Hawai'i; Native Hawaiians have the highest rates of medical problems (Braun, Yang, Onaka, & Horiuchi, 1996; The Native Hawaiian Health Research Consortium, 1985a), psychological concerns (Goebert et al., 2000; Guerrero et al., 2003; Hishinuma et al., 2001a; Hishinuma et al., 2001; Hishinuma, Miyamoto, Nishimura, & Nahulu, 2000; Hishinuma, Nishimura, Miyamoto, & Johnson, 2000; Loo & Rapport, 1998; Makini et al., 2001; Makini et al., 1996; McArdle, Johnson, Hishinuma, Miyamoto, & Andrade, 2001; Yuen, Nahulu, Hishinuma, & Miyamoto, 2000), and social problems, such as low income levels, high percentages of public assistance, family problems, and school difficulties (Native Hawaiian Education Assessment Program [NHEAP], 1983; Office of Hawaiian Affairs [OHA], 1998; Goebert, et al., 2000; Hishinuma et al., 2001b; Hishinuma et al., 2001; Takeuchi, Kuo, Kim, & Leaf, 1989).

Endeavors to understand Native Hawaiian health fall generally into one of two categories: (1) those who conduct more "traditional" Western types of studies, and (2) those who take on a largely idiographic perspective. Though these two perspectives may seem to be diametrically opposed at first glance, it is our contention that it is possible to bridge these two perspectives. Some of the difficulties in determining the "true" nature of Native Hawaiian well-being and, subsequently, mental health status, is that adoption of a strictly Western perspective can lead to over-pathologizing of some behaviors that have a cultural basis; on the other hand, the adoption of an entirely idiographic perspective might also bias conclusions regarding Native Hawaiian mental health status and well-being. Some researchers

have suggested that it is difficult to determine whether racial/health disparities are due to actual prevalence of syndromes, or whether cultural variations in expression, manifestation and reporting account for these differences (Takeuchi, Kuo, Kim, & Leaf, 1989).

This paper examines the progress that has been made in the understanding of Native Hawaiian mental health issues since the *E Ola Mau* report. In the following section, we summarize the published peer-reviewed literature on mental health problems and Native Hawaiians; the focus is exclusively on mental health concerns, and thus excludes the theoretical literature, as well as literature on learning disorders, mental retardation and interventions. Due to the limited focus of this paper and the complexity and scope of the literature on substance use disorders, the literature on substance use, abuse, and dependence is also excluded in this review. Though segregating the literature in this manner is somewhat contrived given the existing data regarding the comorbidity of mental health problems with other conditions, the purpose of this delineation is to limit the variables to understand the role of mental health problems within a cultural context.

The review is followed by a discussion on what is currently known about Native Hawaiian mental health, and explores future frontiers for the understanding of mental health problems among Native Hawaiians. Hence, the goals of this paper are to: (1) provide a review of the existing literature, (2) discuss future research needs regarding Native Hawaiian mental health, and (3) explore strategies for bridging the gap between traditional Western research and culturally based studies.

LITERATURE REVIEW

First, it should be noted that there is little empirical data on the mental health of Native Hawaiians (Makini, et al., 1996; Takeuchi, et al., 1987). The majority of studies on Native Hawaiian mental health have been published by the Native Hawaiian Mental Health Research Development Program (NHMHRDP) in the Department of Psychiatry, John A. Burns School of Medicine, University of Hawai'i. The NHMHRDP has presented epidemiological data regarding mental health problems in Native Hawaiians; however, the literature published to date by the NHMHRDP has studied mental health problems primarily in an adolescent

population. Secondly, it should be noted that research on mental health problems traditionally has been based on the broad diagnostic categories outlined in the *Diagnostic and Statistical Manual of Mental Disorders*, (4th ed., (DSM-IV) American Psychiatric Association, 1994). Given the few empirical studies on Native Hawaiian mental health, for the purposes of this article we will discuss mental health more broadly in terms of internalizing and externalizing disorders.

