

The Relationship of Cultural Affiliation and Cultural Congruency to Depression,
Anxiety, and Psychological Well-Being among Native Hawaiian College Students

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ABSTRACT

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Native Hawaiians are the indigenous people of Hawai'i or those living descendants from the original inhabitants of the Hawaiian Islands. Despite the preponderance of evidence of health disparities within this community there is a scarcity of research on the mental health and psychological well-being of this population. Native Hawaiians and other indigenous peoples share a common history of devastating losses from the fallout of imposed colonialism including the decline of their cultural identity. Some research suggests that identifying with one's ethnic minority group may act as a psychological buffer and insulate the potential negative impact of some of the historical injustices, marginalization and disparities found within these groups (Outten, Schmitt, Garcia, & Branscombe, 2009; Smith & Silva; 2011).

The purpose of this study was to examine the relationship between the cultural variables of Hawaiian cultural affiliation, campus cultural congruence, and anxiety, depression, and psychological well-being among a sample of Native Hawaiian college participants ($N = 184$). It was hypothesized that higher levels of cultural affiliation and cultural congruity would be inversely related to anxiety and depression. Additionally, it was hypothesized that higher cultural affiliation and cultural congruity would result in higher levels of psychological well-being and lower levels of psychological distress. A mediation model was used to further explore these

relationships. Finally, the study explored how cultural congruity moderates the relationship between cultural affiliation and psychological well-being and psychological distress.

Correlational analyses and multiple regression analyses were used to evaluate the relationships among these variables. The results confirmed that higher levels of cultural affiliation and cultural congruity were inversely related to anxiety and depression. Moreover, the findings indicated that cultural affiliation explained variance in psychological well-being over and above that accounted for by anxiety and depression, suggesting a direct effect between cultural affiliation and psychological well-being. Finally, it was found that Native Hawaiian students who reported both higher cultural affiliation and higher cultural congruity also reported greater psychological well-being, suggesting that the strength of campus cultural congruity moderates the impact of cultural affiliation on the psychological well-being of Native Hawaiian students. The limitations and implications for future research and counseling are discussed.

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Chapter I

INTRODUCTION

Native Hawaiian and other Pacific Islanders (NHPI) are persons descendent from the original inhabitants of Hawai'i, Guam, Samoa, or other Pacific Islands (Office of Management and Budget [OMB], 1997; U.S. Census Bureau, 2012). Native Hawaiians, specifically, "...are individuals with any quantum of ancestral Hawaiian blood" (Carlton et al., 2006, p. 292), whose indigenous Hawaiian ancestry predates initial Western contact in 1778. Through the entirety of this document Native Hawaiian and Hawaiians may be used interchangeably. Native Hawaiians were recently noted as the largest subpopulation within the NHPI category, numbering more than a half million (U.S. Census Bureau, 2012) and representing approximately 44% of all NHPI, and 0.2 percent of the total U.S. population. According to recent U.S. Census reports, collectively NHPI were one of the fastest growing minority populations within the United States, increasing in size by 40% between 2000 and 2010 (U.S. Census Bureau, 2012). However, only 14% of single race NHPI over the age of 25 had attained a bachelor's degree when compared to 28% for the total U.S. population (U.S. Census Bureau, 2011). Research that attempts to account for the educational, psychosocial, health, socioeconomic and numerous other disparities present within the NHPI population have been egregiously insufficient (Kana'iaupuni, 2011; Okamoto, 2011; Panapasa, Crabbe, & Koholokula, 2011).

It was the intent of the author to explore the relationship of cultural factors and psychological distress and well-being among Native Hawaiian college students. In order to better inform the process, the context of where Native Hawaiians are and have been located in the extant research both in the past and the present was relevant to consider in the foundation of this

discussion. Native Hawaiians and the NHPI population as a whole, represent a small portion of the overall U.S. citizenry, but disproportionately suffer from longstanding historical evidence of adverse health, educational, sociocultural and socioeconomic challenges.

In the state of Hawai'i, Native Hawaiians constitute one of several major ethnic groups (e.g., Chinese, Japanese, Filipinos, Caucasian, and mixed/non-Hawaiians). Although the state of Hawai'i has often been recognized for the longevity of its population, Native Hawaiians have not necessarily shared in this good fortune. For example, Japanese experience one of the greatest life expectancies at 82.1 years, the general U.S. population 75.2 years, while Native Hawaiians have been reported to have one of the lowest life expectancies at 68.3 years (Mau, 2010; Moy, Sallis, & David, 2010). Contributing to lower life expectancy within the Native Hawaiian population may be the presence of disproportionately higher rates of health related challenges, including obesity, heart disease, cancer, bronchitis/asthma, and diabetes (Andrade et al., 2006; Juarez, Samoa, Chung, & Seto, 2010; Mau, 2010; Moy et al., 2010; Yuen, Nahulu, Hishinuma, & Miyamoto, 2000). Additionally, Native Hawaiians also experience higher rates of unemployment, poverty, incarceration, youth deaths, teen pregnancy, high school dropouts, substance abuse, physical abuse, and youth suicide (Akau et al., 1998; Andrade et al., 2006; Hishinuma et al., 2001; 2005, Umemoto & Hishinuma, 2011). Despite a growing awareness of the inequities experienced by many Native Hawaiians and other Pacific Islanders within the U.S., they continue to receive scarce attention in the context of social science research on ethnic and racial minorities.

In addition to their small numerical presence within the U.S., one of the most probable contributing factors to the dearth of research available on Native Hawaiians and other Pacific Islanders is the historical trend of social scientists to collapse the NHPI population under the

broader ethno-racial category of (API or AAPI) Asian Pacific Islander or Asian Americans and Pacific Islanders (McCubbin & Marsella, 2009; Moy et al., 2010; Tualii, Quenga, Samoa, Samanani, & Dover, 2011). Srinivasan and Gillermo (2000), poignantly commented on the limited public health knowledge concerning both the Asian American and NHPI communities:

Asian Americans and Native Hawaiian/Pacific Islanders have to a large degree been “invisible” in public health debates and their interests disregarded in immigration law and practices, and these factors have obscured our understanding of the sociocultural and ecopolitical factors that influence their health and quality of life. (p.1731)

The complex heterogeneity of these populations can and has been obscured by the AAPI/API category. Extracting meaning from the aggregation of their data has proved problematic, and much of the uniqueness of their experiences and the richness of their diversity potentially lost in the equation.

What's in a name or category?

Prior to the 2000 U.S. Census, data on Native Hawaiians and other Pacific Islanders was predominantly collected under the umbrella category of Asian Americans and Pacific Islanders (API or AAPI) and with less frequency also seen in the literature as Oceanic People and Polynesians (McCubbin & Marsella, 2009). Beginning in 2000, the United States Census Bureau (initiated by the Executive Office of Management and Budget [OMB], 1997) instituted a novel approach of recognizing and classifying Native Hawaiians and other Pacific Islanders (NHPI) as a separate race from the previously combined category of Asian American and Pacific Islander (AAPI/API). The disaggregated distinction becomes beneficial to both Asian American and Native Hawaiian and other Pacific Islander populations through the improved accuracy, consideration and implementation of subsequent research produced on the behalf of either ethno-

racial group. At a glance, the aggregated data begins to reveal notable differences between the Asian communities and NHPI communities within the U.S. population.

The 2010 U.S. Census, revealed that U.S. residents of Asian descent accounted for approximately 17.3 million or 5.6 percent of the total U.S. population, whereas, collectively NHPI represent 1.2 million or less than 1 percent (0.4) of the total U.S. population (U.S. Census Bureau, 2012). In simply disaggregating the numerical difference between how many NHPI reside within the U.S., as compared to Asians, the inequity between the density of these two populations becomes clearly apparent. Therefore, one of the challenges of using aggregated data previously compiled under the U.S. census category of API/AAPI is the increased potential to make erroneous assumptions about the generalizability of the data for either group.

In another example, consider that 50% of single race Asians 25 years and older in the U.S. reported having a post secondary education equivalent to a bachelor's degree or greater, as compared to only 14% of single race NHPI 25 years or older (U.S. Census Bureau, 2011). Therefore, many NHPI as a population may be half as likely to acquire a bachelor's degree or beyond when compared to the general U.S. population (28%), and considerably less likely than many Asian Americans (50%).

Further complicating their educational attainment, NHPI have also been negatively impacted by their inclusion in aggregated data with Asians. For example, in the form of graduate school admission policies implemented to limit API/AAPI admissions in reaction to overrepresentation of Asians in past admissions (Lin-Fu, 1993; Panapasa et al., 2011). Similarly, NHPI college students may also have been subject to being over looked for scholarship opportunities based on their inclusion in the API/AAPI category. Research on the educational experiences of NHPI students is characteristically minimal, but some of the available research

reveals patterns of lower educational attainment extending into college enrollment and graduation rates (Kana'iaupuni, 2011).

The potential importance of educational attainment is inferred by research related to economic and health related markers. For example, higher levels of educational attainment have been seen as a salient predictor of higher income, better health outcomes, and lower levels of unemployment (Braveman, Cubbin, Egerter, Williams & Pamuk, 2010; U.S. Bureau of Labor Statistics, 2010). Additionally, mental and emotional health, have been observed to be positively correlated with academic achievement (Kessler, Foster, Saunders, & Stang, 1995). Therefore, assuming parity in the levels of educational achievement for NHPI as compared to Asian Americans from aggregated data could be misleading and potentially even deleterious in the inferences, interpretation and implementation of such research.

The perpetuated use of the broader racial/ethnic category of API/AAPI in the social science literature and research has resulted in the continuing loss of vital information related to the past and present health, history, patterns and behaviors of Native Hawaiians and NHPIs as a collective racial/ethnic group (Spoer, 2007). Additionally, the use of the more ambiguous category of API/AAPI has obscured differences within the multiple subgroups of these ethnic populations and thereby diminished the ability of social and behavioral scientists to better inform their understanding of the variability of experiences within these ethnic groups (McCubbin & Marsella, 2009).

Uniformity in categorizing NHPI and AAPI communities remains inconsistent in the research literature, thereby obscuring and perpetuating the potential loss of valuable data and information on these populations. In 1997, the U.S. Executive Office of Management and Budget (OMB) officially divided the Asian and Pacific Islander category in to two separate racial

groupings (Moy et al., 2010; U.S. Census Bureau, 2012), resulting in the categorical separation of those of Asian (AA/API) and those of Native Hawaiian and Other Pacific Islander (NHPI) descent. According to Spoer (2007), the rationale behind the OMB decision to disaggregate information on Native Hawaiians and other Pacific Islanders from that of Asian Americans served two main objectives:

- (1) The need for identifying health disparities and issues within Native Hawaiian and Pacific Islander populations apart from Asian populations within the United States, and
 - (2) The need for recognizing and protecting the unique relationship and political status that Native Hawaiians and certain other Pacific Islanders have with the United States.
- (Spoer, 2007, p. 2)

Unfortunately, even with the passage of more than a decade, some federal government entities, public and private sector organizations and institutions continue to report and provide important research data and other information on NHPI populations under the aggregated category of API/AAPI (Panapasa et al., 2011). Inconsistency in the way that Native Hawaiians and other Pacific Islanders have been historically categorized in the literature has potentially hindered a greater understanding of their unmet needs. Successful advocacy related to research efforts and intervention funding is highly dependent upon data that demonstrates and supports a population's needs. Without sufficient racial/ethnic, group specific data, the allocation of funding might be subject to limitations, and thereby hinder adequate federal, state and private monies from being appropriated accordingly (Panapasa et al., 2011; Tualii et al., 2011).

The United States has become increasingly more diverse, along racial and ethnic lines, as citizens of the world migrate towards their hopes and visions of better opportunities (e.g.,

financial, educational) or more hospitable political climates in foreign lands. A recent release by the U.S. Census Bureau (2011) reports that minorities now account for an estimated 111.9 million of the total U.S. population. Given the overall estimate of the total U.S. population slightly exceeds 300 million (U.S. Census Bureau, 2012), minorities account for approximately one in every three U.S. citizens. Therefore, current and future research conducted in the fields of psychology, education, and health care, should strive to address our changing demographics, and more importantly seek to respond to and reflect the needs of a diverse and increasingly multiethnic, multilingual and multicultural nation. Additionally, future research on minorities must consider and incorporate the vast within group differences that may be occurring within the experiences of these minority populations.

For example, American Indians and Alaska Natives (AI/AN) account for 5.2 million or 1.7% of the U.S. population (U.S. Census Bureau, 2012), but within this grouping there are more than 560 federally recognized tribes with various distinct histories, cultures, and languages (Department of the Interior, Bureau of Indian Affairs, 2010; Jackson, 2006; Sue & Sue, 2003). Similarly, the previously used Asian American and Pacific Islander (API/AAPI) category referred to both a myriad of Asian peoples (i.e., directly or ancestrally descendent from the peoples of China, Japan, Korea, Southeast Asia, and Asia), as well as, Native Hawaiian and Other Pacific Islanders.

Native Hawaiian and Other Pacific Islanders also consist of a historically, linguistically, and culturally diverse collective of more than 25 subgroups of peoples from Melanesia, Micronesia, and Polynesia (Jackson, 2006). Successful lobbying and advocacy within the NHPI and AA communities has resulted in the recognition of their distinct racial/ethnic categories (OMB, 1997; Spoer, 2007) and has expanded the acknowledgment and appreciation of the

unique lived experiences of both the Asian American and Native Hawaiian and other Pacific Islander communities.

There is still much room for improvement and promotion of compliance and consistency in the manners and methods in which data is collected, categorized and disseminated in relation to NHPI and AA populations (Panapasa et al., 2011; Spoer, 2007). Furthermore, there is enough evidence of the presence of health and economic disparities within the NHPI population to demonstrate the need for more interdisciplinary research aimed at better understanding and addressing the multiple challenges present within their communities.

Mental Health and Well-being within the Native Hawaiian Population

Few studies are available on the mental, emotional and over all health and well-being of the Native Hawaiian population, research that is available reveals the presence of multiple challenges and describes less than optimal conditions for many of the indigenous people of Hawai'i (Browne, Mokuau, & Braun, 2009; Hammond, 1988).

The majority of Native Hawaiians (55%) live in the state of Hawai'i (U.S. Census Bureau, 2012). When compared to other major ethnic groups within Hawaii, Native Hawaiians were found to have among the highest rates of mental illness (Carlton et al., 2006; Makini et al., 1996; Native Hawaiian Health Consortium, 1985). In comparing a community based sample of Native Hawaiian adolescents against previously published epidemiological studies, Andrade et al. (2006), found Native Hawaiian youths in general, and Native Hawaiian females in particular, to be at higher risk for any DSM (Diagnostic and Statistical Manual of Mental Disorder) diagnosis when compared with non-Native Hawaiian adolescents.

Literature based on aggregated data often suggests that Asian Americans and Native Hawaiian and Other Pacific Islander adolescents have the lowest rates of completed suicide

while Native American youths exhibit the highest rates (Spirito & Esposito-Smythers, 2006). While there is compelling research data to support the later inference regarding Native American youth and higher suicide related behaviors, (Gould, Greenberg, Velting & Shaffer, 2006; Shaughnessy, Doshi, & Jones, 2004) some of the disaggregated research suggests similar behaviors within the NHPI population. For example, Yuen et al., (2000) found Native Hawaiian adolescents to have significantly higher rates of suicide attempts (12.9%) in comparison with other adolescents in the state of Hawai'i (9.6%). Similarly, Else, Andrade, and Nahulu (2007) found that in disaggregated data by age and ethnicity in the state of Hawai'i, Native Hawaiians between the ages of 15-44 years had significantly higher rates of completed suicide.

In general, there was a paucity of research on Native Hawaiians and other Pacific Islanders in relation to their psychological well-being and distress, but these few studies suggest the need for more research that examines both potential protective factors and sources of distress within these communities. A critical element in the advancement of our understanding of the experiences of various ethnic minority groups must also be inclusive of the historical context of their relationship within the dominant culture. Native Hawaiians and other Pacific Islanders may share many cultural similarities with Asian Americans (e.g., collectivism, filial piety, familial connection and reverence for nature), but what is often missing from the interdisciplinary discourse regarding many NHPI groups is the historical distinction of their membership as indigenous peoples. Little is known and understood regarding how this relationship may influence their cultural, economic, educational, physical, social, spiritual and psychological well-being in the aftermath of colonization.

