Finding Collaboration in Medical Care: Culture and Ethnicity in Hawaii

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Finding Collaboration in Medical Care: Culture and Ethnicity in Hawaii

Abstract
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FINDING COLLABORATION IN MEDICAL CARE:
CULTURE AND ETHNICITY IN HAWAII

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Abstract

In addition to healthcare disparities, medical treatment with ethnic minorities may be impacted by cultural differences in communication style. Unique cultural environments such as Hawaii illustrate the need for a greater understanding of factors that motivate ethnic minority patients to communicate effectively with physicians. The purpose of this study was to modify the model of patient motivation to communicate created by Kim et al. (2000) in a Hawaii sample. It was hypothesized that respondents with higher levels of interdependent self-construal (a measure of cultural values and attitudes) would be less motivated to participate with physicians and would place less value on the medical treatment of their chronic pain (e.g., self-blame). The data indicated a truncated range of responses on the measure of self-construal. Due to insufficient variability in the independent variable (self-construal), findings were contrary to the expected hypotheses. Post-hoc analyses were conducted instead of the planned analysis to investigate other cultural and demographic characteristics (e.g., ethnicity) that may influence self-construal and patient motivation to communicate. Three statistically significant correlations (Pearson’s $r$) were found between participation beliefs and communication apprehension, participation beliefs and assertive communication, and assertiveness and interdependent self-construal. Results did not indicate a significant multivariate main effect for ethnic identification. The findings provide implications of exploring other methods and variables in future studies on patient-physician communication in Hawaii.

Keywords: Hawaii, culture, communication, patient-physician relations
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Introduction

Compared to the continental U.S., the state of Hawaii has an ethnic makeup that is uniquely diverse. The U.S. Census Bureau (2008) reported that 78.3% of the U.S. population identified as being White alone, whereas only 26.8% of the population in Hawaii identifies this way. There are also differences in the prevalence of multiracial individuals living in Hawaii. Eighteen percent of Hawaii residents reported to be two or more races and 17.8% reported being three or more; contrastingly, less than 2% of U.S. residents identified themselves as multiracial.

Of the 26.8% of Hawaii residents who described themselves as having one race, a large portion were Asian, White, or Native American (Asian = 38.7%, White = 26.8%, Native Hawaiian or Pacific Islander = 8.8%, African American = 2.3%, Other = 1.3%, American Indian or Alaska Native = 0.3%; U.S. Census Bureau, 2008). In Hawaii, these racial categories are more specifically described (e.g., Japanese, Samoan, Chinese). The major ethnic groups in Hawaii (n > 50,000) within the U.S. Census categories were White (N = 343,578), Japanese (N = 181,673), Filipino (N = 174,862), Native Hawaiian (N = 73,638), and Chinese (N = 52,817). Interestingly, a somewhat different representation of ethnic diversity becomes apparent when describing Hawaii residents who identify with more than one race. The percentage of residents identifying as mixed Native Hawaiian (23.2%) was significantly higher than those identifying as Native Hawaiian alone (8.8%). This trend extended to mixed Asian (55.3%) and mixed White (42.3%) individuals whose single-race Asian and White counterparts respectively represented 38.7% and 26.8% of the Hawaii population.

The racial and cultural makeup of Hawaii can be traced back to the Islands’ history. Tribes of people who are known today as Native Hawaiians originally populated the Hawaiian Islands. The arrival of Captain Cook in 1778 led to the colonization (Dela Cruz, Salzman,
Brislin, & Losch, 2006) and eventual statehood of Hawaii. Trade spurred colonization, and people from China, Japan, Korea, and the Philippines immigrated to Hawaii to work on plantations. As Hawaii grew in popularity, increasing numbers of people from the American mainland and islands across Polynesia immigrated to Hawaii. Consequently, there are several major racial groups in Hawaii, and racial intermixing is the norm. In many ways, the various cultural groups were complimentary and became so enmeshed that a new “Hawaii culture” emerged (Kim, Shin, & Cai, 1998). Sometimes, however, the belief systems, practices, and styles of communication between groups conflicted. This between-group conflict may be attributed to cultural and communication differences, which were noted in research both in Hawaii and across the world.

**Culture and Communication**

Social norms of communication vary across cultures. Commonly divergent values within Hawaii culture include attitude toward social status, assertiveness, directness, and outgoingness. For example, Japanese and Chinese people may place special emphasis on group harmony over asserting opinions (Kim et al., 1998), whereas Native Hawaiians and Caucasians may feel that directness is socially appropriate (Streltzer & Wade, 1981). This tendency may reflect collectivistic or individualistic identification. Kim et al. (1998) hypothesized that individualistic and collectivistic identification reveals how an individual might express needs, such as using directness, evaluating consequences of damaging social relations, and maintaining social harmony. Group and family orientation, however, is a value held in most of the subcultures (e.g., Hawaiian, Chinese, Japanese, Korean, Filipino) in Hawaii (Dela Cruz et al., 2009). The growing presence of mainland Americans and the Westernization of Hawaii has also brought
racial tension toward Caucasians, which may be particularly salient in social situations that include White individuals of higher social status (Dela Cruz et al., 2009).

Research on culture and communication suggests that there are behavioral and attitudinal differences in communication style. A qualitative study on communication between couples of different ethnicities found that American couples were more likely to engage in conversation with each other than Japanese couples in a laboratory interview; contrastingly, Japanese couples conversed with each other less and waited for prompts from the interviewer (Ingersoll-Dayton, Campbell, & Matson, 1998). Japanese couples also tended to share initiation and length of dialogue equally, while American women more frequently prompted their husbands to speak and shared more than American men. While both Japanese and American couples questioned their spouses, Japanese women more often used questions to seek agreement for opinionated statements, whereas American women used questions to guide conversation. When disagreements arose within the couple, Americans tended to disagree while appearing in agreement (e.g., indirect contradictions of the partner). When Japanese couples disagreed, men directly contradicted their wives, while women used both direct corrections and indirect corrections. Regarding patient-physician communication, Ingersoll-Dayton et al.’s (1998) study suggests that Japanese-Americans may prefer a collaborative, two-way flow of conversation with both direct and indirect forms of communication when questions and disagreements arise.

When taken into the context of evaluating pain, Ingersoll-Dayton et al.’s (1998) results suggest that patients who identify themselves as Japanese may be more likely to disclose, describe, and focus on symptomatology that appears to be of interest to the medical provider, rather than pursuing discussion of health problems of personal significance. Should physicians miss subtleties in communication style, ethnically Japanese patients may seek and offer less
health information in the medical appointment. However, Ingersoll-Dayton et al.’s (1998) findings should be used as a starting point when generalizing the applicability of interview-based research for use in medical settings. Additionally, the dynamics of the intimate relationships of couples may affect communication techniques, preferences, and behaviors that may play out differently in a medical appointment, where conversations are typically between a patient and their doctor and the conversational topic is related to physical health rather than past interpersonal events.

Kim et al. (1998) studied the effects of individualism (self-oriented values) and collectivism (group-oriented values) on the likelihood and perceived effectiveness of requesting strategies in college students from Korea, Hawaii, and the United States. The results showed that higher levels of interdependence (collectivism) correlated with perceived effectiveness and frequency of hint strategies. Contrastingly, independent (individualistic) individuals were more likely to use direct statements. Second attempts in both independent and interdependent participants were less concerned with offending others, but was more evident with higher levels of independence. Only participants with an independent self-construal perceived silence as an ineffective communicative tool. This study illustrates further support for cross-cultural variations in the perception and use of communication style. Specifically, Kim et al.’s (1998) study suggests that Asian Americans may have more difficulty expressing health concerns and symptoms when feeling misunderstood or ignored by physicians possibly due to concern over preserving interpersonal harmony. Further, physicians without knowledge of communication norms relative to interdependence and independence may overlook messages patients may be trying to convey (e.g., hints, indirect statements or questions, silence).
In addition to ethnic differences in communication style, social perceptions of individual ethnic groups may affect interpersonal relationships. Yum and Wang (1983) measured interethnic attitudes and friendships with an ethnically mixed sample in Hawaii. Ethnic attitudes measured perceived friendliness, responsibility, independence, work ethic, and wisdom for each ethnicity in the study; interethnic communication was defined as the occurrence of daily verbal exchange with members of another ethnic group; friendship was defined by asking participants to list the ethnicity of their closest friends. Results indicated that all ethnic groups (Korean, Filipino, Caucasian, and Samoan) reported having little social contact with members of other ethnic groups but that having at least one friend from another ethnic group significantly increased positive attitudes toward that ethnic group. Specifically, Korean and Samoan participants rated Caucasians most favorably, Caucasians rated Japanese most favorably, and both Japanese and Filipino participants favored their own ethnic group. Overall, however, it appeared that Japanese and Caucasians were rated more positively than all other ethnic groups; this favorable impression was significantly related to positive stereotypical beliefs about an individual based on his or her race. Analysis of demographic variables showed that, in general, participants who were older, less educated, and lived in Hawaii longer felt more favorable toward other ethnic groups. Regardless of ethnicity, the authors found that positive and negative attitudes were associated with level of education, which was significantly lower in Filipino and Samoan participants than in Japanese and Caucasian participants.

Yum and Wang's findings (1983) can be applied to patient-physician relationships in several ways. First, physicians may be influenced by internally held positive or negative perceptions about patients from a certain ethnic group. Second, education level of a patient may affect a physician’s receptiveness in dealing with certain patients, particularly if the patient is
from an ethnic group that is perceived as less educated. Third, physicians unfamiliar with the ethnic diversity in Hawaii or who have limited exposure to a particular ethnic group may struggle communicating and understanding patients in Hawaii, especially those who have lived in the islands for a longer duration. Fourth, patient beliefs about the ethnicity of a physician may influence communication in a medical appointment. Last, variability of attitudes, friendships, and communication within each ethnic group in Yum and Wang’s study suggest that the nature of interethnic perceptions and communication may vary across individuals and situations.