Internalizing Disorders

In general, the literature shows a consistent trend in which Native Hawaiians demonstrate more internalizing disorders, such as depression or anxiety, than do other racial/ethnic groups residing in the state of Hawai'i. However, the literature on internalizing disorders has, at times, been equivocal. Loo and Rapport (1998) found that though Native Hawaiians tended to be more anxious and depressed compared with Asians and Asian-Americans residing in Hawai'i, there were no significant ethnic differences for internalizing disorders; however, Loo and Rapport (1998) acknowledged that these conclusions were inconsistent with all other data showing relatively higher incidence of mental health problems among Native Hawaiians.

Depression. The literature on depression in Native Hawaiian populations is more considerable than that of any other mental illness. The roots of the relationship between social disorganization/cultural disintegration and mental health problems, such as depression, have been examined from a broad historical perspective (Marsella, 1993), a psychiatrically oriented clinical perspective (Tseng, 2001), and a more Native Hawaiian-specific perspective (Blaisdell & Mokuau, 1991; Crabbe, 1998; Marsella, Oliviera, Plummer, & Crabbe, 1995; Matsuoka & Benson, 1996; Mokuau, 1990). Given the sociopolitical history of Native Hawaiians, a consistent conclusion drawn from the latter perspective is that Native Hawaiians may experience feelings of depression due to the collective loss of cultural identity, leaving them vulnerable to stressful life events. Alternatively, it is also possible that Native Hawaiians are susceptible to depression due to environmental stressors such as acculturation issues, discrimination, low educational attainment, and low socioeconomic status (Goebert, et al., 2000). The mechanism of the relationship between social/cultural disintegration and mental health problems may not be

clearly delineated; however, researchers have generally hypothesized that Native Hawaiians are likely to report high rates of depression (Goebert, et al., 2000).

Data from the NHMHRDP demonstrated that Native Hawaiian adolescents had significantly higher rates of depressive symptomatology than those of non-Hawaiians (Yuen, Nahulu, Hishinuma, & Miyamoto, 2000). Additionally, Native Hawaiian adolescents reported slightly more depression on a daily basis than did non-Hawaiians (McArdle, Johnson, Hishinuma, Miyamoto, & Andrade, 2001).

Suicide. Depression is generally the best predictor of suicidality. Before Western contact, suicide in Hawai'i was rare (Pukui, Haertig, & Lee, 1972). In recent years, suicide has become a growing problem in Hawai'i and across the United States; among adolescents and young adults in the state of Hawai'i, Native Hawaiians experience a disproportionate number of suicides (Yuen, Nahulu, Hishinuma, & Miyamoto, 2000). Evidence suggests that suicide rates continue to increase among Native Hawaiians, especially among young males (Yuen, Nahulu, Hishinuma, & Miyamoto, 2000). The NHMHRDP data revealed that 4.3% of Native Hawaiian adolescents had reportedly made a suicide attempt within the past 6 months of being interviewed, and 12.9% of Native Hawaiian adolescents reported that they had made a suicide attempt in their lifetime, compared with 9.6% of non-Hawaiian adolescents in Hawai'i (Yuen et al., 1996). Furthermore, the authors noted that this projection is likely to underestimate the prevalence of suicidality among Native Hawaiian adolescents (Yuen, Nahulu, Hishinuma, & Miyamoto, 2000).

One surprising result of the NHMHRDP study revealed that identification with Hawaiian culture was a predictive factor associated with suicidality. Though the mechanism underlying this association is not clearly understood, it is hypothesized that the effects of being a disadvantaged ethnic group in their native land seems to have negatively affected some adolescents' perception of what it means to be Native Hawaiian.

Anxiety. Data from the NHMHRDP demonstrated that Native Hawaiian adolescents had significantly higher rates of anxiety than those of other adolescents (Yuen, Nahulu, Hishinuma, & Miyamoto, 2000). Although the rates of anxiety disorders in adolescence across racial and ethnic groups approximated those of other studies (Hishinuma, et al., 2001c), Native Hawaiians had significantly higher anxiety, especially compared with Japanese or Japanese-American adolescents in Hawai'i. (Hishinuma, Miyamoto, Nishimura, & Nahulu, 2000). However, when demographic factors were controlled in the analyses, this difference was

no longer significant. In addition, Native Hawaiian adolescents' anxiety remains relatively constant throughout the high school years, unlike that of other racial/ethnic groups, which fluctuated across the four high school years (Hishinuma, Miyamoto, Nishimura, & Nahulu, 2000).