Indigenous Peoples

The terms indigenous, aboriginal, and first nation/first peoples, generally refer to a collective group of peoples whose ancestors are historically considered the original, or longest known inhabitants of a regional area (Else, Andrade, & Nahulu, 2007; Neufeldt & Guralnik, 1994; Yuen et al., 2000). American Indians/Alaska Natives, Native Hawaiians and other Pacific Islanders are some of the indigenous groups residing within U.S. controlled states and territories. Although these indigenous groups are dramatically diverse in terms of their history, languages, cultures and ancestral lands, they do share a number of similar post-colonial experiences. Devastating losses and deleterious statistics, related to the physical, mental/emotional, cultural and the spiritual health of indigenous peoples, is far too common in the wake of colonization (Adams, 1995; Duran & Duran, 1995; McCubbin & Marsella, 2009; Zinn, 2003).

Indigenous peoples are often overrepresented in indices that suggest a poorer overall quality of life (e.g., low SES, poor health statistics, lower academic achievement, higher rates of unemployment or under employment, and higher incarceration rates), when compared to the general population (Else, Andrade, & Nahulu, 2007; LaFromboise, 2006; Sue & Sue, 2003). Recently, the literature has begun to reflect an increasing interdisciplinary acknowledgment of the collective history of atrocities (e.g., exploitation, dispossession, systemic racism and oppression, cultural and literal genocide, etc.) that have befallen the original inhabitants of the Americas and beyond in the aftermath of colonization (Freire, 1970; Yellow Horse Brave Heart & DeBruyn, 1998; Zinn, 2003). A small, but increasing number of scholars have begun to explore the implications of this shared history on the present day descendants of indigenous peoples (Yellow Horse Brave Heart & DeBruyn, 1998; Hunter & Harvey, 2002; McCubbin & Marsellas, 2009; Morris, 2007; Strickland, Walsh, & Cooper, 2006).

Regardless of the state, territory, or continent, there is mounting evidence of a disproportionate representation of adverse conditions within many indigenous populations post colonization. Rigorous research aimed at exploring the impact of historical trauma on indigenous peoples both nationally and globally has been insufficient. The potential relationships that exist between the often tumultuous past (post-contact) of indigenous peoples and the less than optimal present-day conditions they often find themselves immersed in, has not yet been adequately addressed by historians and social scientist alike.

One of the more disturbing illustrations of unfavorable health conditions present within indigenous U.S. groups, lies within the fact that American Indians/Alaska Natives (AI/AN) are consistently ranked among the highest in prevalence rates for suicides in the United States (Gould et al., 2006; Shaughnessy et al., 2004). Comparably, aboriginal adults and youth in Canada (Frohlich, Ross, & Richmond, 2006; Morris, 2007) have also been linked to higher burdens of health disparities and suicide rates. Amongst the adolescent aboriginals of Australia higher incidents of youth suicides have also been commonly reported (Ralph, Hamaguchi, & Cox, 2006). Similarly, some of the literature suggests that Native Hawaiian youth, when compared with other ethnic groups in the state of Hawai'i, exhibit a higher lifetime prevalence of suicide attempts (Liu & Alameda, 2011).

The United States and most industrialized nations exhibit a bimodal distribution of completed suicides which reflects two peaks of suicide risk, one in young adults, and then another in older adults (Else, Andrade, & Nahulu, 2007). Research suggests that Native Hawaiians show an unusual departure from this pattern. In Native Hawaiians, Else, Andrade, and Nahulu, (2007) reported a "sharp increase in suicide rates from adolescence to young adulthood with 52.8/100,000 for 15-24-year olds, increasing to 72.4/100,000 for 25-44-year olds,

approximately seven times the national average” (p. 483). Unlike the general population, Native Hawaiians appear to experience a steady decline in completed suicide rates beginning in their mid-40s that continues throughout the life span cycle (Else, Andrade, & Nahulu, 2007).

In recent decades, a concerted investment has been made by some researchers to inform the literature on the suicide behaviors of Native Hawaiian adolescents and other Pacific Islander youth (Else, Andrade, & Nahulu, 2007; Hishinuma et al., 2000; Makini et al., 1996; Yuen et al., 2000). Although it is not the intention of the author to focus on suicidal phenomenon within the Native Hawaiian population, the implications of past research in this area further demonstrate the dire need for culturally informed psychosocial research and culturally appropriate interventions. Unfortunately, there continues to be a scarcity of literature available on the psychological behaviors, mental health, well-being and distress within Native Hawaiians and other Pacific Islander populations.

Purpose of the Study

Native Hawaiians and American Indian/Alaskan Natives share a common history of devastating losses of population, culture, sovereignty, and land in the aftermath of colonization (Andrade et al., 2006; Trask, 1999). There is a growing body of literature that suggests that indigenous groups collectively suffer disproportionately from an array of health concerns (Hishinuma et al., 2000; Sue & Sue, 2003). Given the implications of historical and systemic racism (Belcourt-Dittloff & Stewart, 2000) in the United States, educators and psychologist are seated in a privileged capacity to potentially implement positive systemic changes.

The current study aspires to inform and contribute to the literature on the psychological distress and well-being of Native Hawaiians. Furthermore, the intent of the current study was to inform future counseling and educational interventions aimed at addressing the specific needs of

indigenous groups, in a more culturally competent, appropriate and sensitive manner. Many high-risk behaviors can be embedded and expressed in depressive and anxiety related symptoms and affect. Few studies have examined the role of culture in the context of psychological and behavioral phenomenon within indigenous communities (Else, Andrade, & Nahulu, 2007; Joe, Canetto, & Romer, 2008; LaFromboise, 2006; Shaughnessy et al., 2004).

One of the more immediate and enduring losses faced by indigenous populations in the fallout of colonialism was the decline of their cultural identity (e.g., loss of language, religion, customs, through dominant culture indoctrination). The present study examined the relationships between cultural affiliation, cultural congruency, depression, anxiety, and psychological well-being and psychological distress.

The following literature review explored previous research that reflects and elucidates upon these relationships. This investigation hoped to provide empirical data that supports the need for further research that assists in the holistic understanding of the mental and emotional well-being of Native Hawaiians. Knowledge specific to the needs and behaviors of Native Hawaiians and other indigenous populations holds the promise of bringing about collaborative and systemic efforts to initiate the long overdue need for healing within these communities.

Chapter II

LITERATURE REVIEW

The current review of the literature examined the previous available research on psychological well-being and distress in general, but with a particular interest in how these phenomena have been studied in indigenous populations, Pacific Islander groups and more specifically Native Hawaiians. Although there are a multitude of associated correlates that appear in the literature in relation to psychological well-being, this review concentrated predominately on depression, anxiety, and how previous literature and research has explored these constructs in relation to psychological well-being, psychological distress, culture and ethnic identity.

Previous Literature and Research

Ethnic minority groups continue to be underrepresented in all aspects of mental health research (Sue & Chu, 2003; U.S. Department of Health and Human Services [USDHHS], 2001). Additionally, ethnic minorities (i.e., African Americans, American Indians and Alaska Natives, Native Hawaiians and Pacific Islanders, Asian Americans, and Hispanic Americans) generally encounter a multitude of obstacles in seeking mental health care, as well as experiencing: "... a greater disability burden from mental disorders than do non-Hispanic Whites" (Sue & Chu, 2003, p. 447). Unfortunately, when services are available to ethnic minority populations the quality of care tends to be poorer than that received by non-Hispanic Whites in this country (USDHHS, 2001).

The pathway to improved mental health services for underserved groups in this country must be paved with informed literature and research that more accurately addresses their specific needs.

The scant research that is available on indigenous groups within the U.S. appears to suggest that among the other health concerns that may be disproportionately affecting these communities they are also at increased risk for suicide related behaviors (Else, Andrade, & Nahulu, 2007; Hunter & Harvey, 2002).

American Indians and Alaska Natives in the United States report the highest rates of depression among U.S. ethnic groups while American Indian children and adolescents are three times more likely to commit suicide than non-American Indian youth (Vega & Rumbaut, 1991). Vega and Rumbaut (1991) also suggest that these statistics reflect a widespread problem of “extraordinary personal disorganization and distress” (p. 373) resulting from social change and cultural loss. Native Americans also had the highest rates of suicide in the United States, which was most common among young males between the ages of 15-34, accounting for 64% of Native American completed suicides (Barnes, Adams, & Powell-Griner [National Health Statistics Report], 2010; Wallace, Calhoun, Powell, O’ Neil, & James, 1996).

Health and social problems found within AI/NA communities often parallel those present in Native Hawaiian and other Pacific Islander communities (Andrade et al., 2006; Else, Andrade, & Nahulu, 2007). It has been hypothesized that shared historical experiences of colonization may have a negative impact on the present day conditions experienced within indigenous communities (Yellow Horse Brave Heart & DeBruyn, 1998; Hammond, 1988; Hill, Lau, & Sue, 2010; Hunter & Harvey, 2002; Kaomea, 2003; Young, 1991).

The focus of this study was to better inform the literature on the potential roles that cultural variables may play in the psychological well-being and psychological distress experienced within indigenous populations, but more specifically within the Native Hawaiian population. To begin this endeavor it would be beneficial to further explore the commonality and

intersection of history and experiences shared by indigenous groups in general. Some of the universal experiences and history shared by indigenous populations may make them uniquely susceptible to negative mental, emotional, and physical health consequences, and in fact, this is what some of the literature seems to infer (Yellow Horse Brave Heart & DeBruyn, 1998; Else, Andrade, & Nahulu, 2007). Conversely, some research suggests that identifying with one's minority group may act as a psychological buffer and insulate one against the potential negative impact of some of the historical injustices, marginalization and disparities found within these groups (Outten, Schmitt, Garcia, & Branscombe, 2009; Smith & Silva, 2011).

Indigenous Peoples: Living in the Wake of Colonialism and Cultural Loss

The beginning of any discourse on the present day psychosocial conditions that indigenous peoples find themselves living under, should be contained within the larger framework of their shared historical experiences of colonialism. In an appropriate preface for such a discussion Haunani Trask (1999) a Native Hawaiian, indigenous rights activist, author and scholar wrote:

Indeed, for indigenous peoples, civil society is itself a creation of settler colonies. Before the coming of the colonizers, Native society was a familial relationship organized by tribes or chiefdoms in which the necessities of life---land, water, food, collective identity, and support were available to everyone. But colonialism changed all that. By definition, conquest is an extermination not a recognition of aboriginal peoples and their familial relationship with the earth (Trask, 1999, p. 25).

In this passage, Trask makes several critical points in understanding the psychosocial history of indigenous peoples (pre-contact) and the present day reality that many are faced with in a post-contact environment: 1) that native peoples had a structure of society that ensured and provided

for their basic needs, 2) that part of their familial and societal infrastructure was deeply connected to and dependent upon their access to and kinship with their ancestral land, 3) and lastly, that this relationship and cultural umbilical cord has been severely disrupted in the wake of colonial ambitions.

Trask (1999) and others (Schweizer, 1999; Zinn, 2003) have underscored the similarities and patterns of destruction (e.g., dispossession from their land and resources, enslavement, cultural and spiritual deprivation and near or actual genocide) visited upon the original inhabitants of lands acquired by Western explorers through the colonial process. The actual numbers of the original inhabitants of the Americas prior to Western contact will probably always be obscured by a historical recollection that inevitably is told from the perspective of the conquerors (e.g., the dominant Western culture) and the reality of insufficient census collection in earlier centuries. Still, it is fairly safe to assume that the numbers of indigenous peoples on the continent of North America were more abundant before contact than after and by some estimates the American Indian population in North America had declined to within 10% of its original entirety by the close of the eighteenth century (Sue & Sue, 2003). The pre-contact number of Natives present in the area, now known as the United States, may have been at or in excess of one million people (Zinn, 2003).

Introduced diseases, competition for resources, successive battling with European immigrants, and other tribes contributed greatly to the numeric decline of the American Indian population. Additionally, imposed relocations and imprisonment, broken treaties, and poor stewardship (i.e., on the part of the U.S. government) of the native populations contributed to the further decimation of the Native American population (Zinn, 2003).

The aboriginal peoples of this continent have endured a long and contentious relationship with the United States government that has resulted in the perpetuation of numerous heinous acts of injustice against their peoples (Zinn, 2003). In light of this history, it is understandable that many within the Native American community may view Western institutions and interventions in what can best be characterized as a healthy attitude of mistrust (Duran, 2006; Sue & Sue, 2003). An appreciation for the potential for apprehension and distrust to be present in these communities is an important awareness for researchers, educators and counselors to embrace when engaging with indigenous individuals or groups of people.

One example of governmental policy and actions that have no doubt sent rippling affects of distrust into successive generations of native peoples, was the boarding school experiment beginning as early as the 18th century and continuing on into the 1960s. The later part of this experiment is often referred to as the *Boarding School Era* (1880s-1960s), where American Indian children were forcibly and systematically removed from their families of origin and sent to missionary boarding schools, the underlying premise being that of acquiring a good education (Adams, 1995; Yellow Horse Brave Heart & LeBryun, 1998; LaFromboise, 2006).

Re-education might have been a more appropriate label, because what was lost by Native peoples (i.e., commonly their language, religious beliefs, customs and rituals, etc.), certainly negates what might have been traded or gained in Western educational institutes: “ BIA (Bureau of Indian Affairs) boarding schools like Carlisle were intended to teach American Indian children dominant cultural values, language and style of dress” (Yellow Horse Brave Heart & LeBruyn, 1998, p. 59). LaFromboise (2006) and others have argued that the separation of families that occurred during this period, has contributed to the elevated presence of many psychosocial maladies within modern day American Indian and Alaska Native communities.

Centuries of re-education of the Native communities has implied an inferior status of their cultures of origin and tribal ways of life. Boarding school students were sternly punished for speaking their native language or practicing any of their tribal traditions (Duran, 2006; LaFromboise, 2006). Additionally, there are countless stories of Native American youth experiencing physical, sexual and psychological abuse at the hands of their educational captors (The National Resource Center on Child Abuse, 1990; as cited in U.S. Department of Health and Human Services, 2001). LaFromboise (2006) and others (Yellow Horse Brave Heart & LeBruyn, 1998; Sue & Sue, 2003) have asserted that these re-educational policies inflicted a severe strain and interruption in the cultural integrity of Native peoples, and thereby curtailed the ability of many Native Americans to pass on a healthy sense of their own cultural identity to future generations (Duran, 2006; LaFromboise, 2006). As with all ethnic minority communities within the U.S., Native peoples live within a dominant society that still bares the subtle and blatant evidence of lingering systemic and institutional racism and oppression (Belcourt-Dittloff & Stewart, 2000), which only further complicates the transmission of healthy self concepts within these communities.

Native Hawaiians may not have been removed from their homes in the same dramatic fashion as many Native Americans, but public education was eventually mandated into existence in Hawai'i by Western laws (King & Roth, 2006). The possibilities and scope of the long-term residual affects of this, re-education, on generations of Native Hawaiians has not been fully investigated. Until recently, public and private educational institutions not only discouraged the use of the Native Hawaiian language, they promoted the inferior status of all indigenous traditions, values, and ways of life (Schweizer, 1999). In the years following initial contact with Europeans, Hawaiians, their belief systems, their culture and language were all subjected to the

moral convictions of the Christian missionaries who established the earliest schools of Western education in the Hawaiian islands (Dougherty, 1992). These Westerners and their institutions condemned the Native Hawaiian hula and oral traditions as lascivious in nature, which eventually resulted in the banning of these cultural rituals for decades (Schweizer, 1999).