Dela Cruz et al. (2006) conducted a four-part qualitative study on an ethnically diverse sample of college students (Native Hawaiian = 113; Japanese/Okinawan = 75, Caucasian = 31; Chinese = 16; Filipino = 16; Samoan, Tahitian, or Micronesian = 8, Chamorro = 13; African American = 3; Puerto Rican = 7; Mixed Caucasian and Asian = 3; Vietnamese = 2) in Hawaii to investigate Native Hawaiian students’ attitudes about professors’ cultural sensitivity. First, students were asked to report past encounters with university professors during which they felt both encouraged and respected, as well as situations in which they had felt discouraged and disrespected. Compared to non-native Hawaiian students, native Hawaiian students commonly reported positive events with non-native Hawaiian professors as ones that included relationship building, encouragement, flexibility, approachability, understanding the environment and context of the student, genuine concern, understanding and recognizing individual differences, conveying that the student a valuable asset, and including Hawaiian culture into coursework. Events described as being negative included conflict within the classroom, interference of academic obligations on family or community responsibilities, classroom attention drawn toward the self, mismatches in learning preferences and professors’ teaching style (e.g., preference for
traditional knowledge, oral versus written language), confrontation in the classroom, being stereotyped or grouped, and professors’ inapproachability.

Second, a panel of “respected community leaders” analyzed students’ commonly reported incidents and provided culturally informed explanations or attributions for these encounters (Dela Cruz et al., 2006). These scenarios and attributions were included in the subsequent study, in which Hawaiian and non-Hawaiian students evaluated the meaning behind student-professor interactions. Hawaiian students were more likely to regard interviews with respected and knowledgeable elders as sources of information that were equally as valid as scholarly books or journals. If a professor’s response to a student’s question was perceived as disrespectful, Hawaiian students were more likely to report feeling hesitant about participating in the future. Sensitivity to rejection may be because, “in the classroom, Hawaiians do not challenge a professor’s ideas because Hawaiians are socialized to respect and learn from authority figures” (Dela Cruz et al., 2006, p. 134). Further, Hawaiian students reported feeling most disrespected and discouraged in situations where their Hawaiian values conflicted with professor’s Western-oriented values. This issue was especially salient when professors would place academic expectations above a student’s family or community needs. Dela Cruz et al. (2006) referenced a student participant who said, “if a professor wants to know something…they should ask humbly,” (p. 134) implying that professors, rather than students, should be responsible for showing interest in students’ lives, and Hawaiian students “are not at school to make a name for themselves, but rather to access a Western means to help their people” (p.134). When taken in the context of Hawaiian beliefs, this statement may be interpreted as a cultural perception of Western education as a tool for furthering the wellbeing of society or a family unit, as opposed to elevating the student’s social status.
Dela Cruz and colleagues’ (2006) findings applied to Native Hawaiians in medical settings can provide insight into social attitudes toward interactions with authority figures (e.g., flexibility and approachability), respectful communication (e.g., avoiding ethnic assumptions and stereotyping), respect for cultural beliefs (e.g., value of education as a means to progress a family’s or community’s wellbeing in Western society, religious or ethnic customs and beliefs), learning style (e.g., culturally appropriate approach to conveying educational material), and trust in sources of educational information (e.g., placing equal validity on scholarly literature and narrative information passed on by respected elders). Qualitative studies like these provide implications for cultural differences in communication, but it is unknown if these findings generalize to a medical setting, such as a doctors’ appointment. Less research has investigated how these cultural communication differences may emerge within patient-physician interactions.

The effects of culture on communication have also been identified in ethnic groups worldwide. Research by Hollos and Beeman (1978) conducted a qualitative study on communication style (directness and requesting) between Hungarian and Norwegian children. Results indicated that both Norwegian and Hungarian children communicate less directly in most distant interpersonal relationships (e.g., aunt) than in closer relations (e.g., parent) but this tendency was more pronounced in Norwegian children. More specifically, Norwegian children tended to utilize indirect methods of communicating with less familiar people—often speaking to acquaintances through their parents, objects, or physical demonstration—whereas Hungarian children would use increasingly direct statements and requests to convey their message, regardless of familiarity to the individual. Interestingly, indirectness was not used by Norwegian children only in interactions with their mothers, indicating that familial and social roles influence the way in which individuals from different cultures may interact in a given situation. In relation
to medical settings, this study emphasizes the potential importance of ethnicity on techniques of communication between a patient and doctor, including culturally related attitudes toward gender roles and age and the doctor-patient relationship (e.g., degree of intimacy).

**Culture and Communication in Medical Settings**

The U.S. Centers for Disease Control and Prevention (2007) reported health care disparities in medical treatment for ethnic minorities. In a study of emotional verbalization of pain, Herbette and Rime (2004) found that patients with chronic pain in Belgium reported that disclosing pain was satisfying when content was emotional rather than factual, although both types of information sharing was considered critical and frequent in the most positively rated relationships. Additionally, patients reported desiring discussion of their pain with spouses and friends, although psychologists and health care professionals were more frequently rated as having actually provided more satisfying discussions. These results highlight the benefit of providing ways in which patients can facilitate supportive conversations with their spouses and friends, as well as the significant weight placed on physician-patient communication in satisfaction of pain treatment. A follow-up on Herbette and Rime’s study can examine different cultural attitudes about a physician’s role in facilitating pain discussion. Also, cultural values about social roles of a spouse and friend may be important, as well as attitudes about emotional versus factual communication as a source of support for pain patients.

A few studies on the effects of culture in the medical setting have been documented in Hawaii. Kakai, Maskarinec, Shumay, Tsumura, and Tasaki (2003) found ethnic differences in preferred sources of health information. Regardless of ethnicity, most patients preferred using printed media sources (e.g., books, newsletters, and magazines) and their physicians. This highlights the significance of medical treatment being impacted by patient-physician
communication. However, differences for certain types of health information between ethnic groups emerged. Non-Japanese Asians and Pacific Islanders preferred personal contacts (e.g., friends, family, other patients) as their main source of information. Contrastingly, Japanese patients used the media (e.g., books, magazines, and the television) more frequently than other ethnic groups, as well as information provided by holistic care providers (e.g., health food stores and holistic practitioners). Compared with the other two groups, Caucasians preferred using scholarly information (e.g., medical journals and newsletters, and the internet). Frequency of use of holistic services and the media as sources of information in certain ethnic groups highlights the need for physicians to provide safe and open channels of communication with patients in regards to treatment preferences.

In a study on patients’ willingness to communicate with physicians, Kim et al. (2000) tested the Patient Cultural Model. Participants were grouped by “culture” and surveyed on a variety of “motivation to communicate” variables, including beliefs about participating with physicians (attitudes about asking questions and speaking), apprehension toward communicating with physicians (nervousness and discomfort communicating), assertiveness when participating with physicians (ability to make requests or disagreement), and self-construal (influence of collectivist or individualist values on an individual). An example of an interdependent self-construal would illustrate an individual who poses internal attributes but believes that behavior and the self is perceived in relation to situational context and interconnectedness with others. “Culture” in this study was categorized by location, in which each geographic location represented a directional, expected level of motivation to communicate.

The Patient Cultural Model tested by Kim et al. (2000) found that participants scored as expected (by location) on self-construal. Participants from Hong Kong scored highest on
interdependent self-construal, followed by participants from Hawaii, and lastly participants from the mainland. Beliefs about participation and assertiveness in communication were higher in participants from the mainland and Hawaii than in participations from Hong Kong. No significant differences were found across locations for communication apprehension. An Analysis of Variance (ANOVA) was conducted for each dependent variable. Thus, pair-wise comparisons were not conducted and the significance of interaction effects was not examined.

The findings from the Kim et al. (2000) study suggest that the level of assimilation of Western-oriented values (e.g., independent self-construal, higher levels of assertiveness, less apprehension, positive beliefs) in Hawaii is unclear and somewhat unique when compared to highly interdependent (e.g., Hong Kong) and highly independent (e.g., mainland) populations. For example, patients from Hawaii may be more receptive to speaking freely with physicians than patients from Asian countries, but may not represent the level of comfort as patients from the U.S. mainland would. Limitations for the Kim et al. (2000) study include the following: questionnaires assessed preferred participation instead of actual verbal participation, reliability of the measures were not uniform across locations, and cross-cultural generalization cannot be made due to the nature of the three location samples. Several factors may prevent patients from behaving in a way that is most preferable, such as communication anxiety and lack of verbal fluency. Participants were non-randomly selected and were comprised primarily of college students and their families. Heterogeneity of the three locations also cannot be assumed, due to differences in linguistic backgrounds, subcultures, and interracial mixing. Despite limitations, the study done by Kim et al. (2000) illustrates potential areas of cross-cultural research that have yet to be applied to pain expression in a medical appointment.
Culture in the context of pain treatment

The National Institute of Health (NIM; 2010) reported that 30% of adults experienced pain lasting longer than a day and 10% of adults report experiencing pain for at least one year in the past three months. In fact, the NIM reported that “chronic pain is the most common cause of long-term disability” (2010). In addition, the National Health Interview Survey (Centers for Disease Control, 2006) found that 30% of adults over age 18 reported having joint pain in the past 30 days.