Externalizing Disorders

In general, the literature shows that Native Hawaiians manifest more externalizing disorders, such as conduct disorder and oppositional behaviors, compared with other racial/ethnic groups (Loo & Rapport, 1998), as well as more externalizing symptoms (Goebert, et al., 2000). Loo and Rapport (1998) reported that both Native Hawaiians and Caucasians tended to score higher on externalizing disorders compared to Asians or Asian-Americans. One surprising finding from the NHMHRDP data showed that Native Hawaiian girls reported the highest rates of externalizing symptoms (Makini, et al., 1996). Some researchers hypothesize that this result may reflect a difference in the types of externalizing behaviors manifested by boys and girls.

Conduct. Research has demonstrated that Native Hawaiians manifest more aggression, delinquency and other conduct-disordered behaviors than do non-Hawaiians (Goebert, et al., 2000; Loo & Rapport, 1999; Yuen, Nahulu, Hishinuma, & Miyamoto, 2000). Native Hawaiians are also more likely to be arrested and incarcerated (Goebert, et al., 2000). In addition, Native Hawaiian girls reported more symptoms of aggression than did Native Hawaiian boys (Makini, et al., 1996). Researchers hypothesized that this discrepancy suggests that Native Hawaiian girls may be more likely to manifest verbal aggression, whereas Native Hawaiian boys may be more likely to engage in physically aggressive behaviors. Furthermore, Native Hawaiian girls with higher aggression scores tended to report higher depression scores (Makini, et al., 1996).

Discussion

This article has summarized the peer-reviewed literature published to date regarding the prevalence of mental health problems among Native Hawaiians; however, it should be noted that this review does not purport to present the complete picture of Native Hawaiian mental health status, given the inherent bias in reviewing only published, peer-reviewed literature. Furthermore, it should be noted that the focus of this article was on mental health problems—and though we highlight mental health problems in selected Native Hawaiian communities, these results represent a small subset of the Native Hawaiian population. Despite these biases, this article draws from the available literature and discusses strategies for working toward a more comprehensive understanding of Native Hawaiian mental health.

The literature to date is unambiguous regarding the mental health status of Native Hawaiians (Takeuchi, et al., 1987). The empirical data validate the theories regarding Native Hawaiian mental health. With few exceptions, Native Hawaiians manifest greater mental health problems than do non-Hawaiians. In particular, research from the NHMHRDP shows that Native Hawaiian adolescent girls, compared with Native Hawaiian boys, report higher levels of symptomatology in all diagnostic categories that were assessed (Makini, et al., 1996). Further studies are needed to understand the differences between symptomatology and degrees of impairment, and to examine more comprehensively the entire spectrum of mental health concerns.

Much of the literature on Native Hawaiian mental health consists of studies conducted with adolescent populations. Future research may include a life-span perspective as well, by expanding the understanding of Native Hawaiian mental health to include children, adolescents, adults, and the elderly. Some experts have noted concerns that the decreased contemporary roles of $k\bar{u}puna$ (elders) might put elderly Native Hawaiians at risk for mental health problems (Browne, Fong, & Mokuau, 1994). Research on Native Hawaiians of all ages could be useful in looking at the various developmental trajectories of Native Hawaiian mental health, and would provide essential information on the mental health needs of all generations of Native Hawaiians.