Initially, Christian missionaries embraced the Hawaiian language, for it gave them access and influence within the Native Hawaiian community. Once the missionaries and their descendants initiated the use of schools for religious and educational indoctrination, the Native Hawaiian tongue and all forms of Hawaiian cultural expression were systemically discouraged. Schweizer (1999) states that:

With the overthrow of the Monarchy in 1893 and the founding of the Republic in 1894 English replaced Hawaiian almost completely. In 1896 the new masters took the ultimate step and plainly prohibited the speaking of the original language in the schools even during recess (p.107).

The prohibition of the Native Hawaiian language in public schools in Hawaii lasted nearly a century. The consequences for students disregarding the ban on their native tongue could include corporal punishment (Kawakami & Dudoit, 2000; Luning & Yamauchi, 2010). The gradual disconnection of the Native Hawaiians from their linguistic and ancestral past (e.g., through the banning of religious and traditional ceremonies) has resulted in the deprivation to near extinction of their collective cultural identity (King & Roth, 2006; Trask, 1999). This pattern of systematically separating future generations of native populations from their indigenous languages and cultural ways has been almost uniformly achieved through enforced educational systems biased by dominant cultural knowledge and indoctrination. In the 1970s a Hawaiian renaissance and political movement began and continues to be perpetuated, which celebrates and

promotes the culture, rituals, and language of old Hawai'i, but the recovery of what has been lost over the centuries is still long from being rectified (Spickard, Rondilla, & Wright, 2002).

There is certainly sufficient evidence that for many AI/NA and Native Hawaiian and other Pacific Islander communities a Western education has not always upheld the promise of an improved quality of life, in that disproportionate levels of poverty, poor educational achievement, and incarceration are still abundantly present within many of these communities (Blaisdell, 1993; Yellow Horse Brave Heart & DeBruyn, 1998; LaFromboise, 2006). One of the ways that indigenous peoples may be either assisted or challenged by Western educational systems, is in the level of congruity they perceive to be present between their culture of origin and the culture within their educational institutes.

Cultural Congruity

Cultural congruity is a concept that has been used in minority college samples to assess students' perceptions of the fit between their culture and the culture of the university they attend. It has been proposed that when there is dissonance between the beliefs and values of students and their university environment, cultural incongruity results (Gloria & Robinson Kurpius, 1996). Given that most Western educational institutes (i.e., grade school through graduate training) operate on fixed schedules and values that promote competitive environments, individualism, and capitalistic ideals, many of these concepts can be seen as considerably incompatible to the ways of being valued within ethnic minority and indigenous communities (e.g., collaboration, fluidity of time, collectivistic ideals, etc.)(Sue & Sue, 2003). Therefore, students must learn to balance and negotiate between the values and cultural identities present within their homes of origin and the cultural environment of that of their college or university.

In a related study, Gloria and Robinson Kurpius (1996) found that students were more likely to persist in college when they perceived a cultural fit between their own cultural values and those of their educational institute. Additionally, Quintana, Vogel, and Ybarra (1991), in a meta-analysis review of Latino/a student adjustment to higher education revealed that Latino/a students' discomfort with white culture was associated with higher scores of stress, suggesting that stress comes about when Latino/a students perceive greater incongruity between their home culture and the culture of primarily Western institutions. Students of ethnic minority groups can experience significant discord between the roles and expectations of their home culture and those present within their educational environment.

Torres (2004) investigated the influence of family on the ethnic identity of Latino/a college students. Interviews revealed that parent-child conflicts were often due to tensions that arose around the traditional role expectations of their culture and the expectations and responsibilities of their university. Although, generally parents were supportive of their children's college attendance, many did not understand the expectations and responsibilities that the life of a college student entails. In contrast, to the added pressure cultural incongruity may create for students, Gloria, Castellanos, and Orozco (2005) noted some of the potential benefits of cultural congruity on the psychological well being of Latina college students. The results showed that cultural congruity significantly predicted the psychological well-being of their Latina sample. Additionally, they found that Latinas who perceived higher cultural congruity tended to report fewer educational barriers that could necessitate their dropping out of college and perceived fewer challenges should they continue on in school. Lastly, high cultural congruity was significantly and positively associated with a positive perception of their educational institute.

In a small study of American Indian undergraduates (N = 83), Gloria and Robinson Kurpius (2001) found that in examining the influence of self-beliefs, social support, and level of comfort in their university environment, all of these factors influenced academic non-persistence decisions in this sample of native students. Social support (more specifically mentorship) was found to be the greatest predictor, followed by comfort in university fit, and then higher self-esteem and college related self-efficacy in decreasing non-persistence related decision making in this population sample.

The literature on cultural congruity reveals the importance of fit between students' home culture and that of their educational institute (e.g., college or university). This may be an important concept in understanding the psychological level of well-being, experienced by indigenous students as they negotiate their way through predominantly Western framed educational systems. The author knows of no prior studies that have examined the cultural congruity between Native Hawaiian college students and their educational environment. Related to the issue of culture and congruity are the overarching themes of ethnicity, and identity.

Ethnicity, Identity, and Cultural Affiliation

A number of researchers have begun to assert (Martinez & Dukes, 1997; Phinney, 1990) the importance of considering ethnic and cultural factors in the formation of self-concept and psychological well-being and have proposed that higher ethnic identity is predictive of higher social and psychological well-being. This may not always be the case for indigenous or other minority group members whose cultural or ethnic self-concepts have been negatively impacted by society's racist and oppressive views of their group. Martinez and Dukes (1997) suggested that if adolescents "internalized the negative societal stereotypes of their ethnic group, they are likely to experience lower self-esteem and self-confidence, and they may have difficulty in

finding meaning in their lives” (p. 504). Therefore, dependent on the way in which an individual internalizes the meaning of their group membership (i.e., based on their own sense of belonging and informed by their family, community and larger societal views, etc.), the individual may develop associations to their ethnic and cultural identity groups anywhere along a continuum between positive and negative. Where individuals find themselves on this spectrum of associations has the potential to greatly influence how they see themselves, their reference groups and their assessment of life in general (e.g., perceived opportunities, possibilities, etc.). For instance, someone may come from a culture of origin that highly values spirituality and intuition, while the dominant Western culture often likens such beliefs to primitive superstition. Dependent upon her assessment of the importance of these two contradictory views, the individual will ultimately come to value or devalue her spirituality. Alternately she may negotiate a view located somewhere between these two extremes. Her established views might then impact the way she internalizes both her self and her group affiliation concepts (e.g., spiritual beings vs. primitive peoples).

Aspects of cultural and ethnic identity appear to be both fluid and overlapping in their conceptualization and utilization within the literature. Phinney (1996) has asserted that ethnicity is multidimensional and complex and therefore cannot be thought of as a single categorical variable, but rather as a clustering of contextual realities (e.g., social class, geographic region, etc.) and culturally relevant behaviors, practices and beliefs that vary across group membership and across individual members of those groups. Phinney (1996) similarly advocated for increased awareness of the ways in which people vary along multiple human dimensions and cautioned against simplistic categorizations of people that can lead to misguided assumptions and stereotyping.

In a supplement to the Surgeon General's report on mental health, (U.S. Department of Health and Human Services, [USDHHS] 2001) some major premises were affirmed about the influence of culture on different aspects of mental illness in ethnic minority communities. Mainly, the authors asserted the importance of appreciating the contribution of culture in the context of racial and ethnic minority group status, and how these factors may influence help seeking behaviors of individuals, in the ways symptoms are expressed, risk and protective factors, as well as perceptions of stigma associated with mental illness (USDHHS, 2001). Additionally, the Surgeon General's report (USDHHS, 2001) also declared the importance of cultural factors in either elevating or decreasing the risk for mental illness. Research that examines the potential strengths and challenges of negotiating ethnic or cultural identification in relation to psychosocial health issues is scant and the necessity for such research steadily increases as the demographics of our nation becomes increasingly diverse.

Native Hawaiians collectively represent a small statistical portion of the overall populace residing within U.S. borders (according to the 2010 census Native Hawaiians and other Pacific Islanders represented 0.2 percent of the total U.S. population, or more than half a million), and they too, like other ethnic minority groups have been similarly if not uniquely affected by a paucity of research on their behalf. Although the Native Hawaiian population in the United States is statistically minute, like many ethnic minority groups (in particular other native/indigenous groups), they are disproportionately affected and impacted by poor educational achievement, poor overall health, poverty, incarceration, depression, suicide, substance abuse and other disparities (Blaisdell, 1993; Hishinuma et al., 2000; Yuen et al., 1996).

In a recent study, Native Hawaiian families in the State of Hawai'i were reported to have the lowest mean income when compared to other major ethnic groups within the state. Native

Hawaiian families with minor children were found to have a mean income that was 15.9 percent lower than the statewide average (Kana'iaupuni, Malone, & Ishibashi, 2005).

Native Hawaiians have been noted to experience a number of health disparities. At 11.5 percent, Native Hawaiians in the state of Hawai'i were found to have the highest prevalence of diabetes among the ethnic subgroups. Additionally, Native Hawaiians were found to have cardiovascular disease mortality that was twice that of the lowest group in Hawai'i in 2004, and when compared with Caucasians their diabetes-related mortality rate was found to be three times higher in Native Hawaiians (Mau, Sinclair, Saito, Baumhofer, & Kaholokula, 2009).

Despite an increasing volume of literature on mental health issues, the role of ethnic identity and culture (shared norms, values, expectations and beliefs) is not abundantly found in previous research (Joe et al., 2008). This absence is conspicuous and perplexing considering the continuing challenges ethnic minorities face in accessing and receiving equitable mental health care and the appropriate financial and social resources to adequately address related issues (Jackson, 2006). The role of culture may hold potential in shedding light on how ethnic minority groups differ in their ability to deal with the burdens of psychological distress and how this may influence their psychological well-being.

Psychological Well-being

Psychological well-being has been assessed in numerous ways, often centering around the constructs of positive and negative affect (i.e., greater positive affect equates with greater well-being and greater negative affect with less well-being) and measures of quality or satisfaction of life (Ryff, 1989; Ryff & Keyes, 1995; Veit & Ware, 1983). Much of the previous literature on psychological well-being have been shaped by the theories of dominant culture perspectives on the definition and determinants of well-being (Christopher, 1999). Some of the previous

influences to the literature and theory on positive functioning and wellness have included Jung's (1933) work around individuation, Erikson's (1980) identity development, Allport's (1961) views on maturity, Maslow's (1968) self-actualization, and Tajfel and Turner's (1986) contributions to social identity theory.

A number of researchers contend that a more accurate understanding of the psyche of indigenous populations and their overall well-being necessitates the acknowledgement that from the perspective of native ways of knowing or epistemology, the mind is not discretely divisible from the body, the spirit, and the multitude of connections binding native communities to their families, communities, and ancestral homelands (Crabbe, 1998; Duran, 2006; Hodge, Limb, & Cross, 2009; McCubbin & Marsella, 2009). Until recently few studies have incorporated ethnic identity and cultural variables into the available body of research on psychological well-being. Given the growing understanding that many ethnic minority group members may adhere to a collective and social sense of self (Phinney & Ong, 2007; Smith & Silva, 2011), more research may need to be focused on how this may differentially influence their sense and experiences of psychological well-being. For example, theories around the successful exploration and achievement of individual (e.g., self-actualization) processes and individuation may not be as salient in the determination of psychological well-being for many ethnic minority groups. Instead, psychological well-being in ethnic minorities may be influenced by cultural variables such as degree of identification with their ethnic or cultural identities, values, language, beliefs, customs, etc. With the intent of exploring and contributing to the research pertaining to the psychological well-being and distress of indigenous minorities, specifically Native Hawaiians, the current study examined cultural variables as they were related to symptoms of anxiety and

depression, which were in turn related to participants psychological well-being and psychological distress.

Psychological Distress

Psychological distress has been conceptualized as a natural human response to stressful conditions. Horowitz (2007) suggests that some of the critical components in distinguishing between normal distress responses and the potential presence of disorder in people's lived experience of stress may require consideration of the degree, severity and duration of the responses in the context of an individual's experienced stressors. "Symptoms that markedly outlast the duration of a stressor often indicate disorder" (Horowitz, 2007, p. 282). Utilizing a sociological perspective of psychological distress, Horowitz (2007) argues for the distinction between "distress that is initiated and maintained by social conditions" (p. 273) and distress that arises internally and manifests symptoms of psychological dysfunction. This definition of psychological distress seems appropriate in the assessment of all populations because we are all influenced by our social environments, but perhaps particularly applicable to some ethnic minority populations where multiple current and long standing historical and social conditions, inclusive of cultural loss, health and economic disparities, racism and oppression may continue to impact their current well-being.

Perhaps one of the most challenging indicators of psychological distress within any community is the increased prevalence of suicidality. Although suicidality was not the central focus of this study, it remains relevant in the discussion of psychological distress and well-being within native communities. There was considerable evidence that among some indigenous groups suicide related behaviors appear to be a real and present concern in both nationally and globally located communities (Else, Andrade, & Nahulu, 2007). Native American groups present

with some of the highest rates of attempted and completed suicide within the United States (Spirito & Esposito-Smythers, 2006). Similarly, elevated suicide rates within Canadian Inuit and Alaskan Natives have also been reported (Gregory, 1994; Jackson, 2006). Few studies have examined suicide behaviors within Pacific Islander groups, but the available literature seems to suggest that Native Hawaiians, as well as, the indigenous populations of American Samoa, Micronesia, and New Zealand also experience elevated rates of suicide in comparison to the general population (Else, Andrade, & Nahulu, 2007; Yuen et al., 1996; Yuen et al., 2000). Collectively, these indigenous communities share a common history of colonization, the legacy of which may include an enduring host of detrimental historical influences on the psychological well-being not only of past, but also of successive generations of native peoples (Duran, Firehammer, & Gonzalez, 2008; Hill, Lau, & Sue, 2010; Yellow Horse Brave Heart & DeBruyn, 1998). Historical trauma, continuing forms of subtle and blatant oppression, societal and institutional bias and racism are not unfamiliar experiences for many indigenous peoples.

Given the enduring history of losses within indigenous communities and the legacy of psychosocial challenges that the literature reveals to be present within these populations today, this study aimed to contribute to the available literature on indigenous populations and their psychological well-being. Cultural correlates seem to hold the potential of uniquely informing the research on the ways in which indigenous populations, including Native Hawaiians, might be experiencing and expressing symptoms of psychological distress. One of the most common ways that an individual's level of psychological distress becomes more clinically significant is when symptoms of anxiety and depression are evident. The current study utilized instruments to assess the presence of anxiety and depression indicators within the participant sample.

Depression and Anxiety

The presence or absence of symptoms of depression and anxiety can offer more information in the equation of assessing overall psychological well-being in any population sample, but currently there is a growing interest in understanding the relationships between cultural influences and how mental disorder can be differentially expressed and experienced within ethnic minority groups (Kanazawa, White, & Hampson 2007; Tsai & Chentsova-Dutton, 2002). Given the increasing ethnic and cultural heterogeneity within the U.S. and continuing evidence of inequitable access, utilization and quality of mental health services in these populations (USDHHS, 2001), the attentiveness of the social sciences to cultural variation in symptoms, expression, and conceptualization of depression, anxiety and other psychological stressors seems warranted.

In a related study, (Kanazawa et al., 2007) examined the variation of depressive systems in a community sample of three major groups living within Hawai'i (Native Hawaiians N = 209, Japanese Americans N = 357, European Americans N = 176). The study utilized a modified CES-D measure to assess depression within these participant groups. Native Hawaiians reported significantly higher overall depression scores than European Americans with Japanese Americans scores residing between the two groups. Native Hawaiians also reported higher somatic symptoms than Japanese Americans and European Americans who scored similarly. European Americans reported higher positive affect scores than either Native Hawaiians or Japanese Americans who scored similarly. Additionally, depressed Native Hawaiians reported higher levels of interpersonal problems than non-depressed Native Hawaiians or in comparison to European Americans with Japanese Americans falling somewhere between the two. These findings support the potential presence of differences in presentation and expression of

depression between population samples. The authors of the study suggest cultural differences between the collectivistic and individualistic values and normative beliefs of these groups may offer insight into better understanding the nature of these results and differences. The current study examined depression and anxiety measures to assess the presence of these symptoms in the sampled population.