Pain is incredibly prevalent and poorly understood (Turk & Melzack, 2001). Often times, communication inhibits pain from being appropriately expressed. Pain is subjective and perceptual. Report of pain is affected by the situation, emotions, personality, arousal, past experience, and cultural background. Medical care for chronic illnesses, such as pain, may be further complicated by cultural beliefs about the illness itself. Physical conditions carrying significant cultural meaning may therefore be a particular barrier for treatment of patients in Hawaii, who are influenced by a wide variety of cultural beliefs. Research has indicated ethnic differences in culturally appropriate ways of expressing pain (e.g., language used, timing and intensity of expression, emotionality of expression; Zinke, Lam, Harden, & Fogg, 2010; Kvaran & Johannson, 2004), culturally sanctioned beliefs about the meaning of pain, and discrepancies in medical pain treatment with diverse patients (Nayak, Shiflett, Eshun, & Levine, 2000; Streltzer & Wade, 1981).

Pain descriptors and linguistics. The applicability of pain measures cross-culturally has been frequently studied in recent years. Language used to describe pain, pain descriptors, and the perception of pain often differs across ethnic groups (Zinke et al., 2010; Shin, Kim, Kim, Chee, & Im, 2007). For example, differences in sensory and affective pain descriptors and levels
of perceived efficacy of physical therapy were found in a study on subjects from Iran, Sweden, and Iraq (Kvaran & Johannson, 2004). Compared to participants from Iran and Sweden, participants from Iraq described rest as a good treatment for pain.

Research on the psychometric properties of pain inventories, such as the short-form McGill Pain Questionnaire (SF-MPQ), have also suggested cross-cultural differences in the meaning of item content. Zinke et al. (2010) found single item differences between Hispanic and non-Hispanic patients with pain. Compared to non-Hispanic patients who used descriptors such as throbbing gnawing, and aching, Hispanic patients tended to use descriptors such as tiring-exhausting and sickening. These single-item differences may reflect preference for affective versus sensory pain descriptors in Hispanic patients. Cross-cultural variations in item response was also found when the SF-MPQ was also compared to the Brief Pain Inventory Short-Form (BPI-SF) with Asian American cancer patients (Shin et al., 2008). Results indicated redundancy in certain items, leading the authors to conclude that these pain descriptors may be influenced by differing linguistic interpretation. Repeated findings of cross-cultural differences in item responses and pain descriptors suggest the influence of linguistic forms and language on pain expression. Whereas research has found many similarities cross culturally, several differences have been highlighted in various pain measures.

**Pain Attitudes, Expression, and Treatment.** Cultural norms and attitudes toward displaying and responding to pain, pain tolerance, and pain beliefs have been identified in previous research (Nayak et al., 2000). Further, pain management will differ between cultural groups because pain expression (and a general practitioner’s interpretation of this expression) is based on culturally influenced verbal and behavioral expressions. A study on culture and expression of pain found that overt expression of pain is less acceptable in Indian subjects than
subjects from the United States. Nayak et al. concluded that pain expression is reinforced in the U.S. because it has been treated with medications. From these results, it appears that cultural and social attitudes about pain may greatly affect an individual’s willingness to report and endure pain.

In a cross-sectional analysis of a nationwide veteran survey comparing demographics and satisfaction of health services, Dobscha et al. (2009) found differences in veteran’s self-reported frequency and effectiveness of treatment for chronic pain in primary and specialty care clinics. Regardless of age, education level, employment, marital status, and gender, Hispanic and Black veterans were more likely to report having received treatment for chronic pain than did White patients. Interestingly, Dobscha et al. also found that Black veterans were less likely than White veterans to report having received effective pain treatment. The authors offered the following hypotheses based on these findings: (a) Black veterans may be receiving less efficacious treatment services than other ethnic groups, (b) Black veterans may have different treatment expectations than other ethnic groups, (c) Lower levels of education and treatment non-compliance common in Black patients lead to lower treatment effectiveness. Dobscha et al.’s study did not account for factors that may be contributing to the results and therefore suggest further investigation of factors in the patient-physician interaction that may affect perceived rates of chronic pain treatment for veterans, as well as cross-cultural comparison of actual versus perceived treatment. The results of this study highlight the need for investigating the cultural and social aspects of how and why these ethnic differences in pain treatment exist.

General practitioners may also be aware that cross-cultural pain treatment discrepancies exist and require special considerations and treatment options. Practitioners were surveyed on the perceived needs of South Asian patients with chronic pain (Patel, Peacock, McKinley, Clark-
Cultur and collaboration in medical care. Practitioners recommended access to culturally competent multidisciplinary services, such as counseling, CBT, community support, and culturally training and educated practitioners. They also expressed challenges in managing pain in South Asian patients due to differences in pain expression and presentation. This qualitative study suggests practitioners’ acknowledgment of cultural differences in the needs of their pain patients, as well as culturally informed education and treatment services for these populations.

Differences in pain treatment have also been documented in Hawaii. Streltzer and Wade (1981) measured postoperative pain medications in Hawaiian, Chinese, Caucasian, Japanese, and Filipino patients undergoing elective cholecystectomy. Results indicated that Hawaiian and Caucasian patients received greater amounts of postoperative pain medication, regardless of gender and GP’s ethnicity. Streltzer and Wade concluded that amount of pain medication was not affected by doctor’s orders, but rather nurse-patient interactions. While ethnicity made a significant contribution to the amount of pain medication received, Streltzer and Wade concluded that high variability might be accounted for by individual differences or other confounding variables. These findings indicate differences in pain treatment received by different ethnic groups in Hawaii, and that treatment may be influenced by cultural beliefs about communication of pain discomfort.

Investigating culture-specific beliefs about pain and pain treatment may help to understand how gaps in pain treatment of ethnically diverse patients occur. A study of White, Hispanic, African American, and Asian American cancer patients revealed cultural differences in experience with medical treatment of cancer pain (Im et al., 2009). When discussing pain treatment, Hispanic, African American, and Asian American patients tended to minimize pain, attempt to maintain normal lives, utilize natural remedies, and describe a family oriented pain
experience. Contrastingly, White patients focused on maximizing treatment options, controlling pain, and maintaining independence. These findings suggest that preferences for pain management are affected by how patients conceptualize pain and its impact on their lives, which may be influenced by ethnicity or culture.

Patient Motivation to Communicate with Physicians

To address the growing prevalence of collaborative decision-making between patients and physicians, Kim et al. studied the influence of culture on patient motivation to communicate with physicians. Kim et al. focused on communication apprehension and assertiveness as two facets of verbal communication during patient-physician interactions. Communication apprehension was defined as patients’ fear, nervousness, or anxiety around encounters with physicians, while assertiveness was defined as a patient’s ability to initiate conversations that may require requests, disagreement, and expressiveness.

In relation to cultural factors related to communication, Kim et al. (2000) evaluated the influence of patients’ cultural values and attitudes about patient communicating with physicians. Kim et al. designed a measure of participation beliefs that assessed patients’ motivation to speak freely with physicians and ask questions in medical appointments. “Culture” in Kim et al.’s model was measured by self-construal. Self-construal was defined as an individual’s way of communicating and behaving in relation to independent or interdependent values. An independent self-construal would illustrate an individual who views the self with internal attributes that represent a unique entity. For example, the behavior of individuals with an independent self-construal would be guided by personally generated desires, goals, and feelings. These types of individuals might communicate in a self-oriented or individualistic manner. Conversely, an interdependent self-construal would illustrate an individual who possesses
internal attributes, but whose behavior and sense of self would be perceived in relation to situational context and interconnectedness with others. Individuals with an interdependent self-construal, whose behavior is guided by contextual factors, might communicate in a relationally focused or collectivistic manner.

The purpose of this study was to compare self-construal (e.g., interdependence) with aspects of patient motivation to communicate with physicians (e.g., beliefs about participation, assertiveness, communication apprehension, and communication of pain). In order to evaluate this relationship, the author modified the model proposed by Kim et al. (2000) specifically for application in a Hawaii population. The hypotheses for the study are listed below.

- **Hypothesis 1**: Patients’ cultural values influence beliefs about participating with their physician. Participants who score higher on a measure of interdependent self-construal were expected to score lower on a measure of beliefs on patient participation.

- **Hypothesis 2**: Patients’ cultural values influence apprehension about communication with physicians. Participants who score higher on a measure of interdependent self-construal were expected to score higher on a measure of communication apprehension.

- **Hypothesis 3**: Patients’ cultural values influence assertiveness with physicians. Participants who score higher on a measure of interdependent self-construal were expected to score lower than on a measure of assertiveness in patient participation.

- **Hypothesis 4**: Patients’ cultural values influence beliefs about pain. Participants who report experiencing daily physical pain and score higher on a measure of
interdependent self-construal were expected to score higher on a measure of beliefs about self-blame and permanence of pain.

Method

Design

The author utilized a quasi-experimental design to conceptualize this study, with respondents self-identified into one of three groups—high, medium, and low self-construal—as a cultural barometer measured by a self-construal scale (Kim et al., 2000; Singelis, 1994). There were a total of four dependent variables—participation beliefs (measured by a participation beliefs scale), communication apprehension (measured by a communication apprehension scale), assertive communication (measured by an assertive communication scale), and pain beliefs (measured by a pain beliefs scale).

Respondents

A community sample of adults living on the Hawaiian island of Oahu was invited to respond to the survey, including individuals personally known to the researcher. Only individuals who attested to being over the age of 18 and were current Hawaii residents living on the island of Oahu were included. Individuals with the widest demographic background (ethnicity, age, and gender) who met the inclusion criteria were recruited in order to create a sample that was representative of the 2010 U.S. Census Bureau data.