The literature reviewed here points to implications for communities. Because Native Hawaiians manifest greater mental health problems than do non-Hawaiians, communities will need to play a key role in developing and implementing culturally

responsible mental health services, since members of the Native Hawaiian community have expertise and insight into issues facing Native Hawaiians. Given the current status of Native Hawaiian mental health and the Hawaiian orientation toward holistic well-being, mental health services should encompass preventative programs—for issues such as suicide prevention—as well as culturally appropriate treatment for mental health problems that may integrate aspects of Western medicine and Native Hawaiian healing practices. Communities may also take an active ownership in shaping the direction and focus of research efforts through collaborations consisting of active participation in planning and implementing studies and by providing community access to study groups. Conversely, researchers should recognize the intrinsic expertise of community group members by inviting and nurturing partnerships. Research with Native Hawaiian communities should be responsive to community problems and issues affecting mental health, and should build on existing knowledge about working within these communities (Matsuoka & Benson, 1996; McGregor, Minerbi, & Matsuoka, 1998).

The role of 'ohana (family) is understood as being the entity that establishes, models and maintains the norms and expectations of the family's culture, and is highlighted by the research literature as one of the protective factors in Native Hawaiian mental health (Goebert, et al., 2000; Nahulu et al., 1996; Yuen, et al., 1996). Finding culturally meaningful ways to enhance and empower families whose lives may be compromised by psychological and environmental stress is important given the current state of Native Hawaiian mental health; however, this may be a challenge for community providers. What differentiates those families who are resilient to life stresses from those who are more vulnerable under similar situations? Some researchers approach this question by fine-tuning measurement tools in an effort to understand Native Hawaiian families (McCubbin, Thompson, Thompson, Elver, & McCubbin, 1998). In the absence of a viable family structure, a longitudinal study on Kaua'i suggested that children and adolescents can develop resiliency from vulnerabilities to physical and mental problems through a cluster of protective factors, some of which necessitate assertive, targeted community intervention, as well as finding personal social support-through a caregiver, a trusted friend, or a supportive spouse (Werner, 1992, 1993; Werner, Bierman, & French, 1971; Werner & Smith, 1977, 1982, 1992). Conclusions from the study indicated that informal community responses can provide significant protection against adversity, which concurs with the emphasis on the importance of community development and natural support systems in E Ola Mau.

Future studies should be concerned with utilizing culturally relevant and culturally responsible methods and measures. Some of the research to date has demonstrated an awareness of cultural issues by the researchers. For example, some research has examined the appropriateness of various measurement tools for use with Native Hawaiian populations (McArdle, Johnson, Hishinuma, Miyamoto, & Andrade, 2001; Prescott et al., 1998). However, those who conduct research on specific racial or ethnic groups should be mindful that in an attempt to understand phenomenology and create parsimonious models of understanding, assumptions, stereotypes and over-generalizations should not be made about the group as a whole.

Given the role of culture, measurement of cultural identity is an essential component of understanding Native Hawaiian mental health issues. In addition, much of the Native Hawaiian community is of mixed ancestry. It is generally believed that mixed-ancestry identity may have implications for mental health, though this association is not yet clearly understood and has not been studied to date. The role, if any, of mixed-heritage identity on Native Hawaiian mental health may be investigated in future studies.

Future research should continue to investigate unique aspects of Native Hawaiian mental health. Furthermore, studies may consider explorations of culturally based interventions, such as hoʻoponopono (conflict resolution), laʻau lapaʻau (herbal medicine) and lomilomi (massage). Given traditional Native Hawaiian conceptions of well-being and the high rates of comorbidity between mental health problems and other conditions such as health concerns and substance use (Grandinetti et al., 2000; Kaholokula, Grandinetti, Crabbe, Chang, & Kenui, 1999; U.S. Department of Health and Human Services, 1999), these future investigations should be designed from a holistic perspective.

Sociocultural factors are now formally recognized by Western psychiatry as critical in assessing the presence and etiology of mental illness. The DSM-IV has acknowledged the importance of cultural issues by including an outline for cultural formulation. Hopefully, the inclusion of cultural issues in the DSM-IV signals an increased institutional respect for cultural meaning systems—the systemic, organized body of knowledge that structures a society, which includes language; religion; political, economic, legal and social structures; norms of behavior; artistic expressions; and ideas about well-being, illness and healing. Currently, ethnic minority groups are often misdiagnosed due to a lack of understanding of cultural

contexts. Mentoring and encouraging indigenous mental health practitioners and researchers are essential to conducting culturally competent, culturally congruent research that withstands methodological and statistical scrutiny.