Mediation

Mediation is a causal model that has been used with some regularity within the social sciences. In general, mediators are a third variable that can both link and provide a more nuanced understanding of the relationship between a predictor variable and an outcome variable (Wu & Zumbo, 2008). Stated another way, a mediator is the mechanism through which a predictor variable influences an outcome variable (Baron & Kenny, 1986; Frazier, Tix, & Barron, 2004). The relationship of the variables in mediation is such that the predictor variable influences the mediator, which in turn influences the outcome (Frazier et al., 2004; Holmbeck, 1997). In the context of the current study, perhaps one of the ways that cultural affiliation and cultural congruity may affect overall psychological well-being and distress is through their influence on levels of anxiety and depression, which in turn cause an influence on overall feelings of either well-being or distress.

Summary

Much of the previous literature on indigenous peoples and their cultures has focused on the perceived pathology present within these communities (e.g., depression, anxiety, suicidality, substance abuse, etc.). Therefore, the current literature review reflects the dominant presence of these daunting psychosocial concerns within many indigenous communities. There were far fewer studies in the extant literature that were focused on exploring the psychological well-being

and the associated correlates that may either influence, support, encourage or negate the promotion of psychological wellness within these communities. In particular, there were few studies that investigated the role that cultural variables may exert in the context of psychological distress and psychological well-being. Thus, there exists a need for more empirical literature that expands and facilitates the building of a bridge between the considerable gaps in our research knowledge about the relationships between psychological distress and psychological well-being in the lived experiences of ethnic minorities and indigenous populations. To the author's knowledge, this was the first study to examine cultural affiliation, cultural congruity, psychological well-being, psychological distress, anxiety and depression within a Native Hawaiian college student sample.

In a review of the available literature there was a paucity of research and scholarship on the psychological well-being of indigenous communities, in particular there was a dearth of research on Native Hawaiians in the context of culture as it relates to their psychological well-being and psychological distress. Accordingly, the current study explored cultural variables and their relationships within this context.

Research Questions and Hypotheses

The following will be tested:

Research Question 1: What is the relationship between cultural affiliation and depression and anxiety?

Hypothesis 1: Cultural affiliation will be inversely related to depression and anxiety

Research Question 2: What is the relationship between cultural congruity and depression and anxiety?

Hypothesis 2: Cultural congruity will be inversely related to depression and anxiety

Research Question 3: What is the relationship between cultural affiliation and mental health outcomes?

Hypothesis 3: Cultural affiliation will be related to better mental health outcomes, such that Native Hawaiians who have greater affiliation with their cultural identity will report better mental health outcomes (i.e., greater psychological well-being)

Research Question 4: What is the relationship between cultural congruity and mental health?

Hypothesis 4: Cultural congruity will be positively related to mental health, such that Native Hawaiians who report higher cultural congruity will report better mental health outcomes (higher levels of psychological well-being and lower levels of psychological distress)

Research Question 5: What are the independent variables that would predict the most variance for mental health (psychological well-being and psychological distress)?

In addition to these hypotheses, the current study utilized a mediation model (Frazier et al., 2004) to examine if the cultural variables of cultural affiliation and cultural congruity were related to the symptoms of depression and anxiety, which were in turn related to psychological well-being and psychological distress. (See Figure 1)

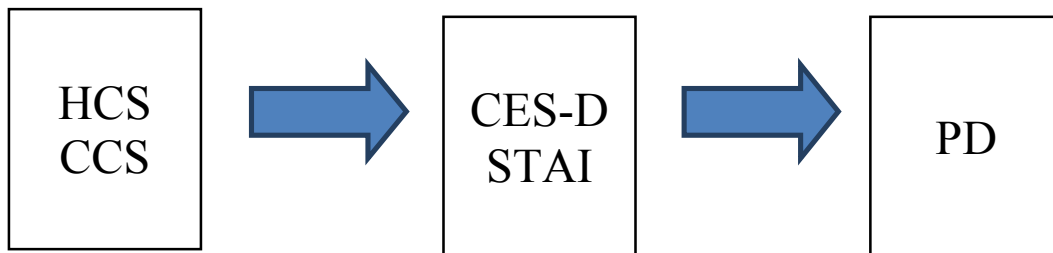
Mediation would mean that the predictor variables of cultural affiliation and cultural congruity would be found to have an indirect effect on the outcome variables of psychological well-being and psychological distress through their influence on the proposed mediator variables of anxiety & depression.

Figure 1

Mediation Model: The effect of cultural affiliation (HCS) and cultural congruity (CCS) on psychological well-being (PWB) is fully mediated by depression (CES-D) and anxiety (STAI)



Mediation Model: The effect of cultural affiliation (HCS) and cultural congruity (CCS) on psychological distress (PD) is fully mediated by depression (CES-D) and anxiety (STAI)



Chapter III

METHOD

Participants

Participants included 184 Native Hawaiian college students, at least 18 years of age, who were currently enrolled within any community college, four-year college, or university within the United States. Due to the current study's interest in the interactions between the cultural affiliation (e.g., ethnic identity) of Native Hawaiian adult college students and the variables of cultural congruity, depression, anxiety and psychological well-being, only persons who self-identified as Native Hawaiian were eligible to participate. For the purposes of this study Native Hawaiian was defined as, an individual having any quantum of Native Hawaiian blood. Traditionally, these persons can trace their Native Hawaiian ancestry to pre-contact times in Hawai'i prior to the introduction of Western society in 1778, and back to the original inhabitants of the Hawaiian Islands (Carlton et al., 2006; Hammond, 1988). Therefore, any self-identified, adult Native Hawaiian college student was eligible to participate in the current study.

Procedure

The author utilized a web-based Internet survey to collect data for this study. The current study was informed by the work and suggestions of previous researchers regarding the use of web-based data collection (Rhodes, Bowie, & Hergenrather, 2003; Smith, Smith, Gray, & Ryan, 2007; van Gelder, Bretveld, & Roeleveld, 2010). Participants were recruited through information disseminated through e-mail invitations (i.e., snowball sampling techniques, invitations distributed through venues related to Native Hawaiian studies departments, Hawai'i related

college and university campus clubs, organizations, etc.). Although participants were recruited through email, they were then directed to the web-based survey via a hypertext link (increasing anonymity and confidentiality). In order, to prevent the intentional or accidental access of participants' confidential information by other participants or any other unauthorized access (i.e., hacking) the survey was administered through a secure server (Buchanan & Smith, 1999; Michalak & Szabo, 1998; Schmidt, 1997). Utilizing a secure web-based server also facilitated added safe guards further protecting the integrity of data storage and retrieval for this study.

Recruiting and accessing Native Hawaiian college students required deploying a number of strategies including email and telephone communications with Native Hawaiian leaders, educators, researchers and community members within both academic and Native Hawaiian communities. The principle investigator passed the invitation and survey information along to Native Hawaiian and other Pacific Islander (NHPI) community members and leaders, who in turn relayed the information to students and fellow colleagues via numerous individual and collective email, listserves, Facebook, and other social media venues. Additionally, some Native Hawaiian and Native American college student support programs (e.g., university cultural centers, student organizations) were also willing to circulate survey information and invitations via their listserves. Finally, the author also widely distributed email invitations to participate in the current study to Native Hawaiian and other colleagues, friends and allies. Collectively these parties sent the invitation to participate in the current study to those programs, clubs, organizations, persons and the community at large, throughout the United States, with potential connections to Native Hawaiian college students.

The initial information provided via e-mail invitation clearly stated the eligibility requirements for participating in the study and advised participants that completion of the survey

could take up to 25-30 minutes. The email also informed potential participants that the current study had been approved by the Teachers College, Columbia University Institutional Review Board and provided the contact information for the principal investigator. Participants were not offered any incentives or monetary compensation for their participation in the survey. A hypertext link was provided in the invitation for eligible interested participants to access the survey. The participant entered the survey by clicking on the web link and would then be taken to the first webpage that included the informed consent. The next page provided the participant's rights and after reading their rights the participants were instructed to indicate their consent or lack of consent by clicking the appropriate button. Participants were also advised that submitting the completed survey would be another form of consent. By clicking the button labeled "Next" at the bottom of the page, participants were taken to the beginning of the survey and prompted to complete the demographic questionnaire and subsequent measures.

Due to limitations of using a web-based Internet survey system, the measures could not be counterbalanced to minimize the order effects. All participants completed the survey with the measures in the following order: Demographic Questionnaire, Cultural Congruity Scale (CCS), Hawaiian Cultural Scale, State Trait Anxiety Index (STAI), Mental Health Inventory (MHI), and Center for Epidemiologic Studies-Depression Scale (CES-D).

Demographic Questionnaire

A short demographic questionnaire was developed and included in the survey to assess participants' age, sex, Hawaiian ethnicity, SES, degree sought, their highest level of educational achievement and that of their parents. Additionally, students were asked questions related to their participation in Native Hawaiian activities on campus or in their communities, and about their

past use of mental health/counseling services within and outside of their college or university setting.

Instruments

Cultural Affiliation (HCS; Hishinuma et al., 2000). Cultural affiliation was measured using the Hawaiian Culture Scale—Adolescent Version (HCS; Hishinuma et al., 2000). The complete Hawaiian Culture Scale consists of 50 items. The inventory items measure the origin of acquiring specific Hawaiian cultural knowledge (e.g., “The Hawaiian way of life”), the degree to which Hawaiian beliefs are both valued and maintained, and the degree to which non-Hawaiian beliefs are valued. Additionally, the HCS assesses the Hawaiian blood quantum, knowledge, understanding, belief, practice or support of specific culture based traditions. Field testing and the resulting factor analysis of the HCS resulted in the following seven subscales (Else, Andrade, & Hishinuma, 2007): 1) Lifestyles = 8 items (e.g., “Making poi”), 2) Customs and Beliefs = 11 items (e.g., “Taking part in Native healing practices [ho’oponopono, lomilomi]”), 3) Activities and Social Events = 10 items (e.g., “Hula”), 4) Folklore and Legends = 5 items (e.g., “Pele”), 5) Causes and Locations = 3 items, (e.g., “Waihole/Waikane”), 6) Causes and Access = 2 items (e.g., “Access rights to the ocean”). For the six previously noted subscales participants were provided instructions regarding the 3-point Likert scales used. In the seventh subscale, 7) Hawaiian Language Proficiency = 2 items (i.e., “Rate your ability to speak the Hawaiian language” and “Rate your ability to understand the Hawaiian language”), both rated on a 5-point likert scale (i.e., ranging from 1 = not at all, to 5 = excellent”), (Else, Andrade, & Hishinuma, 2007; Hishinuma et al., 2000).

In previous studies utilizing the HCS, in order to calculate an overall subscale score, researchers found it necessary to convert the Language Proficiency subscale from a 5-point

Likert scale to a 3-point Likert scale. The conversion of the Language Proficiency subscale was deemed necessary to prevent inequity in the overall mean and a disproportionate impact of this one subscale on the collective mean score of the seven subscales (Else, Andrade, & Hishinuma, 2007; Hishinuma et al., 2000). The formula used to achieve the rescaling of the Language Proficiency subscale score is as follows: “ $y = 1 + (x - 1)/2$, (where $x = 1$ to 5 rating; $y =$ rescaled score; e.g., rating of 5 converted to 3, 4 to a 2.5, 3 to a 2, 2 to a 1.5, and 1 was unchanged” (Hishinuma et al., 2000, p. 148). The overall seven-subscale score was the mean of the collective seven subscale means and served as a measure of Hawaiian ethnic identity in the context of distinct cultural practices and beliefs.

In addition, to the seven subscales the HCS also has nine non-subscale items assessing various aspects of Native Hawaiian culture and ethnicity. The non-subscale items on the HSC include: a) 3 items assessing the origin from which participants obtained Native Hawaiian knowledge (e.g., “I learned about the Native Hawaiian way of life from my family at home”), b) 2 items inquiring about the utilization of the Hawaiian language within participants households (e.g., “What language is primarily spoken in your home. [Standard English, Pidgin English, Hawaiian, Other]”), c) 2 items separately assessing the value of Hawaiian or Non-Hawaiian “beliefs, behaviors and attitudes” (e.g., “How much do you value Hawaiian beliefs, behaviors and attitudes?”), d) 1 item assessing the importance of maintaining “Hawaiian cultural traditions”, and lastly e) 1 two part item assessing biological aspects of ethnicity (i.e., “Do you have any Hawaiian Blood? [Yes, No, Don’t know]”, and “If you answered yes above, select the one choice below that describes you”, [i.e., “Pure (100%) Native Hawaiian, Half (50% or more) Native Hawaiian, Less than half (less than 50%) Native Hawaiian”]), (Else, Andrade, & Hishinuma, 2007; Hishinuma et al., 2000).

According to Hishinuma et al. (2000), the HCS differentiates between Hawaiian and non-Hawaiian groups. Additionally, when the HCS has been utilized in previous studies (Hishinuma et al, 2000; Yuen et al., 2000) Hawaiians scored significantly higher than non-Hawaiians on all of the ethnic identity variables. Additionally, research supported that for Hawaiian participants the Hawaiian language was spoken at home at a significantly higher rate than for non-Hawaiians. In their validation study, Hishinuma et al. (2000) assessed the internal consistency of the seven subscales of the HCS. The results revealed Cronbach alphas ranged from .82 to .96 for the HCS. The seven subscales 1-7, overall = .90, .88, .87, .90, .82, .96, .87, .94, respectively. The reported coefficients indicated satisfactory internal consistency. In the present study reliability analyses revealed a coefficient alpha for the entire HCS survey of .94.

The lead author of the Hawaiian Culture Scale—Adolescent Version (Hishinuma et al., 2000) was consulted and was agreeable to the use of the HCS with an adult population (no Adult version of the HCS has been developed, but scale items were not seen as exclusively applicable to adolescents). To the knowledge of this author, this was the first time that the HCS was used with a Native Hawaiian adult college population.

Cultural Congruity (CCS; Gloria & Robinson Kurpius, 1996). The cultural fit or cultural congruity between the values of the university and that of Native Hawaiian college students was measured using the Cultural Congruity Scale (CCS). The CCS has been used with multiple racial and ethnic minority students in previous studies (i.e., Latina/o and Black college students: Constantine, Robinson, Wilton, & Caldwell, 2002; Asian American undergrads: Gloria & Ho, 2003; American Indian: Gloria & Robinson Kurpius, 2001). Responses on the 13-item scale are based on a seven-point Likert-type format, ranging from 1 (Not at all) to 7 (A great deal). The items 1, 2, 3, 4, 6, 7, 9, and 10 are reverse scored. A sample item is “I feel that I have to change

myself to fit in at school.” Utilizing a mean scale score, higher scores reflect greater perceived cultural congruity. The pilot sample used in Gloria and Robinson Kurpius (1996) study yielded a Cronbach alpha of .89 for the 13-item Cultural Congruity Scale. In a later study, with Latina College students Gloria, Costellanos, & Orozco (2005) reported a Cronbach alpha of .86 and also found that Latinas who endorsed higher levels of psychological well-being also reported higher cultural congruity. Similarly, in a study with undergraduate Latino males, cultural congruity was also found to be the strongest predictor of psychological well-being and a Cronbach alpha of .85 was reported (Gloria, Castellanos, Scull, & Villegas, 2009). In the present study reliability analyses yielded a coefficient alpha of .88 for the CCS.

Mental Health (MHI; Viet & Ware, 1983). The Mental Health Inventory (MHI-38) was utilized (MHI; Veit & Ware, 1983) to assess mental health. The MHI was specifically developed for use within general populations and has been previously used within ethnic and racial minority populations (Hirini, Flett, Long, & Millar, 2005; Pieterse & Carter, 2010). The MHI scale used in the current study included 36-items of the original 38 items present on the MHI-38 (two items related to suicidal ideation were removed). The MHI was designed to measure aspects of both psychological distress and psychological well-being.