Respondents were recruited to take a 15-minute online survey through the following procedures: friends, family, and acquaintances of the researcher; online through Facebook and Craigslist; paper fliers or handouts with the survey website and information; and word-of-mouth. Fliers (see Appendix B) were posted at hospitals and physicians’ offices, local community and business organizations, and public areas. Individuals known to the researcher facilitated word-
of-mouth recruitment and were given the following identical sets of information: email recruitment instructions, disclosure of a limited description about the study (e.g., online survey on patient-physician communication in Hawaii), and flyers or the email recruitment message (see Appendix C) to distribute. Individuals personally known to the researcher were invited to participate in the study as well. Respondents accessed the online survey either through the email recruitment message or flyer tear-aways with the survey website.

**Survey and Procedure**

The Institutional Review Board (IRB) approved the study prior to data collection. An online account was created on SurveyMonkey.com, which was used only for this study. Prior to data collection, the survey was piloted on a small sample of Hawaii-born friends and family of the researcher.

Agreement to an electronic informed consent and indication of meeting inclusion criteria (e.g., Hawaii resident, age 18 or older) prior to beginning the survey was required for participation. Respondents were encouraged to complete the survey in a private and unobtrusive environment.

A total of 50 items were included in the survey. Items 1 to 8 collected demographic information about the respondents’ gender, age, ethnicity(s), ethnic identity, number of years living in Hawaii, hometown/birthplace, and interaction with the medical system. When given a list of common ethnic groups in Hawaii, respondents were asked to select the ethnic group they most identify with (ethnic identification), as well as all of the ethnicities they identify with. Separating respondents’ main ethnic identity from all ethnicities provided several options for defining “ethnicity” in a population that was expected to frequently identify with more than one ethnicity. Ethnic groups were determined by U.S. Census data, as well as other ethnicities that
were determined significant in Hawaii by the author. Upon examining open-ended responses ("Other, please specify"), four ethnic identities were added prior to statistical analysis (Okinawan, African American, Latino/Hispanic, and Mixed Ethnicity). The survey included many items investigating factors and personal characteristics about the individuals in the sample that may explain or influence results but have previously been unexplored in research on Hawaii samples. For example, items 5 and 6 asked respondents where they “grew up” and how long they lived in Hawaii; items 7 to 8 asked respondents about frequency of interaction with physicians. Preference for physician ethnicity and regional accent (e.g., “local”) was examined as part of respondent characteristics in Items 9 to 11. Items in the demographics section was therefore were designed to investigate participants’ perceptions of their own cultural identification and assimilation into the Hawaii culture, as well as personal interactions with physicians.

Survey items 12 to 44 consisted of four subscales modeled after Kim et al.’s study on patient motivation to communicate with physicians (2000). The subscales included Participation Beliefs, Communication Apprehension, Assertive Communication, and Self-Construal. Additional items designed specifically for a study on a Hawaii population were added to each subscale. Items on these subscales were forced choice questions, unlike Kim et al.’s Likert scale items. Because the author (and Kim et al.) modified and rewrote items from similar studies, the psychometric properties of the surveys may be very different from the original measures.

Participation beliefs (items 12 to 19) was a forced choice measure based on the 8-point Likert scale items used by Kim et al. (2000). The measure was designed to examine conversational participation with their physicians. Items 12 through 16 were modeled after Kim et al.’s measure, while the author constructed items 17 to 19 specifically for this study. The
items focused on attitudes toward asking questions (e.g., physician’s perception of question-asking) and speaking openly with physicians. Kim et al. reported that the reliability of their measure of participation beliefs was .72 in a Hawaii sample.

The forced choice items measuring Communication Apprehension (items 20 to 26) were also modeled after Kim et al.’s (2000) 7-point Likert scale items of patient apprehension toward communicating with physicians. Items 20 to 24 were based on Kim et al.’s measure on communication apprehension, while the researcher created items 25 and 26. The subscale evaluated nervousness, tension, fear, and agitation that patients may anticipate when speaking with physicians. A reliability estimate of .83 was found in a Hawaii sample for the measure of communication apprehension during Kim et al.’s study.

Assertive Communication (items 27 to 31) was also comprised of forced choice questions modeled after the Rathus’ Assertiveness Scale (Jenerette & Dixon, 2010), which was used by Kim et al. (2000) in constructing a 7-point Likert scale measure. The items were designed as a measure of assertiveness and assertive behavior in relation to a medical appointment. The reliability estimate for the measure of assertive communication in Kim et al.’s study was .82 in a Hawaii sample.

Forced choice questions measuring interdependent Self-Construal (items 32 to 44) were modified from the Self Construal Scale (Singelis, 1994), which Kim et al. (2000) used in their patient motivation to communicate study. Self-construal was defined as a perception that may include (interdependent) or exclude (independent) others as a part of the self (Kim et al., 2000). Kim et al. found a reliability of .79 for the measure of self-construal in a Hawaii.

Item 45 inquired about present or past experience of daily chronic pain. Participants who endorsed experiencing chronic pain were directed to the measure of Pain Beliefs (items 46 to
50), whereas participants who denied chronic pain were directed to the end of the survey.

Individual items of the pain beliefs measure evaluated participants’ attributions about the cause, maintenance, and permanence of pain. Pain Beliefs item were modeled after items from the Pain Beliefs and Perceptions Inventory (PABPI; Williams, Robinson, & Geisser, 1994). Overall reliability for the PABPI was .65 to .80 in a study done by Williams & Thorn (1989).

Data Analysis

Responses from participants who completed the survey between February 2011 and May 2011 were examined in the data analysis. Anonymous survey data was downloaded into a password-protected Excel document at Pacific University in Dr. Jennifer R. Antick’s office. The data was cleaned prior to being uploaded to SPSS computer software for statistical analysis. The survey will remain open and continue collecting data until December 2013 for use in future studies and further analysis.

Cleaning the data involved deleting missing data, quantifying qualitative and forced choice responses, and transforming individual items into respective subscales. Missing data was defined as participants who did not complete enough of the survey to make statistical comparisons between the responses on different subscales. Only participants who completed items for demographic information, physician preferences, and at least two dependent variables were included.

Open-ended responses [e.g., “Other (Please Specify)”] were grouped by similarity and were assigned a numerical value. For example, the free responses “Kauai” and “Maui” on item 5 indicated that the participant “grew up” on an island in Hawaii that was not Oahu, which was the island focus of for the study. Such responses were grouped together and labeled as a new forced choice category, “Hawaii, Outer Island.” All forced choice responses were converted to
numerical values on an Excel spreadsheet. No reverse coding was required because items were weighted in the same direction for each subscale.

Excel was used to create a new variable (column) for each subscale (participation beliefs, communication apprehension, assertive communication, and self-construal). Four new variables represented the total scores of the numerical values of forced choice items within each of the subscales. The four new variables were used in the data analysis discussed below.

**Planned Analysis.** In order to examine cultural factors that contribute to Hawaii residents’ verbal communication with physicians, a One-Way Multivariate Analysis of Variance (MANOVA) was proposed to address the original hypotheses. Specifically, a MANOVA would evaluate culture (via self-construal) in relation to different ratings of motivation to communicate (participation beliefs, communication apprehension, assertive communication) and pain beliefs. Thus, a total score on the self-construal subscale was intended as a grouping or independent variable (high, medium, or low interdependent self-construal), while dependent variables would be represented by total scores for each measure of motivation to communicate subscales (Participation Beliefs, Communication Apprehension, and Assertive Communication) and the total score for the Pain Beliefs subscale.

**Post-hoc Analyses.** After examining the downloaded data into an Excel document, the independent variable showed a truncated range of responses in the measure of self-construal. Other analyses and variables were examined due to insufficient variability in the independent variable. Pearson’s $r$ correlations were conducted to investigate relationships between the three dependent variables and self-construal (self-construal average and self-construal total). To control for Type I error, alpha was set a priori at .05.
Following correlational analysis, self-construal as a measure of culture was replaced with ethnic identification for multivariate analysis. Pain beliefs was not included in further analysis because the post-hoc Pearson’s $r$ findings indicated that it did not significantly correlate with any of the other variables. Years in Hawaii was added as a covariate because it was expected that more time spent living in Hawaii would increase assimilation into Hawaii culture and create inconsistencies in motivation to participate that could not be explained by ethnicity alone. Alpha was set a priori at .05 for the multivariate main effects and .0167 (.05/3) across the three univariate tests to control for Type I error.

Despite limitations in the measures and sample size for each level of the new independent variable, conducting a MANCOVA using another grouping variable was considered an appropriate type of post-hoc analysis. While other types of statistical analyses (e.g., $t$ tests) may have yielded different results, the findings using ethnicity was fairly consistent among the types of correlational and multivariate analyses that were conducted. Thus, a MANCOVA was conducted to investigate if ethnicity would explain differences in attitudes about communication with physicians when removing the effects of how long the participant has spent living in Hawaii.
Results

Respondents

A descriptive analysis was conducted on respondents’ age, gender, and ethnic identity. A total of 126 Hawaii residents participated in the study. Respondents ranged in age from 18 to 79 (mean = 35, median = 30, mode = 23; see Figure 1). Approximately 62% of the respondents identified as female (N = 79) compared to the 37% of respondents who identified as male (N = 47); none identified as transgender (N = 0). Eleven ethnic identities were represented in the study (see Figure 3) and are listed as follows: Filipino (20%), Caucasian (16%), Japanese (37%), Native Hawaiian (8%), Chinese (10%), Korean (2%), Latino/Hispanic (2%), Non-Native Hawaiian Pacific Islander (2%), Okinawan (0.1%), African American (2%), and Mixed Ethnicity (2%).

![Bar Chart of Respondents' Age (N = 126)](image_url)
Figure 2. Respondents’ Gender (N = 126)

Figure 3. Pie chart for respondents’ ethnic identity
Planned Analysis

It was planned that a MANOVA be conducted to evaluate the effects of self-construal on expected variables of patient motivation to communication and pain beliefs. The following four hypotheses were proposed a priori.