Kūkulu i nā Hūlili: Bridging the Gap

In order to bridge the gaps in knowledge regarding Native Hawaiian mental health, the 1985 *E Ola Mau* report recommended that investigations into Native Hawaiian mental health should: (1) broaden studies of Native Hawaiian mental health to encompass psychosocial components, such as family, work, community, performance and adjustment; (2) develop measures of ethnic identity to assess lifestyles and needs of various sectors of the Native Hawaiian community; (3) examine Native Hawaiian options and preferences for mental health services; and (4) conduct research on Native Hawaiian healers and healing practices. Though studies examining Native Hawaiian mental health continue to strive for higher levels of cultural competence and scientific merit, much progress has already been made to date.

Several studies have expanded beyond traditional epidemiological studies to include psychosocial components, such as family environment (Goebert, et al., 2000), household characteristics (Guerrero, et al., 2003), social support (Nahulu, et al., 1996), academic performance (Hishinuma, et al., 2001a), gender (Hishinuma, Miyamoto, Nishimura, & Nahulu, 2000), self-esteem (Miyamoto et al., 2000; Miyamoto, et al., 2001), cultural affiliation (Yuen, Nahulu, Hishinuma, & Miyamoto, 2000), and major life events (Miyamoto, et al., 2001b). Future studies on Native Hawaiian mental health should continue to examine other psychosocial factors and their effect on psychological well-being.

Hishinuma and colleagues (2000) developed a measure of Hawaiian identity that has been used in the Native Hawaiian mental health literature. Further investigations are needed to examine the components that comprise culture, to study the relationship between cultural identity and psychological well-being, and to explicate the relationship of various aspects of culture with risk and protective factors.

Some research has examined treatment preferences of Native Hawaiian adolescents (Andrade et al., 1994; Bell, Goebert, Andrade, Johnson, McDermott, Hishinuma, et al., 2001a; Bell, et al., 2001b). However, little formal research has been conducted on Native Hawaiian healers and healing practices. The difficulty in conducting research on Native Hawaiian healing—due to the spiritual component involved in many of the healing practices—is recognized; however, future studies, when applicable, could seek to understand aspects of Native Hawaiian healing.

Progress in bridging some of the gaps in knowledge about Native Hawaiian mental health is being made. To bridge the gap between traditional academic research and the Native Hawaiian community, researchers and practitioners working with Native Hawaiian communities should be sensitive to cultural practices and issues. The E Ola Mau report described the importance of developing a cadre of knowledgeable, culturally competent researchers, many of whom should be Native Hawaiian. The growing number of Native Hawaiian researchers and practitioners has helped to bridge the gap between traditional academic research and the Native Hawaiian community. Continued mentorship of promising future Native Hawaiian scholars is necessary to sustain the gains in furthering knowledge about Native Hawaiian mental health in a scientifically sound and culturally competent manner. Building bridges in these ways between research and Native Hawaiian communities is the key to understanding Native Hawaiian mental health.

E holomua kākou a pau!

Let us strive to make progress!

AUTHORS' NOTE

We would like to thank Naleen Andrade, 'Iwalani Else, Deb Goebert, and Earl Hishinuma for their support of this project and for their invaluable feedback on drafts of this article.