In the present research study, participants were asked to indicate how they have been feeling in the past month by utilizing measures of psychological distress (PD) and psychological well-being (PWB) on a 6-point Likert-type scale (e.g., 1= always, 6 = never). According to Veit and Ware’s (1983) research the MHI is a hierarchical factor model consisting of a general underlying mental health factor, and a higher order structure grouped according to two correlated factors (i.e., psychological distress and psychological well-being). The MHI also has five correlated lower order factors (i.e., anxiety, depression, emotional ties, general positive affect,

and loss of behavioral and emotional control).

The Psychological well-being (PWB) index is divided into two factors: general positive affect (GPA) and emotional ties (ET). One example of general positive affect (GPA) included, “During the past month, how much of the time have you felt that the future looks hopeful?” The following item: “During the past month, how much of the time have you felt loved and wanted?” illustrates an example of emotional ties (ET). The PWB index of the MHI consists of a total of fourteen items.

The psychological distress index (PD) is divided into three factors: anxiety (ANX), depression (DEP), and loss of behavioral/emotional control (BEC). Some examples of PD items included (ANX): “How much of the time, during the past month, have you been a very nervous person?” An additional PD item, (DEP): “How much of the time, during the past month, have you felt downhearted and blue?” Lastly, a PD example of (BEC): “How often have you felt like crying, during the past month?” In the MHI, the PD index consists of a total of twenty-four items but in the current analyses only twenty-two were used (two suicide related questions were removed from the PD index).

The current study utilized the scores of the psychological well-being (PWB) index and the psychological distress (PD) index. Scores for each index were totaled. Higher scores reflect more of the mental health state named in the index. Therefore, higher scores on the PWB index indicated more well-being, while higher scores on the PD index indicated more distress.

In their initial validation study, Veit and Ware (1983) reported that the estimated reliabilities for all the scales in the MHI were more than sufficient for group comparisons. The results revealed, the reliability (i.e., determined by estimating Cronbach’s alpha) for the

psychological well-being scale was .92, while the reliability for the psychological distress scale was .94, and the overall MHI coefficient alpha was .96. In the present study, reliability analyses revealed a coefficient alpha of .94 for psychological well-being. For psychological distress the coefficient alpha was also revealed to be .94. The coefficient alpha for the entire MHI survey was .96.

Two previous studies that included minority populations also indicated that the MHI had strong psychometric properties. In Pieterse and Carter's (2010) study on the role of racial identity in perceived racism and psychological stress among Black American adults, the Cronbach's alpha reliability coefficients were .93 and .89 for the psychological distress and psychological well-being scales, respectively. In a study on the frequency of traumatic events and the physical and psychological health of an adult Maori population in New Zealand, researchers (Hirini et al., 2005) utilized the MHI to assess an overall estimate of the psychological distress and psychological well-being of survey participants. In the analyses for this study, Cronbach's alpha reliability coefficients for the psychological distress and psychological well-being scales were each reported to be .90. In the present study reliability analyses revealed a coefficient alpha for psychological well-being of .94. Similarly, the coefficient alpha for psychological distress was also .94. Finally, the coefficient for the entire MHI survey was .96.

Furthermore, Manne & Schnoll (2001) demonstrated convergent validity with the Mental Health Inventory scores and scores of the Dyadic Adjustment Scale and the Positive and Negative Affect Schedule. Also, Pearson (2008) found that Mental Health Inventory scores were related with job and leisure satisfaction.

Depression (CES-D, Radloff, 1977). In the current study, symptoms associated with depression were measured utilizing the Center for Epidemiologic Studies-Depression Scale (CES-D). The CES-D is a self-report, psychometric instrument that has been widely used to assess depressive symptomatology in general populations (Radloff, 1977). The full 20 item CES-D yields a sum score between 0 to 60 with higher scores denoting the presence of persistent symptoms of depression. Responses are given on a four-point Likert scale in response to how frequently participants experienced depressive symptoms in the previous week. The questions measure diagnostic criteria for depression. Some of the questions included in the CES-D are: "I had crying spells," "I felt sad," "I felt depressed," and "I felt that I could not shake off the blues even with help from my family or friends." Ratings included, 1 = Rarely or none of the time (0-1 day), 2 = Some or little of the time (1-2 days), 3 = A moderate amount of time (3-4 days), or 4 = Most or all of the time (5-7 days). The higher the accumulative score the greater the level of depressive symptoms.

The CES-D has been found to have high reliability with samples from diverse age groups and ethnic backgrounds (Radloff, 1977). The predictive validity of the CES-D has been previously studied in Hawaiian adolescents (Prescott et al., 1998) and their findings support the use of the CES-D as a tool for detecting depression among Native Hawaiian adolescents and other ethnic minorities. In 2001, Peden, Rayens, Hall, and Beebe also reported strong psychometric support for use of the CES-D in their research on high-risk college female participants and depression. The reported Cronbach's alphas in this study ranged from .82 to .93. In the present study reliability analyses revealed a coefficient alpha for the entire CES-D survey of .94.

Anxiety (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). In the current study anxiety was assessed using the State-Trait Anxiety Inventory-Form Y-1. The Y-1 Form of the STAI is comprised of 20 items that assess the present level of state anxiety. In other words, the A-State scale, Form Y-1 measures how anxious a person feels in the immediate moment (i.e., right now). Participants are provided with 20 statements (e.g., “ I feel calm; “I feel nervous”) and asked to rate how they feel in that moment using a 4-point Likert scale from (1) = Not At All, (2) = Somewhat, (3) = Moderately So, and (4) = Very Much So. STAI scores can range from 20-80 with higher scores indicating more subjective anxiety. Spielberger et al. (1983) has reported Cronbach alpha coefficients ranging from .89 to .94 for the state anxiety scores obtained in research from several college student samples. In a study (Lopez, Mauricio, Gormley, Simko, & Berger, 2001) examining relations among adult attachment orientations, distress and coping styles in a college student sample, strong psychometric support was found for the State-Trait Anxiety Inventory. The authors of this study reported a Cronbach alpha coefficient of .93. In the present study reliability analyses revealed a coefficient alpha for the STAI measure of .94.

Descriptive statistics were used to calculate the means, standard deviations, and ranges for each of the measures. Correlations were obtained to evaluate the relationship between each of the studies variables. A series of multiple regressions were conducted to investigate the amount of variance accounted for on each of the variables and to identify the individual variables that account for unique and significant variance. Regression analysis was performed on the data to determine a best-fit model of the predictors.

Chapter IV

RESULTS

The current study examined the influence of Hawaiian cultural affiliation on overall mental health, depression, and anxiety. Data for the current study was collected via a web-based survey. Participants were recruited via email invitations, listserves, online groups, and multiple networks of programs and organizations connected to Native Hawaiian communities throughout the United States. Participants in the current study were 184 Native Hawaiian college students attending colleges and universities throughout the United States. The demographic characteristics of the sample can be seen in Table 1. The mean age was approximately 27 years old with 73.3% of the sample being female. Participants were asked to complete measures of Hawaiian cultural affiliation and cultural congruency, as well as measures of mental health, depression, and anxiety. Participants were also asked to complete a demographic questionnaire. The data gleaned from their responses was analyzed using the Statistical Package for the Social Sciences, Version 20.0.

Table 1

Demographic Characteristics of Participants (N = 184)

	<u>Mean</u>	<u>SD</u>	<u>Range</u>
Age	27.11	9.93	18-60
	<u>N</u>	<u>Valid %</u>	
Sex			
Male	48	26.2	
Female	135	73.8	
What degree are you current pursuing?			
Associates Degree	38	20.9	
Bachelor's	91	50.0	
Master's	25	13.7	
Doctoral Degree	24	13.2	
Other	4	2.2	
First in family to pursue college education?			
Yes	58	31.5	
No	126	68.5	
Highest level of education completed			
High school graduate	114	62.0	
Associates degree	19	10.3	
Bachelor's degree	31	16.8	
Master's degree	20	10.9	
Doctoral degree	0	0.0	
Highest level of education completed by parents			
Elementary	1	0.5	
Junior high	4	2.2	
High school non-graduate	5	2.7	
High school graduate	77	41.8	
Associate degree	22	12.0	
Bachelor's degree	40	21.7	
Master's degree	28	15.2	
Doctoral degree	3	1.6	
Other	7	3.8	
Socioeconomic status			
Lower SES	51	28.2	
Middle SES	111	61.3	
Upper Middle SES	19	10.5	
Upper SES	0	0.0	
Ethnicity (multiple selections allowed)			
Native Hawaiian	184	100.0	
Asian	101	54.8	
African	2	1.1	
Caucasian	96	51.6	
Latino	14	7.4	
Other	22	12.2	

Table 1

Demographic Characteristics of Participants Cont. (N = 184)

	<u>N</u>	<u>Valid %</u>
Do you participate in Native Hawaiian cultural activities on campus or in your community?		
Yes	149	81.0
No	35	19.0
Have you ever sought help for emotional or mental health problems from a professional person (e.g. psychologist, counselor, psychiatrist, social worker, spiritual leader)?		
Yes	71	38.6
No	113	61.4
Have you ever utilized the mental health counseling services offered at your college or university?		
Yes	22	12.0
No	162	88.0

Preliminary Analyses

Preliminary analyses were performed to obtain descriptive information about each of the variables included in the present study as well as all demographic variables. The gathered psychometric data is presented in Table 2 below. Examination of the descriptive statistics did not reveal any concerns with the distributions of each of the variables (i.e., skewness values were all less than plus or minus 2). The reliability of each of the scales was adequate (α greater than .70). A total of 201 participants initially responded to the survey. Thirteen cases were removed for having grossly missing data (i.e., they exited the survey before answering any questions). Four additional participants were removed from the analysis because they reported not meeting the criterion of being Native Hawaiian. This resulted in a final sample size of 184 participants. Missing data on each of the scales ranged from 3-12% (see Table 2). After a careful examination of frequencies of the missing values, it was inferred that the incomplete values were not missing a systematic pattern. Therefore, the missing data were imputed using single imputation with the MCMC algorithm known as fully conditional specification (FCS) or chained-equations imputation available in SPSS Version 20.

Table 2

Preliminary Analyses (N = 184)

	M	SD	Range	Skewness	Kurtosis	Reliability (α)	Missing Data (%)
MHI	161.36	30.07	60-216	-.76	.37	0.96	11.7
PWB	58.17	12.97	21-84	-.33	-.36	0.94	7.4
PD	50.93	18.81	22-115	1.06	.86	0.94	9.6
STAI	36.01	12.74	20-73	0.89	.068	0.96	11.7
CES-D	12.83	11.24	0-56	1.311	1.6	0.94	12.2
HCS	2.25	0.32	1.24-2.86	-.43	-.22	0.94	11.2
CCS	74.65	14.28	29-91	-0.83	0.15	0.88	3.7

Note: MHI = Mental Health Inventory, PWB = Psychological Well-Being, PD = Psychological Distress, STAI = State-Trait Anxiety Index, CES-D = Center for Epidemiologic Studies-Depression Scale, HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale

Hypothesis Tests

Tests of hypotheses # 1-4 were performed using Pearson product-moment correlation coefficient. Results are summarized in Table 3, containing the correlations for all variables. An overall review of the table indicted some high-high correlations. While psychological distress is highly correlated with CES-D and STAI, PD also distinguishes itself from CES-D and STAI by measuring more enduring mental health states (i.e., assessing for symptoms in the “past month” as opposed to the “past week” or “now”). Additionally, PD also assessed for loss of behavioral and emotional control. All the variables were significantly correlated, with the exception of the Hawaiian Cultural Scale (HCS) and the Cultural Congruity Scale (CCS).

Hypothesis 1. Cultural affiliation will be inversely related to depression and anxiety.

An examination of the correlation table (Table 3) revealed that this hypothesis was supported. The Hawaiian Cultural Scale (HCS) scores were significantly negatively correlated with the State Trait Anxiety Index (STAI) ($r = -.32, p < .01$) and the Center for Epidemiologic Studies Depression Scale (CES-D) ($r = -.29, p < .01$). That is, people with higher cultural affiliation reported lower levels of anxiety and depression.

Hypothesis 2. Cultural congruity will be inversely related to depression and anxiety.

An examination of the correlation table (Table 3) revealed that this hypothesis was supported. The Cultural Congruity Scale (CCS) scores were significantly negatively correlated with the STAI ($r = -.37, p < .01$) and the CES-D scores ($r = -.40, p < .01$). People with higher cultural congruity reported lower levels of anxiety and depression.

Hypothesis 3. Higher cultural affiliation will be related to better mental health outcomes, such that Native Hawaiians who have greater affiliation with their cultural identity will report better mental health outcomes (i.e., greater psychological well-being).

An examination of the correlation table (Table 3) revealed that this hypothesis was supported. The Hawaiian Cultural Scale (HCS) scores were significantly correlated with the Psychological Well-Being (PWB) scores ($r = .35, p < .01$). The HCS scores were also negatively correlated with Psychological Distress (PD) scores ($r = -.22, p < .05$). This supports the idea that as cultural affiliation increases mental health improves as well.

Hypothesis 4. Higher levels of cultural congruity will be positively related to mental health, such that Native Hawaiians who report higher cultural congruity will report better mental health outcomes (higher reports of psychological well-being and lower reports of psychological distress).

An examination of the correlation table (Table 3) revealed that this hypothesis was supported. The Cultural Congruity Scale (CCS) scores were significantly correlated with Psychological Well-being (PWB) scores ($r = .36, p < .01$). The CCS scores were also negatively correlated with Psychological Distress (PD) scores ($r = -.43, p < .01$). This supports the idea that as cultural congruity increases mental health improves as well.

Table 3

Variable Inter-Correlations (N = 184)

Subscales	1	2	3	4	5	6	7
1. MHI	1.00						
2. PWB	.93**	1.00					
3. PD	-.97**	-.79**	1.00				
4. STAI	-.80**	-.74**	.77**	1.00			
5. CES-D	-.90**	-.79**	.89**	.75**	1.00		
6. HCS	.29**	.35**	-.22*	-.32**	-.29**	1.00	
7. CCS	.42**	.36**	-.43**	-.37**	-.40**	.04	1.00

Note: *indicates that the correlation is significant at the 0.05 level; **indicates that the correlation is significant at the 0.01 level. MHI = Mental Health Inventory, PWB = Psychological Well-Being, PD = Psychological Distress, STAI = State-Trait Anxiety Index, CES-D = Center for Epidemiologic Studies-Depression Scale, HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale

Model Building

To better understand the relationship of culture with mental health noted in the bivariate correlations reported above, it was decided to test a mediation model to explore both the direct and indirect effects of cultural affiliation (HCS) and cultural congruity (CCS) on psychological well-being (PWB) and psychological distress (PD). Anxiety (STAI) and depression (CES-D) were proposed as the mediating variables. Prior to performing the analyses all main effect variables were mean-centered. This was done in order to reduce potential multicollinearity between predictor variables and to allow easier interpretation of the beta coefficients.

The specific goal was to test whether anxiety and depression mediate the relationship between the predictor variables of cultural affiliation and cultural congruity and the outcome variable of psychological well-being, and similarly to test if anxiety and depression mediate the relationship between the predictor variables of cultural affiliation and cultural congruity and the outcome variable of psychological distress. According to Frazier et al., (2004), mediation would be shown if: 1) predictor variables are significantly related to outcome, 2) predictor variables are related to mediators, 3) mediators are related to outcome, and 4) predictor variables are no longer significant predictors for outcome when mediators are included in the same model. As such, in the current analyses, mediation would be shown if 1) cultural affiliation (HCS) and cultural congruity (CCS) are significantly related to psychological well-being (PWB) and psychological distress (PD), 2) cultural affiliation and cultural congruity are related to anxiety (STAI) and depression (CES-D), 3) anxiety and depression are related to psychological well-being and psychological distress, and 4) cultural affiliation (HCS) and cultural congruity (CCS) are no longer significant predictors for psychological well-being and psychological distress when anxiety (STAI) and depression (CES-D) are included in the same model.

For step 1 in the mediation model for psychological well-being (PWB), a regression was done to test the relationship of cultural affiliation (HCS) and cultural congruity (CCS) to PWB. Table 4 shows a summary of the regression model. The cultural variables accounted for 24% of the variance in psychological well-being. The results revealed that step 1 holds in that HCS ($\beta = .335, t = 5.168, p < .001$) and CCS ($\beta = .348, t = 5.379, p < .001$) are significant predictors of PWB.