**Hypothesis 1.** It was hypothesized that patients’ cultural values influenced beliefs about participating with their physician. In other words, it was thought that participants who scored higher on a measure of interdependent self-construal would score lower on a measure of beliefs on patient participation. Upon examination of the data, a truncated range in self-construal indicated an insufficient amount of variability in the independent variable (self-construal). Thus, Hypothesis 1 was not analyzed as planned and the results were contrary to the expected findings.

**Hypothesis 2.** It was hypothesized that patients’ cultural values influence apprehension about communication with physicians. It was expected that participants who scored higher on a measure of interdependent self-construal would score higher on a measure of communication apprehension. Because the data showed a truncated range in the independent variable, Hypothesis 2 was not analyzed as planned. The results were contrary to the expected findings and thus did not support Hypothesis 2.

**Hypothesis 3.** It was hypothesized that patients’ cultural values influence assertiveness with physicians. Participants who scored higher on a measure of interdependent self-construal were expected to score lower than on a measure of assertiveness in patient participation. Insufficient amount of variability in the independent variable (self-construal) did not allow Hypothesis 3 to appropriately be analyzed as planned. The results were contrary to the expected findings and did not support Hypothesis 3.
Hypothesis 4. It was hypothesized that patients’ cultural values influence beliefs about pain. It was thought that participants who reported experiencing daily physical pain and scored higher on a measure of interdependent self-construal would score higher on a measure of beliefs about self-blame and permanence of pain. Results were contrary to the expected findings due to the truncated range in self-construal. Thus, Hypothesis 4 was not analyzed as planned and was not supported by the data.

Post-hoc Analyses

Correlational Analysis. Three out of the six Pearson’s $r$ correlations were found to be statistically significant, including the following:

- Participation beliefs and communication apprehension
- Participation beliefs and assertive communication
- Assertiveness and interdependent self-construal

There was a significant negative relationship between participation beliefs and communication apprehension, indicating that patients who were more apprehensive about communicating with physicians had less positive beliefs about participating, $r(123) = - .22, p < .05$. A significant positive relationship was also found between participation beliefs and assertive communication, indicating that patients who were more assertive had more positive beliefs about participating with physicians, $r(123) = .24, p < .05$. There was a significant positive relationship between assertiveness and interdependent self-construal. Results from the Pearson’s $r$ analysis are reported in Table 1 below.
Table 1

*Correlations Among Measures of Patient Motivation to Communicate (N =126)*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participation</strong></td>
<td>--</td>
<td><strong>-.22 (.01)</strong></td>
<td><strong>.24 (.01)</strong></td>
<td><strong>-.03 (.74)</strong></td>
</tr>
<tr>
<td><strong>Beliefs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>--</td>
<td>--</td>
<td><strong>-.90 (.32)</strong></td>
<td><strong>.14 (.11)</strong></td>
</tr>
<tr>
<td><strong>Apprehension</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Assertive Communication</strong></td>
<td>--</td>
<td>--</td>
<td>--</td>
<td><strong>.33 (.00)</strong></td>
</tr>
<tr>
<td><strong>Self-construal</strong></td>
<td>--</td>
<td>--</td>
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</tbody>
</table>

*Note.* Intercorrelations and significance values for the measures of patient motivation to communicate are presented above. *p* values are reported in parentheses next Pearson’s *r* values.

**Multivariate Analysis.** Results for MANCOVA using ethnic identification as the independent variable and years in Hawaii as a covariate in order to examine the effects of ethnicity on motivation to participate while controlling for duration of exposure to Hawaii culture. Results for the multivariate main effect for ethnic identification was not statistically significant, Wilks’ *Λ* = .56, *F*(50, 505) = 1.38, *p* = .05. A medium to large effect size (partial η² = .11) for the main effect indicated that 11% of the variance in motivation to participate could be explained by the effects of ethnic identity when controlling for the effects of years in Hawaii. These findings indicated that a medium to large amount (56%) of the variance in motivation to participate was not accounted for by ethnic identification, even when controlling for years in Hawaii. No significant univariate effects were found for participation beliefs *F*(10, 114) = 1.49, *p* = .15, partial η² = .12; communication apprehension *F*(10, 114) = 2.24, *p* = .02, partial η² = .16; assertive communication *F*(10, 114) = 2.06, *p* = .33, partial η² = .15; and interdependent self-construal *F*(10, 114) = 0.98, *p* = .46, partial η² = .08. Effect sizes for the univariate effects
were thus large for participation beliefs, communication apprehension, and assertive communication. Approximately 12%, 16%, and 15% of the variance in motivation to participate (participation beliefs, communication apprehension, and assertive communication, respectively) can be explained by ethnic identification. The means and standard deviations for each dependent variable as a function of the factor are presented in (see Table 2). Pair-wise comparisons were not conducted due to the lack of statistically significant findings for the main and univariate effects.

Table 2

Means and Standard Deviations by Motivation to Communicate (N = 126)

<table>
<thead>
<tr>
<th>Motivation to Communicate</th>
<th>Participation beliefs</th>
<th>Communication Apprehension</th>
<th>Assertive Communication</th>
<th>Interdependent Self-construal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Filipino</td>
<td>16.8</td>
<td>2.10</td>
<td>26.8</td>
<td>4.49</td>
</tr>
<tr>
<td>Caucasian</td>
<td>17.7</td>
<td>3.45</td>
<td>23.9</td>
<td>4.69</td>
</tr>
<tr>
<td>Japanese</td>
<td>17.4</td>
<td>2.51</td>
<td>24.5</td>
<td>3.62</td>
</tr>
<tr>
<td>Native Hawaiian</td>
<td>18.1</td>
<td>2.69</td>
<td>21.7</td>
<td>5.19</td>
</tr>
<tr>
<td>Chinese</td>
<td>18.9</td>
<td>3.43</td>
<td>26.7</td>
<td>4.84</td>
</tr>
<tr>
<td>Korean</td>
<td>20.5</td>
<td>2.12</td>
<td>24.5</td>
<td>3.54</td>
</tr>
<tr>
<td>Latino/Hispanic</td>
<td>18.0</td>
<td>2.83</td>
<td>21.0</td>
<td>4.24</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>19.0</td>
<td>2.83</td>
<td>30.0</td>
<td>7.07</td>
</tr>
<tr>
<td>Okinawan</td>
<td>21.0</td>
<td>--</td>
<td>21.0</td>
<td>--</td>
</tr>
<tr>
<td>African American</td>
<td>21.5</td>
<td>3.54</td>
<td>21.0</td>
<td>1.41</td>
</tr>
<tr>
<td>Mixed Ethnicity</td>
<td>17.5</td>
<td>2.12</td>
<td>27.0</td>
<td>1.41</td>
</tr>
</tbody>
</table>

Note. Above are the means and standard deviations for measures of motivation to participate by respondents’ ethnic identity. Pacific Islander refers to respondents who identified as Non-Native Hawaiian Pacific Islander.
Discussion

Purpose and Hypotheses

The purpose of this study was to investigate cultural influences on patient-physician communication in Hawaii. Hawaii has a unique cultural and ethnic population. Within the continental U.S., research has indicated ethnic differences in beliefs and styles of communication (Ingersoll-Dayton et al., 1998). Such differences in communication across ethnic groups have also been reported in samples worldwide (Kim et al., 1998; Hollos & Beeman, 1978) and in Hawaii (Yum & Wang, 1983; Dela Cruz et al., 2006).

A study by Kim et al. (2000) with participants from Korea, the continental U.S., and Hawaii found location-based differences in motivation to communicate with physicians. In regards to medical care, few studies have investigated if culture and ethnicity influence patient-physician communication specifically within the state of Hawaii. This study was intended to modify the cultural model of patient motivation to communicate (Kim et al., 2000) specifically for Hawaii patients. The following hypotheses were proposed a priori. Patients with higher levels of interdependent self-construal would: (a) feel more negatively about participating with physicians, (b) be more apprehensive about communicating with physicians, (c) communicate less assertively with physicians, and (d) have more self-blame and acceptance about the incurability of their physical pain.

Design Considerations

In each of the four hypotheses examined in the current study, the independent variable was self-construal. Self-construal was intended as a representation of “culture” and was incorporated from Kim et al.’s (2000) model of patient motivation communication. The prevalence of individuals in Hawaii identifying with two or more ethnicities (17.8%; U.S.
Census Bureau, 2008) made delineating between ethnic groups difficult. Additionally, participants who identify as “Native Hawaiian” often may be assumed to be of mixed ethnic background. Further, the amalgamation of ethnic cultures in Hawaii complicates ethnicity in Hawaii (Kim et al., 1998). Given this complexity of ethnicity in Hawaii, the author hypothesized that a measure of culture other than ethnicity (e.g., self-construal) may be more important in patient-physician communication than patients’ ethnicity.

There were four dependent variables included in the planned hypotheses. Participation beliefs, communication apprehension, and assertiveness in communication were used as dependent variables and were taken from Kim et al.’s (2000) model of patient motivation to communicate. A fourth dependent variable, pain beliefs, was included to examine the hypothesis that beliefs about pain would be influenced by culture and are related to patients’ attitudes toward communicating with physicians.

A quasi-experimental design was used and respondents were included regardless of the regularity, frequency, and recency of medical appointments. Therefore, the findings might not represent responses from a truly random community sample. This type of experimental design limits the generalizability of the study to the general Hawaii population. However, the author decided not to limit respondents to a sample of medical patients in an attempt to recruit a more representative community sample.