REFERENCES

- American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders. (4th ed.). Washington, DC: Author.
- Andrade, N. N., Johnson, R. C., Edman, J., Danko, G. P., Nahulu, L. B., Makini, G. K., et al. (1994). Non-traditional and traditional treatment of Hawaiian and non-Hawaiian adolescents. *Hawai'i Medical Journal*, 53, 344–347.
- Bell, C. K., Goebert, D. A., Andrade, N. N., Johnson, R. C., McDermott, J. F., Hishinuma, E. S., et al. (2001a). Sociocultural factors influencing adolescent preference and use of Native Hawaiian healers. Complementary Therapies in Medicine, 9, 224–231.
- Bell, C. K., Goebert, D. A., Miyamoto, R. H., Hishinuma, E. S., Andrade, N. N., Johnson, R. C., et al. (2001). Sociocultural and community factors influencing the use of Native Hawaiian healers and healing practices among adolescents in Hawaii. *Pacific Health Dialog*, 8(2), 249–259.
- Blaisdell, K. (1989). Historical and cultural aspects of Native Hawaiian health. Social Process in Hawaii, 32, 1–21.
- Blaisdell, K., & Mokuau, N. (1991). Kānaka Maoli: Indigenous Hawaiians.
 In N. Mokuau, Handbook of Social Services for Asian and Pacific Islanders. New York,
 NY: Greenwood Press.
- Braun, K. L., Yang, H., Onaka, A. & Horiuchi, B. Y. (1996). Life and death in Hawai'i: Ethnic variations in life expectancy and mortality. Hawai'i Medical Journal, 55, 278–283.
- Browne, C., Fong, R., & Mokuau, N. (1994). The mental health of Asian and Pacific Island elders: Implications for research and mental health administration. Journal of Mental Health Administration, 21, 52–59.
- Crabbe, K. M. (1998). Etiology of depression among Native Hawaiians. Pacific Health Dialog, 5(2), 341–345.
- Goebert, D., Nahulu, L., Hishinuma, E., Bell, C., Yuen, N., Carlton, B., et al. (2000). Cumulative effect of family environment on psychiatric symptomatology among multiethnic adolescents. *Journal of Adolescent Health*, 27, 34–42.
- Grandinetti, A., Kaholokula, J. K., Crabbe, K. M., Kenui, C. K., Chen, R., & Chang, H. K. (2000). Relationship between depressive symptoms and diabetes among Native Hawaiians. *Psychoneuroendocrinology*, 25, 239–246.
- Guerrero, A. P. S., Hishinuma, E., Andrade, N. N., Bell, C. K., Kurahara, D. K., Lee, T. G., et al. (2003). Demographic and clinical characteristics of adolescents in Hawai'i with obsessive-compulsive disorder. Archives of Pediatric and Adolescent Medicine, 157, 665–670.

- Hammond, O. W. (1988). Needs assessment and policy development: Native Hawaiians as Native Americans. American Psychologist, 43, 383–387.
- Hishinuma, E. S., Andrade, N. N., Johnson, R. C., McArdle, J. J., Miyamoto, R. H., Nahulu, L. B., et al. (2000). Psychometric properties of the Hawaiian culture scale adolescent version. *Psychological Assessment*, 12 (2), 140–157.
- Hishinuma, E. S., Foster, J. E., Miyamoto, R. H., Nishimura, S. T., Andrade, N. N., Nahulu, L. B., et al. (2001a). Association between measures of academic performance and psychosocial adjustment for Asian/Pacific-Islander adolescents. School Psychology International, 22 (3), 303–319.
- Hishinuma, E. S., Johnson, R. J., Foster, J. E., Nishimura, S. T., Miyamoto, R. H., Yuen, N. Y. C., et al. (2001b). Associations between actual and self-reported grades for ethnically diverse Asian/Pacific Islander adolescents. Research in Education, 65, 53–69.
- Hishinuma, E. S., Miyamoto, R. H., Nishimura, S. T., Goebert, D. A., Yuen, N. Y. C., Makini, G. K., et al. (2001c). Prediction of anxiety disorders using the State-Trait Anxiety Inventory for multiethnic adolescents. *Anxiety Disorders*, 15, 511–533.
- Hishinuma, E. S., Miyamoto, E. H., Nishimura, S. T., & Nahulu, L. B. (2000). Differences in State-Trait Inventory scores for ethnically diverse adolescents in Hawai'i. Cultural Diversity and Ethnic Minority Psychology, 6, 73–83.
- Hishinuma, E. S., Nishimura, S. T., Miyamoto, R. H., & Johnson, R. C. (2000). Alcohol use in Hawai'i Medical Journal, 59, 329–335.
- Kaholokula, J. K., Grandinetti, A., Crabbe, K. M., Chang, H. K., & Kenui, C. K. (1999). Depressive symptoms and cigarette smoking among Native Hawaiians. Asian-Pacific Public Health, 11 (2), 60–64.
- Loo, S. K., & Rapport, M. D. (1998). Ethnic variations in children's problem behaviors: A cross-sectional, developmental study of Hawai'i school children. *Journal of Child Psychology and Psychiatry*, 39 (4), 567–575.
- Makini, G. K., Hishinuma, E. S., Kim, S. P., Carlton, B. S., Miyamoto, R. H., Nahulu, L. B., et al. (2001). Risk and protective factors related to Native Hawaiian adolescent alcohol use. Alcohol and Alcoholism, 36 (3), 235–242.
- Makini, G. K., McDermott, J. F., Andrade, N. N., Danko, G. P., Nahulu, L. B., Nordquist, C. R., et al. (1996). Psychiatric symptoms of Hawaiian adolescents. Cultural Diversity and Mental Health, 2 (3), 183–191.
- Marsella, A. J. (1993). Sociocultural foundations of psychopathology: A historical overview of concepts, events and pioneers prior to 1970. Transcultural Psychiatric Research Review, 30, 97–141.