Table 4

Multiple Regression: The Effects of Cultural Affiliation, and Cultural Congruity on Psychological Well-being (N = 184)

Model	Variable	B	SEB	B	R ²	F
					0.242	28.962 (2,181)**
	HCS	13.690	2.649	.335**		
	CCS	.320	.059	.348 **		

*Note: ** $p < .001$; HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale*

To test the relationship of cultural affiliation (HCS) and cultural congruity (CCS) to psychological distress (PD), an identical regression was conducted with PD as the outcome variable instead of PWB. Table 5 shows a summary of the regression model. The cultural variables accounted for 22.5% of the variance in psychological distress. For PD, the results revealed that step 1 of the mediation model holds in that HCS ($\beta = -.207, t = -3.156, p < .01$) and CCS ($\beta = -.419, t = -6.405, p < .001$) are significant predictors of PD.

Table 5

Multiple Regression: The Effects of Cultural Affiliation, and Cultural Congruity on Psychological Distress. (N = 184)

Model	Variable	B	SEB	β	R ²	F
					0.225	26.331 (2,181)**
	HCS	-12.326	3.906	-.207*		
	CCS	-.561	.088	-.419**		

*Note: * $p < .01$; ** $p < .001$; HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale*

For step 2, two multiple linear regressions were conducted predicting anxiety (STAI) and depression (CES-D) from the cultural variables. First, STAI scores were regressed on cultural affiliation (HCS) and cultural congruity (CCS) scores. Table 6 shows a summary of the regression model. The cultural variables accounted for 23% of the variance in the STAI scores. The results revealed that both HCS and CCS were significant predictors of anxiety (STAI). The condition for step 2 of the mediation model for STAI was met through this demonstrated relationship between the cultural variables and STAI. Greater HCS scores ($\beta = -.305, t = -4.679, p < .001$) predicted lower reports of anxiety on the STAI. CCS scores ($\beta = -.359, t = -5.504, p < .001$) were a slightly better predictor of STAI scores and also demonstrated an inverse relationship.

Table 6

Multiple Regression: The Effects of Cultural Affiliation, and Cultural Congruity on Anxiety (N = 184)

Model	Variable	B	SEB	β	R ²	F
					0.231	27.151 (2,181)**
	HCS	-12.367	2.643	-.305**		
	CCS	-.326	.059	-.359**		

Note: ** $p < .001$; HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale

Second, CES-D scores were regressed on cultural affiliation (HCS) and cultural congruity (CCS) scores. Table 7 shows a summary of the regression model. The cultural variables accounted for 23.5% of the variance in CES-D scores. The results revealed that both HCS and CCS were significant predictors of CES-D, again with CCS scores being a better predictor than HCS scores. The condition for step 2 in the mediation model for CES-D was met through this demonstrated relationship between the cultural variables and CES-D. Higher HCS scores predicted lower reports of depression ($\beta = -.272, t = -4.173, p < .001$). Higher CCS scores also predicted lower reports of depression ($\beta = -.391, t = -6.002, p < .001$).

Table 7

Multiple Regression: The Effects of Cultural Affiliation, and Cultural Congruity on Depression (N = 184)

Model	Variable	B	SEB	β	R ²	F
					0.235	27.745 (2, 181)**
	HCS	-9.452	2.265	-.272**		
	CCS	-.305	.051	-.391**		

Note: ** $p < .001$; HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale

For steps 3 and 4, STAI, CES-D, HCS, and CCS were added into the models for psychological well-being (PWB) and psychological distress (PD). The results from regressing psychological well-being scores on STAI, CES-D, HCS, and CCS scores are summarized in Table 8. The overall model accounted for 69% of the variance in psychological well-being scores. In this model STAI and CES-D explained the most variance for psychological well-being. Lower scores on the STAI scale were predictive of higher scores for psychological well-being ($\beta = -0.315, t = -4.922, p < .001$). Lower scores on the CES-D scale were predictive of higher scores for psychological well-being ($\beta = -0.516, t = -8.029, p < .001$). The condition for step 3 of the mediation model for PWB was met in that STAI and CES-D were significantly related to PWB. For step 4, the CCS scores were not a significant predictor in the model but greater HCS scores were predictive of greater PWB scores ($\beta = .098, t = 2.22, p = .028$). Thus, cultural affiliation explained variance in psychological well-being over and above that accounted for by anxiety and depression. Since HCS was still significant, anxiety and depression did not fully mediate the relationship between cultural affiliation (HCS) and psychological well-being. However, the effect size of HCS was significantly reduced suggesting a partial mediation. Thus, the variables of anxiety and depression mediated the relationship between cultural congruity and psychological well-being and partially mediated the relationship between cultural affiliation and psychological well-being. In other words, cultural congruity and cultural affiliation affected psychological well-being indirectly through the influence they had on anxiety and depression.

Table 8

Multiple Regression: The Effects of Depression, Anxiety, Cultural Affiliation, and Cultural Congruity on Psychological Well-being (N = 184)

Model	Variable	B	SEB	B	R ²	F
					0.690	99.533 (4, 179)**
	STAI	-.318	.065	-.315 **		
	CES-D	-.606	.075	-.516**		
	HCS	4.025	1.813	.098*		
	CCS	.031	.042	.034		

Note: * $p < .05$; ** $p < .001$; STAI = State-Trait Anxiety Index, CES = Center for Epidemiologic Studies-Depression Scale, HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale

The results of regressing psychological distress on STAI, CES-D, HCS, and CCS scores are summarized in Table 9. The overall model accounted for 82.4% of the variance in psychological distress (PD) scores. In this model STAI and CES-D explained the most variance for psychological distress. Higher scores on the STAI scale were predictive of higher scores for psychological distress ($\beta = .229, t = 4.751, p < .001$). Higher scores on the CES-D were predictive of higher scores for psychological distress ($\beta = .713, t = 14.746, p < .001$). The condition for step 3 of the mediation model for PD was met in that STAI and CES-D were significantly related to PD. For step 4, both variables of cultural affiliation (HCS) and cultural congruity (CCS) were not significant predictors in the model. Thus, the variables of anxiety and depression mediated the relationship between cultural affiliation and cultural congruity and the outcome of psychological distress. In other words, cultural affiliation and cultural congruity affected psychological distress indirectly through the influence they had on anxiety and depression.

Table 9

Multiple Regression: The Effects of Depression, Anxiety, Cultural Affiliation, and Cultural Congruity on Psychological Distress (N = 184)

Model	Variable	B	SEB	β	R ²	F
					0.824	209.432 (4, 179)**
	STAI	.338	0.071	.229 **		
	CES-D	1.223	0.083	0.713**		
	HCS	3.408	1.992	.057		
	CCS	-.078	.046	-.058		

Note: ** $p < .001$; STAI = State-Trait Anxiety Index, CES = Center for Epidemiologic Studies-Depression Scale, HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale

Post-hoc Analyses

After examining the results just presented, two further post-hoc analysis hypotheses were postulated and tested. It was proposed that campus cultural congruity might moderate the relationship between cultural affiliation and the psychological variables being investigated. That an academic setting be culturally congruent with one's Hawaiian worldview would seem more important for those students higher in Hawaiian cultural affiliation and less so for students lower in Hawaiian cultural affiliation. Thus, being on a campus that was perceived as congruent with Hawaiian cultural values would be more likely to have a greater impact on psychological wellness (and psychological symptoms) than for those students who endorse low cultural affiliation, for whom a culturally syntonic academic environment would seem less important. Two post-hoc hypotheses were proposed:

Post-Hoc Hypothesis 1: Cultural congruence will moderate the effect of cultural affiliation on psychological well-being, such that the impact of cultural affiliation on

psychological well-being will be greater for students who endorsed greater cultural congruence than for those who report less cultural congruence. This hypothesis was tested by creating an interaction term for cultural affiliation and cultural congruity. A multiple regression was run in which anxiety, depression, cultural affiliation, cultural congruity, and the interaction term (predictor variables) were regressed on psychological well-being (criterion variable). Results (see Table 10) indicated that over and above the variance explained by anxiety, depression, and cultural affiliation the interaction term was also positively correlated with psychological well-being. This suggests that students reporting higher cultural affiliation and higher cultural congruence in their academic setting also reported greater psychological well-being. (see Figure 2).

Table 10

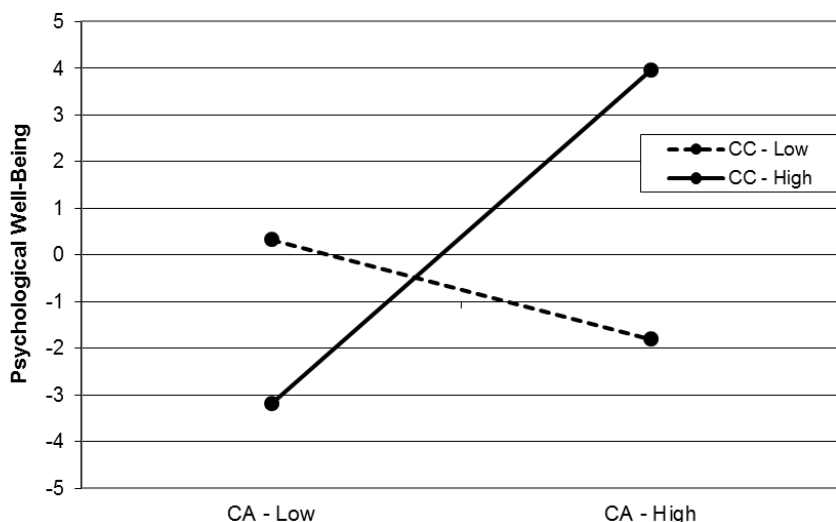
Multiple Regression: The Moderating Effect of Cultural Congruity on the Relation between Cultural Affiliation and Psychological Well-being (N = 184)

Model	Variable	B	SEB	β	R ²	F
					0.70	83.136 (5, 178)**
	STAI	-.326	.064	-.323 **		
	CES-D	-.618	.075	-.526**		
	HCS	3.96	1.78	.097*		
	CCS	.035	.042	.038		
	CCS x HCS	.313	.126	.103*		

Note: * $p < .05$; ** $p < .001$; STAI = State-Trait Anxiety Index, CES = Center for Epidemiologic Studies-Depression Scale, HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale

Figure 2

The Moderating Effect of Cultural Congruity on the Relation between Cultural Affiliation and Psychological Well-being



Note: The figure shows the model based slopes derived from the interaction model. For graphing purposes, “Low” and “High” are defined as the 10th and 90th percentiles for each continuous variable. CA = Cultural Affiliation, CC = Cultural Congruity

Post-Hoc Hypothesis 2: Cultural congruence will moderate the effect of cultural affiliation on psychological distress, such that the impact of cultural affiliation on psychological distress will be greater for students who endorsed greater cultural congruence than for those who report less cultural congruence. This hypothesis was tested by creating an interaction term for cultural affiliation and cultural congruity. A multiple regression was run in which anxiety, depression, cultural affiliation, cultural congruity, and the interaction term (predictor variables) were regressed on psychological distress (criterion variable). Results (see Table 11) show that

the interaction term was not correlated with psychological distress indicating that cultural congruity was not a moderator of cultural affiliation.

Table 11

Multiple Regression: The Moderating Effect of Cultural Congruity on the Relation between Cultural Affiliation and Psychological Distress (N = 184)

Model	Variable	B	SEB	B	R ²	F
					0.825	168.18 (5, 178)**
	STAI	.342	.071	-.232 **		
	CES-D	1.22	.083	-.717**		
	HCS	3.44	1.99	.058		
	CCS	-.08	.046	-.060		
	CCS x HCS	-.162	.141	-.037		

Note: * $p < .05$; ** $p < .001$; STAI = State-Trait Anxiety Index, CES = Center for Epidemiologic Studies Depression Scale, HCS = Hawaiian Cultural Scale, CCS = Cultural Congruity Scale

Overall the results of the post-hoc analyses indicated that students who reported both higher Hawaiian cultural affiliation and greater cultural congruence between their academic setting and Hawaiian values also reported greater psychological well-being.

Chapter V

DISCUSSION

The current study aspired to combat the dearth of available knowledge on the relationship of cultural variables on the mental health and psychological well-being of Native Hawaiians. Therefore, this study examined the influence of cultural affiliation and campus cultural congruity to psychological well-being, psychological distress, depression, and anxiety, among Native Hawaiian college participants. There has been scarce research devoted to the mental health of Native Hawaiians, but some of the existing literature suggests comparatively higher mental health challenges when compared to other ethnic groups (Kanazawa et al., 2007; Makini et al., 1996; Native Hawaiian Health Consortium, 1985). Some scholarship asserts that much of the current negative physical and mental health disparities found within present day native populations has been directly impacted by the accumulated losses of culture and identity that have been suffered by indigenous people in the aftermath of centuries of colonization (Duran & Duran, 1995; Hill et al., 2010; McCubbin & Marsella, 2009; Yellow Horse Brave Heart & DeBruyn, 1998). Research regarding ethnic identity has posited both potentially negative and protective associations between ethnic identity and psychological well-being (Shelton, Yip, Eccles, Chatman, Fuligni, & Wong, 2005). More current related literature on ethnic identity favors the later notion, and is supported by a recent meta-analysis of 184 studies related to ethnic identity and personal well-being among people of color, that found a positive association (Smith & Silva, 2011). Shelton et al. (2005) also argue affirmatively for the positive psychological and buffering effects that ethnic identity may offer to those individuals that hold positive views of their ethnic group and consider their ethnic identity essential to their social identity. Given that

recent literature suggests a positive association between ethnic identity and personal well-being, the research questions in this study sought to explore this premise within a Native Hawaiian population. Although there is increasing research and scholarship on ethnic identity, few of these studies have been inclusive of indigenous populations, in particular Native Hawaiians. Thus, the current study endeavored to understand how cultural variables might influence the psychological well-being and mental health of an adult Native Hawaiian college population.

Relationship between cultural variables and depression, anxiety, psychological well-being and distress. The current investigation hypothesized that higher cultural affiliation would be inversely related to depression and anxiety. That is to say, those Native Hawaiian students who endorsed higher cultural affiliation would also report experiencing fewer symptoms of depression and anxiety. This hypothesis was supported by the correlational analyses, in that cultural affiliation scores were significantly negatively correlated with anxiety and depression scores. It was also hypothesized that cultural congruity would be inversely related to depression and anxiety. That is to say, that those Native Hawaiian students that reported higher cultural congruity on their campus would also report fewer symptoms of depression and anxiety. This hypothesis was also supported by the correlational analyses, in that cultural congruity scores were significantly negatively correlated with anxiety and depression scores.

The current study also hypothesized that higher cultural affiliation would be positively related to better mental health outcomes. Simply stated, Native Hawaiian students who endorsed greater affiliation with their cultural identity would also report greater psychological well-being. This hypothesis was supported by the correlational analyses that revealed that cultural affiliation scores were significantly positively correlated with psychological well-being and significantly negatively correlated to psychological distress. Stated in another way, as cultural affiliation

increased in Native Hawaiian students so too did their scores on psychological well-being, where as the reverse was true in relation to psychological distress. The results revealed that as Native Hawaiian students reported less cultural affiliation their scores of psychological distress increased. Additionally, this study hypothesized that higher levels of cultural congruity would be positively related to mental health, such that Native Hawaiian students that reported higher cultural congruity would also report greater psychological well-being. This hypothesis was also supported by the correlational analyses in that Native Hawaiian students that endorsed higher cultural congruity also reported higher psychological well-being, where as Native Hawaiian students reporting lower cultural congruity also reported greater psychological distress.