Flyer advertisements were posted in community organizations and businesses. To allow for a larger sample size, participants were also recruited by convenience and included respondents known to the researcher. Snowball sampling was used because it facilitated participation in a study on a population whose accessibility was limited. First, access to Hawaii participants is limited geographically because there is a physical barrier between researchers
living on the continental U.S. and participants living on an island. Second, research in Hawaii is limited demographically by smaller population size when compared to the number of potential respondents in the continental U.S. Third, cultural limitations to research impede access to Hawaii respondents, such as the potential lack of familiarity or discomfort with participating in research. Studies in Hawaii, for example, have shown that most ethnic groups in Hawaii place less value on scientific information than Caucasians (Kakai et al., 2003; Dela Cruz et al., 2009). This means that the costs of snowball sampling (threats to the validity of the results) were considered to outweigh the benefits of including participants known to the researcher (sample size) in the current study. It cannot be determined if and, more importantly, how respondents’ personal acquaintance with the research influenced responses. To account for this limitation, the author provided the same instructions and information for all recruiters and respondents in the current study.

Despite efforts to control respondents’ expectations of the study, snowball sampling inevitably raises questions regarding the reliability and validity of findings. For example, similarities between respondents on certain measures might actually be a result of respondents who have mutual connections and similar personal characteristics and cultural experiences as opposed to real differences in culture, motivation to communicate with physicians, or beliefs about pain. Consequently, the results should be examined as a first step toward which factors might (or might not) be relevant to patient-physician communication for Hawaii patients. Possible interpretations about sensitivity of the measure are reported below in the discussion regarding findings of the current study.
Respondents

In the current study, adults over the age of 18 who were living on the island of Oahu met criteria to participate in this study. Although the minimum sample size of 70 was exceeded (N = 126), data collection continued subsequent to the reported analyses for use in future studies. Ethnicity in the sample appeared similar to the general Hawaii population reported in the 2008 U.S. Census data and fulfilled the desirable ethnic structure to address the original hypotheses (Filipino = 20%, Caucasian = 16%, Japanese = 31%, Native Hawaiian = 8%, Chinese = 10%, Korean = 2%, Latino/Hispanic = 2%, Non-Native Hawaiian Pacific Islander = 2%, Okinawan = 0.1%, African American = 2%, Mixed Ethnicity = 2%). However, the unequal distribution across ethnic groups became a limiting factor when the measure of culture was changed from self-construal to ethnic identity during the post-hoc analysis. If future studies more closely examine ethnicity in Hawaii, it may be more appropriate to recruit equal numbers of participants from each ethnic group, as opposed to an unbalanced distribution of ethnicities that are representative of the general population. Alternatively, developing a more sensitive and valid measures of “culture” may be more important in Hawaii when considering the modest effect sizes for ethnicity found in this study.

Examination of the data suggests that the study likely captures the perspectives of females and younger Hawaii residents better than that of males and older residents, evidenced by unbalanced response rates between gender (female = 62%, male = 37%) and age groups (50% of sample was age 30 or younger). Inclusion of other Hawaiian islands (in addition to Oahu) also might be considered in future studies, which may result in an expansion of the variability of responses in the measure of self-construal. Further, a larger sample of older and male participants might be essential to expanding the study, because generational and gender-based
life experiences may elicit differences in measures of “culture” (e.g., self-construal, ethnic experiences) and attitudes toward Western medicine.

Social status of the ethnicity of patients and physicians, sampling limited to the Hawaiian island of Oahu, and measuring culture as level of interdependent self-construal rather than location or ethnicity were also considered in the study design. U.S. Census data (2000) reported that most Hawaii physicians are Japanese (46.9%) or White (42.6%), followed by mixed Asian-White (2.3%), mixed Asian-White-Native Hawaiian (2.3%), Hispanic (2.2%), and mixed Asian-Native Hawaiian (1.4%). Less than 1% of physicians were reported to be Native Hawaiian or mixed White-Native Hawaiian. Though it may be highly relevant to physician-patient communication, information on which ethnicities (e.g., Chinese, Japanese, Filipino, etc.) are represented in each Asian and mixed Asian category was unavailable from the U.S. Census data. Consideration of the social status between ethnic groups was important and considered the historic development of Hawaii. Previous research by Yum and Wang (1983) found differing perceptions of favorability between and within members of different Hawaii ethnic groups. Thus, both the patients’ and physicians’ ethnicity may affect patient-physician perceptions and motivation to interact. Social attitudes about different ethnic groups should therefore be explored as an important facet of research on Hawaii culture in future studies.

Several factors were collected in the survey and require further statistical analysis, including preferences for physicians’ ethnicity. For example, future studies might examine attitudes about communicating with physicians in relation to data collected on respondents’ interaction with the medical system (e.g., frequency and most recent appointment), regional influences (e.g., where the participant “grew up”), duration of exposure to Hawaii culture (e.g., how long the participant lived in Hawaii), complexity of ethnicity [e.g., mixed ethnicity(s)], and
preferences for physicians who display characteristics unique to Hawaii culture (e.g., local accent or ethnicity). As mentioned earlier, recency and frequency of interaction with physicians may be an important factor that may decrease the validity of findings (e.g., respondents anticipating attitudes toward physicians even though they have not visited a physician in many years). Future studies might analyze data on respondents’ interaction with the medical system and other demographic or cultural factors.

Data was collected in the current study via an online survey. Online formats create several barriers, such as artificial nature, threats to confidentiality, and attitudes toward and competence of using computers; however, this strengthened the study by being as least intrusive as possible. Online surveys are economical and allow larger numbers of people to access the survey, while consequently limiting participation of certain populations (e.g., older participants). Surveys in general also limit objectivity due to the nature of a self-report survey. Yet, surveys expand knowledge on largely subjective experiences and perceptions that may be inhibiting or facilitating communication between patients in Hawaii and their physicians.

The content and nature of the items themselves both strengthened and limited the current study in several of the ways. Survey items were modeled after Kim et al.’s (2000) measures of patient motivation to communicate, though many modifications were made for specific application to a Hawaii sample. Unlike Kim et al. who used Likert-type scales with response options ranging from 1 (strongly disagree) to 7 (strongly agree), the author attempted to reduce response bias potentially present in interdependent individuals who may feel more comfortable endorsing statements as conditions (e.g., forced choice) as opposed to level of agreement or disagreement. However, forced choice responses required higher levels of reading skill and concentration. Some respondents may have been confused by the extent and direction of the
perceived difference between each forced choice option (e.g., difference between “I have trouble saying no” and “I have a little trouble saying no.”).

When examining the strengths and limitations of the measure used, it is important to conceptualize the intent of the items for the purposes of the current study. Items on the survey investigated self-perceptions (e.g., generalized, self-reported attitudes) as opposed to actual outcomes (e.g., patient behaviors in conversations with physicians). For example, it is unknown if respondents who endorsed positive beliefs about participating with physicians actually behave in ways that facilitate patient-physician communication during medical appointments. The purpose of the items in the current study was to gain insight into the dynamic nature of culture manifesting in an individual’s perceptions of patient-physician relationships; the measure was not intended to directly examine patient behaviors. Consequently, the measure does not control for the multitude of factors that influence whether or not a patient in Hawaii acts according to his or her cultural beliefs (e.g., physicians’ ethnicity, physicians’ verbal and nonverbal behavior). Examples in the literature regarding the influence of social roles (Hollos & Beeman, 1978; Dela Cruz et al., 2006) and responses to conversational feedback and mannerisms (Kim et al., 1998; Ingersoll-Dayton et al., 1998) illustrate how contextual and relational factors might be incredibly important, especially in populations that tend to identify with collectivist values. Neglect of the complexity of culture in Hawaii represents a limitation to this study regarding applicability of the research to actual patient behavior.

Another attempt to address response style unique to the Hawaii population was the inclusion of pain beliefs items in this study. Research on pain has indicated that beliefs about the meaning, function, and expression of pain differ between cultures and ethnic groups within Hawaii, mainland America, and across the world (Zinke et al., 2000; Nayak et al., 2000). The
cultural meaning and interpretation of pain therefore may influence medical communication about the experience of pain in a Hawaii population. More importantly, the author chose to assess pain beliefs in order to elicit differences in communication related to a patients’ culture.

The pain beliefs measure was comprised of a limited number of items. This decision was made by the author in order to keep the survey limited to a number of items that could be completed within a 20-minute timeframe. Better measure writing and development of these items are needed in future studies to further investigate if pain beliefs highlight cultural differences in communication.

Findings

It was hypothesized that a MANOVA would be conducted on SPSS to examine the effects of self-construal on participation beliefs, communication apprehension, assertive communication, and pain beliefs. Hypotheses 1 to 4 are listed below, respectively.

- Respondents who had cultural values focusing on external influences (interdependent self-construal) would feel more negatively about participating with physicians.
- Respondents who had cultural values focusing on external influences (interdependent self-construal) would feel more apprehensive about communicating with physicians (communication apprehension).
- Respondents who had cultural values focusing on external influences (interdependent self-construal) would feel less assertive when communicating with physicians.
- Respondents who had cultural values focusing on external influences (interdependent self-construal) would feel more self-blame and permanence regarding their daily pain.

The data showed a truncated range in the independent variable. Due to insufficient variability in self-construal, Hypotheses 1 to 4 were not analyzed as planned. Thus, similar
conclusions can be drawn regarding the four hypotheses that the results were contrary to the expected findings. However, these findings do not address variability that might exist between participation beliefs and other dimensions of culture or personal characteristics of Hawaii respondents. The implications of these findings (or lack thereof) in future research, suggests a need for re-examination of ways to conceptualize, measure, and investigate the complexity of “culture” in Hawaii.

Post-hoc analyses were conducted to investigate other factors that might explain the findings in self-construal. A Pearson’s $r$ correlational analysis was conducted between participation beliefs, communication apprehension, assertive communication, self-construal, and pain beliefs. The following significant correlations were found.