- Marsella, A. J., Oliviera, J. M., Plummer, C. M., & Crabbe, K. M. (1995). Native Hawaiian (Kānaka Maoli) culture, mind, and well-being. In H. I. McCubbin, E. A. Thompson, A. I. Thompson, & J. E. Fromer (Eds.), Resiliency in ethnic minority families. Volume 1: Native and immigrant American families. Madison, WI: University of Wisconsin System.
- Matsuoka, J., & Benson, M. (1996). Economic change, family cohesion, and mental health in a rural Hawai'i community. Families in Society: The Journal of Contemporary Human Services, 77 (2), 108–115.
- McArdle, J. J., Johnson, R. C., Hishinuma, E. S., Miyamoto, R. H., & Andrade, N. N. (2001). Structural equation modeling of group differences in CES-D ratings of Native Hawaiian and non-Hawaiian high school students. *Journal of Adolescent Research*, 16 (2), 108–149.
- McCubbin, H. I., Thompson, A. I., Thompson, E. A., Elver, K. M., & McCubbin, M. A. (1998). Ethnicity, schema and coherence: Appraisal processes for families in crisis. In H. I. McCubbin, E. A. Thompson, A. I. Thompson, & J. E. Fromer (Eds.), Stress, Coping and Health in Families: Sense of Coherence and Resiliency. Thousand Oaks, CA: Sage Publications.
- McGregor, D. P., Minerbi, L., & Matsuoka, J. (1998). A holistic assessment method of health and well-being in Native Hawaiian communities. *Pacific Health Dialog*, 5 (2), 361–369.
- Miyamoto, R. H., Hishinuma, E. S., Nishimura, S. T., Nahulu, L. B., Andrade, N. N., & Goebert, D. A. (2000). Variation in self-esteem among adolescents in an Asian/Pacific Islander sample. Personality and Individual Differences, 29, 13–25.
- Miyamoto, R. H., Hishinuma, E. S., Nishimura, S. T., Nahulu, L. B., Andrade, N. N., Goebert, D. A., et al. (2001a). Path models linking correlates of self-esteem in a multiethnic adolescent sample. *Personality and Individual Differences*, 31, 701–712.
- Miyamoto, R. H., Hishinuma, E. S., Nishimura, S. T., Nahulu, L. B., Andrade, N. N., Johnson, R. C., et al. (2001b). Equivalencies regarding the measurement and constructs of self-esteem and major life events in an Asian/Pacific Islander sample. Cultural Diversity and Ethnic Minority Psychology, 7 (2), 152–163.
- Mokuau, N. (1990). The impoverishment of Native Hawaiians and the social work challenge. Journal of Health and Social Work, 15 (3), 235–241.
- Nahulu, L. B., McDermott, J. F., Andrade, N. N., Danko, G. P., Makini, G. K., Johnson, R. C., et al. (1996). Psychosocial risk and protective influences in Hawaiian adolescent psychopathology. Cultural Diversity and Mental Health, 2 (2), 107–114.
- Native Hawaiian Educational Assessment Project [NHEAP] (1983). Native Hawaiian Educational Assessment Project. Honolulu, HI: The Kamehameha Schools/Bernice Pauahi Bishop Estate.