While these correlational analyses are limited in their predictive value, the findings within this study appear to further support the recent research and scholarship that suggests a positive association between ethnic identity and personal well-being (Smith & Silva, 2011). In the lived experiences of indigenous populations, post colonization, retaining one's cultural identity has until recently, been discouraged, outlawed, and in some cases literally beaten out of existence by the enforcement of ethnocentric bias and dominant culture norms (Hill et al., 2010; McCubbin & Marsella, 2009; Yellow Horse Brave Heart & Debruyne, 1998). The current findings suggest that for Native Hawaiian students, greater adherence to their own cultural values may contribute to their greater psychological well-being. This is an encouraging finding and perhaps related to the influence of several decades of efforts by social justice movements within native communities, including that of Native Hawaiians to reclaim their cultural identities.

Mediation Model. In the current study, it was determined that a mediation model might provide a greater level of insight into the direct and indirect effects of cultural affiliation and cultural congruity on psychological well-being and psychological distress. Anxiety and

depression were proposed as the mediating variables. Findings revealed that anxiety and depression fully mediated the relationship between both cultural affiliation and cultural congruity on the outcome of psychological distress. In other words, both cultural variables (i.e., cultural affiliation and cultural congruity) in this study had an indirect effect on psychological distress. Stated more simply, the influence of cultural affiliation and cultural congruity is felt through their impact on anxiety and depression, which in turn affects psychological distress.

Additionally, results revealed that the variables of anxiety and depression fully mediated the relationship between cultural congruity and psychological well-being. In other words, cultural congruity had an indirect impact on psychological well-being through the influence it had on anxiety and depression. Results also revealed that the symptoms of anxiety and depression partially mediated the relationship between cultural affiliation and psychological well-being. The regression results indicate that cultural affiliation is still significant and explained variance over and above that accounted for by anxiety and depression. In other words, cultural affiliation in this study was found to have both an indirect and direct effect on psychological well-being.

The different findings observed between psychological well-being and psychological distress might have been due to the influence that pride or positive associations with one's culture might have played in protecting or insulating Native Hawaiian students from mental and emotional challenges.

Overall, while anxiety and depression explained the most variance for psychological distress and well-being, findings from the current study suggest that the cultural variables played a role in the mental health outcomes of Native Hawaiian participants through their influence on anxiety and depression. The results additionally indicated that cultural affiliation also had a

direct influence on psychological well-being and therefore may play a greater role in supporting better mental health outcomes in Native Hawaiian students. Future research might want to investigate the larger implications of this finding further. These results also support the increasing scholarship that postulates the importance of the role that culture and ethnicity may play in the context of understanding variations in the presentation of mental health symptoms within ethnic minorities. Increasing ethnic specific cultural knowledge within the field of psychology may in turn lead to improved and more culturally competent mental health services, assessments, interventions and a greater understanding of the potential risk and protective factors present within ethnic minority communities (Kanazawa et al., 2007; Shelton et al., 2005; USDHHS, 2001).

Post-Hoc Hypotheses. Two post-hoc hypotheses were proposed and tested in the current study. The first hypothesis stated that cultural congruence would moderate the effect of cultural affiliation on psychological well-being, such that the impact of cultural affiliation on psychological well-being would be greater for students who endorsed greater cultural congruence than for those who reported less congruence. The results indicated that the interaction term explained variance over and above anxiety, depression and cultural affiliation on psychological well-being. These findings suggested that students reporting higher cultural affiliation and higher cultural congruence in their academic environment also reported greater psychological well-being. Perhaps when an academic setting was culturally congruent with a Native Hawaiian student's worldview, they may have experienced an increased sense of belonging and validation resulting in greater psychological well-being.

Native Hawaiian students who endorsed low cultural congruity and high cultural affiliation also reported lower levels of psychological well-being. Perhaps this group would

benefit from counseling interventions, such as support groups, and outreach that assists them in finding resources, within the campus or surrounding community that support their cultural identity (i.e., Native Hawaiian or indigenous community organizations, leaders, mentors or faculty members).

A campus that lacks cultural congruity for Native Hawaiian students might be one that emphasizes Western norms of individual competition, achievement and accomplishment, while minimizing or dismissing the need for community building. In these campus environments, students might be expected to already have all the skill sets they need for academic success (i.e., insufficient tutoring, academic counseling, culturally sensitive programming). On the other hand, a culturally congruent campus might promote building a sense of community that is supportive and congruent in the context of Native Hawaiian values by creating group friendly environments or safe spaces on campuses for gathering with peers, friends and mentors. This might help provide a greater sense of belonging and allow students to build a network of support that might aid in their academic achievement and retention. Additionally, scholarships, funding and programming that promotes and provides incentives for Native Hawaiian student to access services that might assist in their personal and academic well-being would be provided.

For Native Hawaiian students who endorsed lower cultural affiliation and higher cultural congruity, their worldview might have been more informed by a Western perspective and therefore the benefit of validation and belonging may not have had the same positive influence on their psychological well-being.

Given that our nation's campuses are increasingly becoming more and more ethnically and racially diverse, these results validate the efficacy of promoting more inclusive cultural environments on college campuses.

The second hypothesis stated that cultural congruence would moderate the effect of cultural affiliation on psychological distress, such that the impact of cultural affiliation on psychological distress would be greater for students who endorsed greater cultural congruence than for those who reported less cultural congruence. The results showed that the interaction term was not correlated with psychological distress and therefore indicated that cultural congruity was not a moderator of cultural affiliation.

Implications for Mental Health Professionals

The current study's findings provided some insights into the role that cultural variables might play in the context of psychological well-being and overall mental health in Native Hawaiian college students. With an increasing awareness that the definition of "we the people" of the United States continues to change dramatically in terms of our racial, ethnic, and religious/spiritual complexity, the field of psychology is either posed to embrace the challenge of staying relevant in the context of such changes or risk the possibility of being unprepared for meeting the mental health needs of a highly diverse population (USDHHS, 2001). Unfortunately, there is more evidence that the later is often true and that alleviation of this mental health care disparity may require significant paradigm shifts within the field of psychology. Psychology and the graduate programs that train their professionals have long held privileged positions as mental health experts, afforded to them through dominant western cultural power and bias. There have been increasing numbers of scholars that have been bold enough to suggest that the field of psychology in, theory, training, practice and research has been complicit in its contribution to the history of trauma, oppression and colonization of native peoples (Duran & Duran, 1995; Duran et al., 2008; Hill et al., 2010; McCubbin & Marsella, 2009; Yellow Horse Brave Heart and Debruyn, 1998). The collective voices of scholars within indigenous communities and allied

scholars alike have increasingly advocated for both the decolonization and transformation within the field of psychology and within the larger academic and dominant cultural context (Hill et al., 2010; Kaomea, 2003).

The current study supported the premise that cultural affiliation has a positive influence on the psychological well-being of Native Hawaiian college students. Therefore, counselors working within indigenous student populations should facilitate their ability to be more culturally aware and competent in their clinical work by seeking specific training on indigenous history, epistemology, cosmology, and indigenous ways of knowing and healing practices. Counselors with a more informed perspective of the historical and cultural context of indigenous experiences should be able to provide a more inviting and comfortable counseling environment for native students. Additionally, counselors should make concerted efforts to honestly assess and evaluate their own biases, attitudes, values and judgments that they bring into each counseling relationship. Cultural competence requires on-going diligence and the willingness to be open to being challenged, by our clients, colleagues, supervision and trainings on the blind spots that counselors may unintentionally harbor in their work with culturally diverse populations.

Findings of the current study suggested that cultural congruence significantly moderated the positive relationship between cultural affiliation and psychological well-being. These findings suggest that academic institutes could potentially support the well-being of native students by providing programs and resources that compliment or support their own cultural values. College campuses should encourage and support safe spaces where students may come together to engage in activities that affirm their cultural and ethnic identities (i.e., funding for cultural programming, clubs, etc.). Campus outreach, scholarships and policies that communicate an environment and attitude of support and inclusiveness for native students could be essential in

fostering a sense of cultural pride, belonging, and well-being. The support, accessibility and promotion of culturally related social events also offers students the opportunity and venue to potentially build a network of allies, friendships and a larger sense of community within their academic environment.

Future Research

Results of the present study offer insights into areas worthy of further investigation. The current study supported the premise that cultural variables appeared to play a positive role in the psychological well-being of the Native Hawaiian students in this sample. Future research should attempt to explore more specifically what aspects of culture, such as values, traditions, interpersonal, worldviews, and spirituality offer the most promise in understanding and potentially promoting better mental health outcomes within Native Hawaiian and other indigenous communities. Given that the current study's population was limited to Native Hawaiian college students, future research should also explore how cultural variables affect psychological well-being within a larger and more randomized community sample of Native Hawaiians. Currently there appears to be more research on Native Hawaiians associated with disparities around physical health related issues, such as elevated rates of obesity, cancer, diabetes, cardiovascular disease and low life expectancy rates in Native Hawaiian populations (Fong, Braun, & Tsark, 2003; Ka'opua, Braun, Browne, Mokuau, & Chai-Bin Park, 2011; Mau et al., 2009). In contrast, there appears to be few large studies on mental health related issues that have focused exclusively on, or have even been inclusive of adult Native Hawaiian samples. The scarcity of research on adult Native Hawaiians and mental health issues is curious given the increasing evidence of physical health disparities within this population. It is not uncommon to find that physical health and mental health influence one another. In relation to Native

Hawaiians, Crabbe (1999) infers the significant value of understanding the inseparable relationship between the physical and psychological within Native Hawaiian communities. Additionally, he goes on to explore theoretical models that might apply to the potential relationships between the etiology of depression among Native Hawaiians and a myriad of cultural and socio-economic losses that have been experienced within the Native Hawaiian population post-western contact. Perhaps future mental health research might endeavor to elucidate on the potential relationships between cultural variables and the mind-body connection on psychological well-being within the Native Hawaiian community.

Limitations of the Study

Reviewing the current findings in this study revealed areas of limitations that should be considered. Given that the current study recruited adult Native Hawaiian college students the sample utilized was one of convenience. Therefore, the results gathered may not be as generalizable as they might have been using a more randomized community sample. Similarly, the relatively modest sample size (N = 184) may further hinder the generalizability of the current study's findings. Additionally, the current study was distributed and conducted through an internet-based survey service. Although the use of an internet-based survey has multiple benefits including anonymity, and accessibility to geographically diverse pockets of the specific sampled population, there are also a number of potential limitations. One of the more notable limitations of utilizing an internet-based survey service was the limitations it then imposed on the ability of measures included in the survey to be counterbalanced. The limitation of counter balancing the survey measures used in the current study then unintentionally increased the potential of order effects to have occurred.

Additionally, another potential limitation of the current study was the fact that many of the participants recruited were often solicited through organizations, social networks and contacts that were some how connected to Native Hawaiian themes. Thus, the potential of having reached students that might already hold a higher regard or connectedness to their cultural affiliation might be an issue of concern in the current sample. Therefore, the present findings may not equitably capture the experiences of Native Hawaiian students who may have held a broader spectrum of affiliation levels in relation to their Hawaiian culture. Another potential limitation of the current study was the lack of distinction between participants attending college in the State of Hawai'i as opposed to those attending college in the continental United States. Knowledge of the geographical location of the college or university attended by participants may have contributed to a better understanding of the role that this may have played in their psychological well-being. Lastly, another limitation of the present study was also revealed when presenting the correlations in Table 3. It was noted that high-high correlations existed between the scales of the Mental Health Inventory (MHI) and the anxiety (STAI) and depression (CES-D) scales. Therefore, given the high-high correlations, it could be speculated that these separate scales may not actually be measuring two separate variables, but may simply be measuring the same variables of mental health states.

Conclusion

In light of the limited mental health research available on adult Native Hawaiians, the intent of this study was to make a contribution to the available knowledge about this population. Unfortunately, the research that is available often reveals the preponderance of disparities in socioeconomic, mental health and other health related areas for Native Hawaiians. Recent scholarship within the field of psychology has proposed the potential importance of ethnic

identity and culture in the equation of personal well-being in ethnic minority populations (Smith & Silvia, 2011). Therefore, the purpose of this study was to explore the influence of cultural variables on the psychological well-being and mental health within a Native Hawaiian population.

The current findings revealed some statistical support for the positive role that cultural variables may play in psychological well-being. The cultural variables of cultural affiliation and cultural congruity were significantly negatively correlated with anxiety, depression, and psychological distress. Additionally, the cultural variables of cultural affiliation and cultural congruity were significantly positively correlated with psychological well-being.

Furthermore, a mediation model was used to provide greater insight into the direct and indirect effects of the cultural variables on psychological well-being and distress. Findings revealed that the cultural variables exerted their influence on psychological well-being and distress through their influence on anxiety and depression. More importantly, cultural affiliation was revealed to have a direct effect on psychological well-being.

Therefore, the combined findings illustrated that culture was important to consider in the planning and implementation of assessments, and therapeutic interventions given the role that it might play in contributing to positive mental health outcomes.

Lastly, testing for the moderating effect of cultural congruity on the relationship between cultural affiliation and psychological well-being suggested that students reporting higher cultural affiliation and higher cultural congruence in their academic setting also reported greater psychological well-being. These findings also supported the potential positive influence that the cultural variables might have played in this study. Furthermore, they suggested that Native

Hawaiian students who were high in cultural affiliation might gain more positive psychological benefit from being within a culturally congruent educational environment.

Perhaps of equal importance in the equation of creating equitable and meaningful change in the ways that psychology interacts with indigenous peoples and their cultures would be in the recognition of the right of indigenous populations to embrace their own unique knowledge and understanding of themselves. McCubbin and Marsella (2009) offered this description of how indigenous psychology fosters this recognition:

Indigenous psychology as it relates to Native Hawaiians emphasizes the examination of psychological phenomena in ecological, historical, and cultural contexts, and involves multiple perspectives and methods to create a comprehensive and integrated picture of the population. The scientific process acknowledges that the Native Hawaiians have complex and sophisticated understandings of themselves as individuals and part of a collective whole. (p. 375)

Recognition, acceptance, financial funding, academic acknowledgement, and validation of native peoples right to explore and examine their own traditional and historical knowledge and ways of being (free of western judgment of scientific inferiority), could conceivably open pathways to more cultural competency and efficacy in the development of theory, treatment interventions and overall delivery of services to these populations. Indigenous peoples should no longer simply be invited into the process of mental health research and science on their behalf, but preferably be seated at the forefront from start to finish in the design and implementation of their own healing process.

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APPENDIX A: DEMOGRAPHIC QUESTIONNAIRE

Please complete the following:

1. Please check 1=Female 2= Male

2. Age: _____

3. What degree are you currently pursuing?

1= Associate Degree 2= Bachelor's

3= Master's 4=Doctoral Degree 5= Other (Please Specify)

4. Are you the first in your immediate family (e.g., mother, father, siblings) to pursue a college education?

1=Yes

2= No

5. Highest level of education you have already completed:

1=High school Graduate 2= Associate Degree 3= Bachelor's

3=Master's 4= Doctoral Degree

6. Highest level of education completed by your parents:

1= Elementary 2= Junior High 3= High school non-Graduate

4= High school Graduate 5= Associate Degree 6= Bachelor's

7= Master's 8= Doctoral Degree 9= Other (Please Specify) _____

7. Socioeconomic Status = SES:

1= Lower SES 2= Middle SES 3=Upper Middle SES

4= Upper SES

8. What is your ethnic group? (Check all that apply)

1= Native Hawaiian 2= Asian 3= African American 4= Caucasian 5= Latino/Latina 6= Other
(Please specify) _____

9. Do you participate in Native Hawaiian cultural activities on campus or in your community?

1= Yes

2= No

10. Have you ever, sought help for emotional or mental health problems from a professional person (e.g., as psychologist, counselor, psychiatrist, social worker, spiritual leader)?

1= Yes

2= No

11. Have you ever utilized the mental health counseling services offered at your college or university? 1= Yes 2=No

APPENDIX B: The Hawaiian Culture Scale

NOW WE WOULD LIKE YOU TO ANSWER THE FOLLOWING ITEMS ON NATIVE HAWAIIAN CULTURE AND ETHNICITY.

Item 1. I learned about the Native Hawaiian way of life from my family at home.

Not at all		Somewhat		Very much
1	2	3	4	5

Item 2. I learned about the Native Hawaiian way of life from school.