- Negative relationship between participation beliefs and communication apprehension
- Positive relationship between participation beliefs and assertive communication
- Positive relationship between assertiveness and interdependent self-construal

These findings show three significant relationships between the variables that were expected to influence patient-physician communication. First, the results showed that respondents who felt less positive toward participating also were more apprehensive about communicating with physicians. Second, respondents who felt more positive about participating felt more assertive when communicating with physicians. Third, respondents who felt more positive about participating identified with cultural values that were more focused on others and context.

Although the results show statistical correlations between three out of the six expected relationships measuring patient motivation to participate, the findings were contrary to the expected directionality and consistency across each variable in the cultural model of patient
motivation to communicate. For example, it was particularly interesting that respondents who felt more assertive also identified with more independent self-construals. These findings implicate that more research is needed to verify the modified patient cultural model (see Future Directions), investigating if these findings reflect sampling errors in the current study or if the variables included in the model require revision.

Correlational results for pain beliefs were contrary to the expected findings because it did not correlate with any other variables. Thus, pain beliefs were discontinued from further analysis. Future studies may create more comprehensive measures of pain beliefs to retest the hypothesis that pain beliefs are influenced by culture in Hawaii.

Subsequently, a MANCOVA was also conducted to examine the effects of ethnic identification on participation beliefs, communication apprehension, assertive communication, and self-construal while removing the effects of years in Hawaii. A limitation to consider is the appropriateness of conducting a MANCOVA. Many of the assumptions that should be met when conducting a MANCOVA (Mertler & Vannatta, 2005) were not statistically verified due to the complex nature of the results (e.g., lack of variability in self-construal, unequal sampling of the ethnic groups in Hawaii). More importantly, the significant unequal distribution of respondents in each ethnic group suggests a severe limitation of the results. As a result, conclusions drawn from such analyses require further empirical validation in future studies.

Results from the MANCOVA did not support the presence of a significant main effect of ethnicity on attitudes about communicating with physicians. Modest Wilks’ Lambda and effects size values for the main effect suggests that something other than ethnicity and exposure to Hawaii culture might explain the amount of variance in motivation to participate. A measure of culture that is more sensitive than ethnic identification and self-construal may be necessary to
explain Hawaii residents’ attitudes toward communicating with their physicians. In addition to analyzing responses from other demographic data that was collected in this study (e.g., preference for physicians with “local” accents), future studies may consider comparing the current findings to a sample from the continental U.S.

**Future Directions**

Findings in the current study can be used as a guide for future research with diverse populations such as Hawaii. When conceptualizing and integrating the various strengths and limitations of the current study, new areas of research can be identified regarding respondent characteristics, methods of recruitment, survey design, model and variables, complexity of culture in Hawaii, and other factors yet uninvestigated.

First, the current study highlights the need for improvements regarding sampling method and recruitment. Described previously, the results indicated an unequal distribution of age and gender. It would be highly beneficial to increase recruitment toward respondents who would balance the demographic makeup of the sample, including older and male Hawaii residents. Recruitment may also expand to other Hawaiian islands, where respondents may have very different relationships and attitudes toward physicians and communication style. Further, recruitment toward certain ethnic groups would be very important in creating a better community sample. Targeting recruitment toward certain ethnic groups would be especially critical if ethnicity plays a central role in future studies (e.g., ethnicity as an independent variable).

Due to the demographic, geographic, and cultural barriers to research participation in Hawaii, snowball sampling methods might continue to be used in future studies despite its limitations. The limitations of snowball sampling may be addressed by asking respondents how they were recruited when using online surveys. Data could then be analyzed regarding the
effects of including respondents who do and do not have connections to researcher, as well as investigating effective methods of recruitment in Hawaii.

Stratified sampling may be another method of addressing the sampling limitations of the current study, such as current medical patients or a college sample. Participants would therefore respond to survey items while having ongoing or frequent interaction with physicians and medical providers. Recruitment at hospitals or clinics (e.g., weight loss clinics) or handing out surveys in physicians’ offices may increase response rates from respondents who are currently seeking medical services. Sampling from stratified samples (e.g., medical patients or college students) would increase the likelihood that respondents do not have personal connections to the researcher. Findings from these types of studies could be compared to the findings from snowball sampling, such as the current study.

Second, it can be inferred from the findings of the current study that modifications to the method and measurement tool might be useful in future research. As described previously, recruitment at physicians’ offices may facilitate participation, while decreasing the likelihood that respondents were influenced heavily by having personal connections to the researcher. Research in the office setting could also increase participation from older participants, especially if replacing online surveys with paper surveys.

Another method of furthering understanding of attitudes toward communication with physicians would be increasing the contextual nature of surveys. For example, vignettes may be used to elicit attitudes about different types of conversations between patients and physicians. Vignettes would provide more contextual information for respondents and may also include open-ended responses. This type of qualitative information might facilitate a greater
understanding of aspects affecting patient-physician communication that are currently unidentified in the literature.

Observational research is yet another way of incorporating context into future studies. Rather than investigating preferences when communicating with physicians, observational research would more closely examine actual communication. A comparison of attitudes and behaviors might increase the understanding of how different cultural backgrounds manifest in Hawaii patients.

Third, the current study signifies a significant need for re-examination of which factors truly influence “culture” in Hawaii. Findings showed insufficient variability in self-construal, which was intended as a measure of “culture.” Ethnicity, as another measure of “culture,” also had a non-significant effect on attitudes toward patient-physician communication. It is possible that sampling error (e.g., respondents who have mutual connections and similar cultural experiences) might have contributed to the truncated range in self-construal. This question may be addressed in future research in the studies described above, such as stratified sampling. Another possibility is that the measure of self-construal lacks reliability or validity (e.g., not measuring what it should be measuring). Further studies with bigger sample sizes may help to develop and test the psychometric properties of the measure. It is also possible that the self-construal measure is insensitive to within Hawaii differences, but is an appropriate measure for groups worldwide (e.g., comparing the continental U.S. to Hawaii). Comparisons of the current study with a sample from the continental U.S. in a future study may begin to address this possibility.

The results from the current study raise several questions. Does the cultural model of patient motivation to participate require revisions if all of the variables did not correlate in the
expected directions? What best measures “culture” in Hawaii (e.g., ethnicity, self-construal, generational differences, years spent living in Hawaii)? In what ways (if any) does the physicians’ ethnicity impact patient-physician communication? Are respondents’ interactions with the medical system more important than cultural or demographic variables? Does “culture” and contact with the medical system interact in ways that create differences in patients’ attitudes about communicating with physicians? How might beliefs about pain influence how Hawaii patients interaction with physicians?

Despite the limitations, subjectivity, and lack of significant findings in this study, the results give validity to the importance of research regarding patient perceptions of communication with medical providers. Future directions might benefit from very carefully examining the complex and various ethnic-based cultures in Hawaii have amalgamated into a single “Hawaii culture.” It is hoped that the current study was a first step in this direction and provokes interest in furthering research in culturally and ethnically diverse populations like Hawaii.
References


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Appendix A: Questionnaire

Read the answer choices carefully before answering each question. Please select the answer you most identify with.

1. Please indicate your age.
   a. [give list of all numbers from 18-90]

2. Which gender do you identify as?
   a. Female
   b. Male
   c. Transgender

3. Please check all of the ethnicities you identify with.
   a. Filipino
   b. Caucasian
   c. Japanese
   d. Native Hawaiian
   e. Chinese
   f. Korean
   g. Latino/Hispanic
   h. Non-Native Hawaiian Pacific Islander (please specify) ____
   i. Other (please specify) ______

4. Which ethnicity do you most identify with?
   a. Filipino
   b. Caucasian
   c. Japanese
   d. Native Hawaiian
   e. Chinese
   f. Korean
   g. Latino/Hispanic
   h. Non-Native Hawaiian Pacific Islander (please specify) ____
   i. Other (please specify) ______

5. Where would you say you “grew up”?
   a. Oahu (Leeward, West side)
   b. Oahu (Windward, East side)
   c. Oahu (Town)
   d. Oahu (North Shore)
   e. Hawaiian island other than Oahu (please specify which island) ____
   f. Other (please specify state or country) ____

6. How long have you lived in Hawaii?
   a. Entire life
   b. Most of life
   c. Part of life (please specify how many years) ____

7. How often do you visit any type of physician (e.g., primary care, family, specialists, etc.)
   a. Weekly
   b. Monthly
   c. Few times a year
d. Once a year
   e. Less than once a year
8. How long ago was your last medical appointment?
   a. One week
   b. One month
   c. Few months
   d. One year
   e. More than one year
9. Which type of physician would you prefer?
   a. I will only see a physician who speaks with a local accent.
   b. I prefer a physician who speaks with a local accent.
   c. I do not care how my physician speaks.
   d. I prefer a physician who has no local accent.
   e. I will only see a physician who does not speak with a local accent.
10. Which statement best reflects your feelings?
    a. I will only see a physician who is the same ethnicity as me.
    b. I prefer a physician who is the same ethnicity as me.
    c. I have a slight preference for physicians with the same ethnicity as me.
    d. I prefer a physician who is of a certain ethnicity (please specify) ____
    e. I do not care about the ethnicity of my physician.
11. Which physician would you feel most comfortable with?
    a. Native Hawaiian or Polynesian physician
    b. Japanese physician
    c. Caucasian physician
    d. Filipino physician
    e. Chinese physician
    f. Other (please specify) ____
12. Which statement best reflects your feelings?
    a. My physician will like me a lot if I ask a lot of questions.
    b. My physician will like me if I ask a lot of questions.
    c. My physician’s opinion of me will not change if I ask a lot of questions.
    d. My physician will dislike me if I ask a lot of questions.
    e. My physician will hate me if I ask a lot of questions.
13. When a patient asks a physician a lot of questions, he or she is being…
    a. Not at all disrespectful
    b. Probably not disrespectful
    c. Potentially disrespectful
    d. Disrespectful
    e. Extremely disrespectful
14. Which statement best reflects your feelings?
    a. Asking a lot of questions will help my physician to cure me quickly.
    b. Asking a lot of questions may help my physician to cure my quickly.
    c. Asking a lot of questions will not affect my physician’s ability to cure me quickly.
    d. Asking a lot of questions will not help my physician to cure me quickly.
    e. Asking a lot of questions will impede my physician’s ability to cure me quickly.
15. How appropriate is it to question your physician’s medical decisions?
a. Extremely appropriate
b. Mostly appropriate
c. Somewhat appropriate
d. Mostly inappropriate
e. Highly inappropriate