- The Native Hawaiian Health Research Consortium (1985a). E ola mau: The Native Hawaiian health needs study. Honolulu, HI: Alu Like, Inc.
- The Native Hawaiian Health Research Consortium (1985b). E ola mau: The Native Hawaiian health needs study: Mental health task force report. Honolulu, HI: Alu Like, Inc.
- Office of Hawaiian Affairs [OHA] (1998). Native Hawaiian Databook. Honolulu, HI: Planning and Research Office, Office of Hawaiian Affairs.
- Prescott, C. A., McArdle, J. J., Hishinuma, E. S., Johnson, R. J., Miyamoto, R. H., Andrade, N. N., et al. (1998). Prediction of Major Depression and Dysthymia from CES-D scores among ethnic minority adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37 (5), 495–503.
- Pukui, M., Haertig, E., & Lee, C. (1972). Nānā I Ke Kumu: Volume I. Honolulu, HI: Queen Lili'uokalani Center.
- Streltzer, J., Rezentes, W. C., & Arakaki, M. (1996). Does acculturation influence psychosocial adaptation and well-being in Native Hawaiians? *International Journal of Social Psychiatry*, 42 (1), 28–37.
- Takeuchi, D., Higginbotham, N., Marsella, A., Gomes, K., Kwan, L., Ostrowski, B., et al. (1987). Native Hawaiian mental health. In A. B. Robillard & A. J. Marsella (Eds.), Contemporary issues in mental health research in the Pacific Islands. Honolulu, HI: University of Hawai'i Press.
- Takeuchi, D. T., Kuo, H. S., Kim, K., & Leaf, P. (1989). Psychiatric symptom dimensions among Asian Americans and Native Hawaiians: An analysis of the Symptom Checklist. *Journal of Community Psychology*, 17, 319–329.
- Tseng, W. S. (2001). Handbook of Cultural Psychiatry. San Diego, CA: Academic Press.
- U.S. Department of Health and Human Services (1999). Mental health: A report of the surgeon general – executive summary. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.
- Werner, E. E. (1992). The children of Kaua'i: Resiliency and recovery in adolescence and adulthood. Journal of Adolescent Health, 13, 262–268.
- Werner, E. E. (1993). Risk, resilience, and recovery: Perspectives from the Kaua'i Longitudinal Study. Development and Psychopathology, 5, 503–515.
- Werner, E. E., Bierman, J. M., & French, F. E. (1971). The children of Kaua'i: a longitudinal study from the prenatal period to age ten. Honolulu, HI: University of Hawai'i Press.
- Werner, E. E., & Smith, R. S. (1977). Kaua'i's Children Come of Age. Honolulu, HI: University of Hawai'i Press.

- Werner, E. E., & Smith, R. S. (1982). Vulnerable but invincible: A longitudinal study of resilient children and youth. New York, NY: McGraw-Hill.
- Werner, E. E., & Smith, R. S. (1992). Overcoming the odds: High-risk children from birth to adulthood. Ithaca, NY: Cornell University Press.
- Yuen, N. Y. C., Andrade, N., Nahulu, L., Makini, G., McDermott, J. F., Danko, G., et al. (1996). The rate and characteristics of suicide attempters in the Native Hawaiian adolescent population. Suicide and Life-Threatening Behavior, 26 (1), 27–36.
- Yuen, N. Y. C., Nahulu, L. B., Hishinuma, E. S., & Miyamoto, R. H. (2000). Cultural identification and attempted suicide in Native Hawaiian adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 39 (3), 360–367.

ABOUT THE AUTHORS

SooJean Choi-Misailidis, PhD, is assistant professor in the Department of Psychiatry at the John A. Burns School of Medicine at the University of Hawai'i at Mānoa. C. Malina Kaulukukui, LSW, is an administrator at the Behavioral Health Institute and an assistant specialist in the Department of Psychiatry.