Not at all		Somewhat		Very much
1	2	3	4	5

Item 3. I learned about the Native Hawaiian way of life from friends and neighbors.

Not at all		Somewhat		Very much
1	2	3	4	5

Item 4. Check anyone in your household who can carry on a conversation in Hawaiian:

Yourself
 Mother (primary female caregiver)
 Father (primary male caregiver)
 Grandmother
 Grandfather
 Other _____
 None (specify) _____

Item 5. What language is primarily spoken in your home?:

Standard English
 Pidgin English
 Hawaiian Other _____ (specify)

Item 6. Rate your ability to understand the Hawaiian language (circle one).

Not at all		Pretty good		Excellent
1	2	3	4	5

Item 7. Rate your ability to speak the Hawaiian language (circle one).

Not at all		Pretty good		Excellent
1	2	3	4	5

(CONTINUED ON NEXT PAGE)

Item 8. How much do you value Hawaiian beliefs, behaviors and attitudes?
(circle one)

Not at all		Somewhat		Very much
1	2	3	4	5

Item 9. How much do you value Non-Hawaiian beliefs, behaviors and attitudes?
(circle one)

Not at all		Somewhat		Very much
1	2	3	4	5

Item 10. How important is it to you to maintain Hawaiian cultural traditions?

Not at all		Somewhat		Very much
1	2	3	4	5

Item 11. Do you have any Hawaiian blood?

Yes
 No
 Don't Know

If you answered yes above, select the one choice below that describes you:

Pure (100%) Native Hawaiian
 Half (50% or more) Native Hawaiian
 Less than half (less than 50%) Native Hawaiian

(CONTINUED ON NEXT PAGE)

Please read these instructions. For each of the items, circle the number which best describes you. For example, look at the first item under Customs. If you are unfamiliar with or don't know about family home blessings by a Hawaiian priest or kahuna, circle the number 1. If you understand or believe in such blessings, then circle the number 2. If, in addition to understanding or believing in this custom, you also practice, or do the custom then circle number 3. Answer the remaining items in the same way.

<u>Customs and Beliefs:</u>	<u>Unfamiliar/ don't know</u>	<u>You understand or believe in</u>	<u>You practice custom</u>
Family home blessed by Hawaiian priest or kahuna	1	2	3
Taking part in Native healing practices (ho'oponopono, lomilomi)	1	2	3
Offerings at heiau	1	2	3
'Aumakua	1	2	3
Kapu System	1	2	3
Learning genealogy/ origin of family	1	2	3
Formal passing of knowledge from generation to generation	1	2	3
Hō'ailona –signs of nature	1	2	3
Lōkahi	1	2	3
'Ohana	1	2	3
Aloha 'āina	1	2	3
<u>Lifestyles:</u>	<u>Unfamiliar/ don't know</u>	<u>You know how to do</u>	<u>You do</u>
Net fishing	1	2	3
Taro farming	1	2	3
Limu picking	1	2	3
'Opelu fishing	1	2	3
Trolling	1	2	3
Making poi	1	2	3
Drying fish	1	2	3
Hunting	1	2	3

(CONTINUED ON NEXT PAGE)

<u>Activities & Social Events:</u>	<u>Unfamiliar/ don't know</u>	<u>You know how to do</u>	<u>You do</u>
Hula	1	2	3
Chanting/playing music	1	2	3
Listening to Hawaiian music	1	2	3
Listening to Hawaiian radio stations	1	2	3
Merry Monarch	1	2	3
Hawaiian clubs	1	2	3
Canoe paddling	1	2	3
Lei making	1	2	3
Hawaiian crafts	1	2	3
Baby lu'au	1	2	3
<u>Folklore & Legends:</u>	<u>Unfamiliar/ don't know</u>	<u>You understand</u>	<u>You believe in</u>
Nightmarchers	1	2	3
Menehunes	1	2	3
Pele	1	2	3
Ti leaf as protection	1	2	3
Kahuna	1	2	3
<u>Causes-Locations</u>	<u>Unfamiliar/ don't Know</u>	<u>You know about</u>	<u>You believe in or support</u>
Waiahole/Waikane	1	2	3
Waimanalo Beach	1	2	3
Sand Island	1	2	3
<u>Causes-Access</u>	<u>Unfamiliar/ don't know</u>	<u>You know about</u>	<u>You believe in or support</u>
Access rights to the ocean	1	2	3
Access rights to the mountains	1	2	3

APPENDIX C: CULTURAL CONGRUITY SCALE (CCS)

For each of the following items, indicate the extent to which you have experienced the feeling or situation at school. Use the following ratings:

Not at all						A great deal
1	2	3	4	5	6	7

- _____ 1. I feel that I have to change myself to fit in at school.
- _____ 2. I try not to show the parts of me that are “ethnically” based.
- _____ 3. I often feel like a chameleon, having to change myself depending on the ethnicity of the person I am with at school.
- _____ 4. I feel that my ethnicity is incompatible with the other students.
- _____ 5. I can talk to my friends at school about my family and culture.
- _____ 6. I feel I am leaving my family values behind by going to college.
- _____ 7. My ethnic values are in conflict with what is expected at school.
- _____ 8. I can talk to my family about my friends from school.
- _____ 9. I feel that my language and/or appearance make it hard for me to fit in with the other students.
- _____ 10. My family and school values often conflict.
- _____ 11. I feel accepted at school as an ethnic minority.
- _____ 12. As an ethnic minority, I feel as if I belong on this campus.
- _____ 13. I can talk to my family about my struggles and concerns at school.

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This scale has been on a four-point Likert-type scale ranging from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*) with adequate reliability.

Gloria, A. M., Hird, J. S., Navarro R. L. (2000). Relationships of cultural congruity and perceptions of the university environment to help-seeking attitudes by sociorace and gender. *Journal of College Student Development*, 42, 545-562.

* Reverse Score Items: 1, 2, 3, 4, 6, 7, 9, 10.

This scale has been used with Chicana (Gloria, 1997), Latina (Gloria, Castellanos, & Lopez, in review), Latino/a and Black (Constantine, Robinson, Wilton, & Caldwell, 2002), African-American (Gloria, Robinson, Hamilton, & Willson, 1999; Constantine & Watt, 2002), American Indian (Gloria & Robinson-Kurpius, 2001), and Asian American (2003) undergraduates.

APPENDIX D: MENTAL HEALTH INVENTORY (MHI)

MENTAL HEALTH INVENTORY

The following questions are about how you feel. And how things have been with you mostly **WITHIN THE PAST MONTH**. For each question please circle a number for the one answer that comes closest to the way you have been feeling.

1. How happy, satisfied or pleased have you been with your personal life during the past month?

- | | |
|--|---|
| Extremely happy, could not have been more satisfied or pleased | 1 |
| Very happy most of the time | 2 |
| Generally satisfied, pleased | 3 |
| Sometimes fairly satisfied, sometimes fairly unsatisfied | 4 |
| Generally dissatisfied, unhappy | 5 |
| Very dissatisfied, unhappy most of the time | 6 |

2. How much of the time have you felt lonely during the past month?

- | | |
|------------------------|---|
| All the time | 1 |
| Most of the time | 2 |
| A good bit of the time | 3 |
| Some of the time | 4 |
| A little of the time | 5 |
| None of the time | 6 |

3. How often did you become nervous or jumpy when faced with excitement or unexpected situations during the past month?

- | | |
|--------------|---|
| Always | 1 |
| Very often | 2 |
| Fairly often | 3 |
| Sometimes | 4 |
| Almost never | 5 |
| Never | 6 |

4. During the past month, how much of the time have you felt that the future looks hopeful and promising?

- | | |
|--------------|---|
| Always | 1 |
| Very often | 2 |
| Fairly often | 3 |
| Sometimes | 4 |
| Almost never | 5 |
| Never | 6 |

5. How much time during the past month has your daily life been full of things that were interesting to you?

- | | |
|--------------|---|
| All the time | 1 |
|--------------|---|

Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

6. How much of the time during the past month did you feel relaxed and free of tension?

All the time	1
Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

7. During the past month, how much of the time have you generally enjoyed the things you do?

All the time	1
Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

8. During the past month, have you had any reason to wonder if you were losing your mind, or losing control over the way you act, talk, think, feel or of your memory?

No, not at all	1
Maybe a little	2
Yes but not enough to be concerned or worried	3
Yes and I have been a little concerned	4
Yes and I am quite concerned	5
Yes and I am very concerned about it	6

9. Did you feel depressed during the past month?

Yes, to the point that I did not care about anything for days at a time	1
Yes, very depressed almost every day	2
Yes, quite depressed several times	3
Yes, depressed some of the time	4
Yes, a little depressed now and then	5
No, never felt depressed at all	6

10. During the past month, how much of the time have you felt loved and wanted?

All the time	1
Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

11. How much time, during the past month have you been a very nervous person?
- | | |
|------------------------|---|
| All the time | 1 |
| Most of the time | 2 |
| A good bit of the time | 3 |
| Some of the time | 4 |
| A little of the time | 5 |
| None of the time | 6 |
12. When you got up in the morning, this past month, about how often did you expect to have an interesting day?
- | | |
|--------------|---|
| Always | 1 |
| Very often | 2 |
| Fairly often | 3 |
| Sometimes | 4 |
| Almost never | 5 |
| Never | 6 |
13. During the past month, how much of the time have you felt tense or "high strung"?
- | | |
|------------------------|---|
| All the time | 1 |
| Most of the time | 2 |
| A good bit of the time | 3 |
| Some of the time | 4 |
| A little of the time | 5 |
| None of the time | 6 |
14. During the past month, have you been in firm control of your behavior, thoughts, emotions, or feelings?
- | | |
|---------------------------------|---|
| Yes, very definitely | 1 |
| Yes, for the most part | 2 |
| Yes, I guess so | 3 |
| No, not too well | 4 |
| No, and I am somewhat disturbed | 5 |
| No, and I am very disturbed | 6 |
15. During the past month how often did your hands shake when you tried to do something?
- | | |
|--------------|---|
| Always | 1 |
| Very often | 2 |
| Fairly often | 3 |
| Sometimes | 4 |
| Almost never | 5 |
| Never | 6 |
16. During the past month, how often did you feel that you had nothing to look forward to?
- | | |
|--------------|---|
| Always | 1 |
| Very often | 2 |
| Fairly often | 3 |

Sometimes	4
Almost never	5
Never	6

17. How much time, during the past month, have you felt calm and peaceful?

All the time	1
Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

18. How much time during the past month have you felt emotionally stable?

All the time	1
Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

19. How much time over the past month have you felt downhearted and blue?

All the time	1
Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

20. How often have you felt like crying during the past month?

Always	1
Very often	2
Fairly often	3
Sometimes	4
Almost never	5
Never	6

21. How much of the time, during the past month, were you able to relax without difficulty?

All the time	1
Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

22. During the past month, how much of the time did you feel that your love relationships, loving and being loved were full and complete?

All the time	1
--------------	---

Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

23. How often, during the past month, did you feel that nothing turned out for you the way you wanted it to?

Always	1
Very often	2
Fairly often	3
Sometimes	4
Almost never	5
Never	6

24. How much of the time have you been bothered by "nervousness" or your "nerves" during the past month?

Extremely so to the point where I could not take care of things	1
Very much bothered	2
Bothered quite a bit by nerves	3
Bothered some enough to notice	4
Bothered just a little by nerves	5
Not bothered at all by this	6

25. How much of the time has living been a wonderful adventure for you?

Always	1
Very often	2
Fairly often	3
Sometimes	4
Almost never	5
Never	6

26. How often, during the past month, have you felt so down in the dumps that nothing could cheer you up?

Always	1
Very often	2
Fairly often	3
Sometimes	4
Almost never	5
Never	6

27. During the past month, how much of the time have you felt restless, fidgety or impatient?

All the time	1
Most of the time	2
A good bit of the time	3
Some of the time	4

- | | |
|----------------------|---|
| A little of the time | 5 |
| None of the time | 6 |
28. During the past month, how much of the time have you felt moody or brooded over things?
- | | |
|------------------------|---|
| All the time | 1 |
| Most of the time | 2 |
| A good bit of the time | 3 |
| Some of the time | 4 |
| A little of the time | 5 |
| None of the time | 6 |
29. How much of the time, during the past month, have you felt cheerful, light-hearted?
- | | |
|------------------------|---|
| All the time | 1 |
| Most of the time | 2 |
| A good bit of the time | 3 |
| Some of the time | 4 |
| A little of the time | 5 |
| None of the time | 6 |
30. During the past month, how often did you get rattled or upset?
- | | |
|------------------------|---|
| All the time | 1 |
| Most of the time | 2 |
| A good bit of the time | 3 |
| Some of the time | 4 |
| A little of the time | 5 |
| None of the time | 6 |
31. During the past month have you been anxious or worried?
- | | |
|---|---|
| Yes, extremely so to the point of being sick or almost sick | 1 |
| Yes, very much so | 2 |
| Yes, quite a bit | 3 |
| Yes, some enough to bother me | 4 |
| Yes, a little bit | 5 |
| No, not at all | 6 |
32. During the past month, how much of the time have you been a happy person?
- | | |
|------------------------|---|
| All the time | 1 |
| Most of the time | 2 |
| A good bit of the time | 3 |
| Some of the time | 4 |
| A little of the time | 5 |
| None of the time | 6 |
33. How often, during the past month, did you find yourself having difficulty calming down?
- | | |
|------------|---|
| Always | 1 |
| Very often | 2 |

Fairly often	3
Sometimes	4
Almost never	5
Never	6

34. During the past month, how much time have you been in low or very low spirits?

All the time	1
Most of the time	2
A good bit of the time	3
Some of the time	4
A little of the time	5
None of the time	6

35. How often during the past month, have you been waking up feeling fresh and rested?

Always, every day	1
Almost everyday	2
Most days	3
Some days, but usually not	4
Hardly ever	5
Never wake up feeling rested	6

36. During the past month, have you been under of felt you were under any strain, stress or pressure?

Yes, almost more that I could stand or bear	1
Yes, quite a bit of pressure	2
Yes, some more than usual	3
Yes, some but about normal	4
Yes, a little bit	5
No, not at all	6

APPENDIX E: The Center for Epidemiologic Studies – Depression Scale : CES-D

PLEASE CIRCLE THE NUMBER OF DAYS THAT BEST DESCRIBE THE WAY YOU FELT DURING THE PAST WEEK.

	Rarely or none of the time (0-1 day)	Some or little of the time (1-2 days)	A moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	1	2	3	4
2. I did not feel like eating; My appetite was poor.	1	2	3	4
3. I felt that I could not shake Off the blues even with help From my family or friends	1	2	3	4
4. I felt that I was just as good As other people.	1	2	3	4
5. I had trouble keeping my mind on what I was doing.	1	2	3	4
6. I felt depressed.	1	2	3	4
7. I felt that everything I did was an effort.	1	2	3	4
8. I felt hopeful about the future.	1	2	3	4
9. I thought my life had been a Failure.	1	2	3	4
10. I felt fearful.	1	2	3	4
11. My sleep was restless.	1	2	3	4
12. I was happy.	1	2	3	4
13. I talked less than usual.	1	2	3	4
14. I felt lonely.	1	2	3	4
15. People were unfriendly.	1	2	3	4
16. I enjoyed life.	1	2	3	4
17. I had crying spells	1	2	3	4
18. I felt sad.	1	2	3	4
19. I felt that people disliked me.	1	2	3	4
20. I could not get "going."	1	2	3	4

APPENDIX F: The State-Trait Anxiety Inventory for Adults - STAI

Five sample items from this instrument:

	Not at all	Somewhat	Moderately so	Very much so
I feel calm.	1	2	3	4
I am tense.	1	2	3	4
I feel upset.	1	2	3	4
I am jittery.	1	2	3	4
I feel content.	1	2	3	4

Note: State-Trait Anxiety Inventory for Adults, by Charles D. Spielberger, in collaboration with R.L. Gorsuch, G.A. Jacobs, R. Lushene, and P.R. Vagg, Published by Mind Garden, Inc., www.mindgarden.com. Copyright 1968, 1977 by Charles D. Spielberger. All rights reserved. Adapted with permission.