16. If I speak freely and express all of my questions…
   a. My physician will think that I am very good patient
   b. My physician will think that I am a good patient
   c. My physician will feel neutral or not notice what type of patient I am being
   d. My physician will think I am a bad patient
   e. My physician will think I am a very bad patient

17. Which statement best reflects your feelings?
   a. Talking freely with my physician would significantly improve the quality of my medical care.
   b. Talking freely with my physician would improve the quality of my medical care.
   c. Talking freely talking with my physician would not affect the quality of my medical care.
   d. Talking freely with my physician would may negatively affect the quality of my medical care.
   e. Talking freely with my physician would negatively affect the quality of my medical care

18. Which statement best reflects your feelings?
   a. I tell my physician everything I’ve been feeling.
   b. I tell my physician most of what I’ve been feeling.
   c. I tell my physician some of what I’ve been feeling.
   d. I tell my physician a little of what I’ve been feeling.
   e. I do not tell my physician how I’ve been feeling.

19. Which statement best reflects your feelings?
   a. I think my physician understands me more than I do.
   b. I think my physician understands me.
   c. I think my physician understands me somewhat.
   d. I think my physician does not understand me.
   e. It does not matter whether my physician understands me or not.

20. How nervous are you when you talk to a new physician?
   a. Extremely nervous
   b. Very nervous
   c. Somewhat nervous
   d. A little nervous
   e. Not nervous at all

21. Which statement best reflects your feelings?
   a. I am very tense when I communicate with a physician.
   b. I am tense when I communicate with a physician.
   c. I am a little tense when I communicate with a physician.
   d. I am not tense when I communicate with a physician.
   e. I am not tense at all when I communicate with a physician.

22. How comfortable are you speaking up in conversations with your physician?
a. Very uncomfortable
b. A little uncomfortable
c. Somewhat comfortable
d. Very comfortable
e. Extremely comfortable

23. Which statement best reflects your feelings?
   a. I hate having to tell a physician what’s really bothering me.
   b. I dislike having to tell a physician what’s really bothering me.
   c. I feel neutral about having to tell a physician what’s really bothering me.
   d. I sometimes like having to tell a physician what’s really bothering me.
   e. I really like having to tell a physician what’s really bothering me.

24. How relaxed are you when speaking with a physician?
   a. Not at all relaxed
   b. Not really relaxed
   c. A little relaxed
   d. Very relaxed
   e. Extremely relaxed

25. Which statement best reflects your feelings?
   a. The language used by physicians really intimidates me.
   b. The language used by physicians intimidates me.
   c. The language used by physicians somewhat intimidates me.
   d. The language used by physicians does not intimidate me.
   e. The language used by physicians really does not intimidate me.

26. Which statement best reflects your feelings?
   a. Even if I needed to, I would significantly hesitate to make phone calls to my physician.
   b. Even if I needed to, I would hesitate to make phone calls to my physician.
   c. If I needed to, I might hesitate to make phone calls to my physician.
   d. If I needed to, I probably would not hesitate to make phone calls to my physician.
   e. If I needed to, I would not hesitate at all to make phone calls to my physician.

27. When you are eating out and the food you are served is not the way you like it…
   a. I would definitely complain to the person serving it.
   b. I would most likely complain to the person serving it.
   c. I might complain to the person serving it.
   d. I would probably not complain to the person serving it.
   e. I would never complain to the person serving it.

28. Which statement best reflects your feelings?
   a. I am not careful at all about hurting other people’s feelings.
   b. I am usually not careful about hurting other people’s feelings.
   c. I am sometimes careful not to hurt other people’s feelings, even when I feel hurt.
   d. I am usually careful not to hurt other people’s feelings, even when I feel hurt.
   e. I am extremely careful not to hurt other people’s feelings, even when I feel hurt.

29. Which statement best reflects your feelings?
   a. I have no trouble saying no.
   b. I have a little trouble saying no.
   c. I have trouble saying no.
d. I have considerable trouble saying no.
e. I have extreme trouble saying no.
30. Which statement best reflects your feelings?
   a. I always show my feelings even if it upsets others.
   b. I tend to show my feelings even if it upsets others.
   c. I tend not to show my feelings so that I do not upset others.
   d. I do not show my feeling so that I do not upset others.
   e. I never show my feelings so that I do not upset others.
31. When you do something important or good, which statement is most true?
   a. I make sure others know about it.
   b. I try to let others know about it.
   c. I may try to let others know about it.
   d. I do not care whether others know about it or not.
   e. I try to make sure others will not know about it.
32. Which statement best reflects your feelings?
   a. I strongly dislike being unique and different from others in many respects.
   b. I dislike being unique and different from others in many respects.
   c. I somewhat enjoy being unique and different from others in many respects.
   d. I enjoy being unique and different from others in many respects.
   e. I strongly enjoy being unique and different from others in many respects.
33. Which statement best reflects your feelings?
   a. Even when I strongly disagree with group members, I avoid an argument at all costs.
   b. Even when I strongly disagree with group members, I avoid an argument.
   c. When I strongly disagree with group members, I might try to avoid an argument.
   d. When I strongly disagree with group members, I do not avoid an argument.
   e. When I strongly disagree with group members, I elicit an argument.
34. Which statement best reflects your feelings?
   a. I have tremendous respect for the authority figures I interact with.
   b. I have a lot respect for the authority figures I interact with.
   c. I have respect for the authority figures I interact with.
   d. I have some respect for the authority figures I interact with.
   e. I have very little respect for the authority figures I interact with.
35. Which statement best reflects your feelings?
   a. I strongly respect people who are modest about themselves.
   b. I respect people who are modest about themselves.
   c. I somewhat respect people who are modest about themselves.
   d. I do not respect people who are modest about themselves.
   e. I strongly do not respect people who are modest about themselves.
36. Which statement best reflects your feelings?
   a. I never do my own thing, because of what others think.
   b. I usually do not do my own thing, because of what others think.
   c. I sometimes do my own thing, regardless of what others think.
   d. I do my own thing, regardless of what others think.
   e. I always do my own thing, regardless of what others think.
37. Which statement best reflects your feelings?
a. I will always sacrifice my self-interest for the benefit of the group I am in.
b. I will sacrifice my self-interest for the benefit of the group I am in.
c. I will sometimes sacrifice my self-interest for the benefit of the group I am in.
d. I will not sacrifice my self-interest for the benefit of the group I am in.
e. I will never sacrifice my self-interest for the benefit of the group I am in.

38. Which statement best reflects your feelings?
a. I would never say "No" directly, even if I risk being misunderstood.
b. I usually do not say "No" directly, even if I risk being misunderstood.
c. I might say "No" directly, than risk being misunderstood.
d. I usually say "No" directly, than risk being misunderstood.
e. I always say "No" directly, than risk being misunderstood.

39. Which statement best reflects your feelings?
a. I always believe that my fate is intertwined with the fate of those around me.
b. I frequently believe that my fate is intertwined with the fate of those around me.
c. I occasionally believe that my fate is intertwined with the fate of those around me.
d. I rarely believe that my fate is intertwined with the fate of those around me.
e. I never believe that my fate is intertwined with the fate of those around me.

40. Which statement best reflects your feelings?
a. I am very uncomfortable with being singled out for praise or rewards.
b. I am uncomfortable with being singled out for praise or rewards.
c. I am somewhat uncomfortable with being singled out for praise or rewards.
d. I am comfortable with being singled out for praise or rewards.
e. I am very comfortable with being singled out for praise or rewards.

41. Which statement best reflects your feelings?
a. It is very important to me to respect decisions made by the group.
b. It is important to me to respect decisions made by the group.
c. It is somewhat important to me to respect decisions made by the group.
d. It is unimportant to me to respect decisions made by the group.
e. It is really unimportant to me to respect decisions made by the group.

42. Which statement best reflects your feelings?
a. I always have the feeling that my relationships with others are more important than my own accomplishments.
b. I often have the feeling that my relationships with others are more important than my own accomplishments.
c. I sometimes have the feeling that my relationships with others are more important than my own accomplishments.
d. I rarely have the feeling that my relationships with others are more important than my own accomplishments.
e. I never have the feeling that my relationships with others are more important than my own accomplishments.

43. Which statement best reflects your feelings?
a. I never act the same, regardless of who I am with.
b. I usually do not act the same, regardless of who I am with.
c. I sometimes act the same, regardless of who I am with.
d. I act the same way, regardless of who I am with.
e. I always act the same, regardless of who I am with.
44. Which statement best reflects your feelings?
   a. If a family member fails, I feel very responsible.
   b. If a family member fails, I feel responsible.
   c. If a family member fails, I feel a little responsible.
   d. If a family member fails, I mostly do not feel responsible.
   e. If a family member fails, I do not feel responsible at all.

45. Which item reflects your current physical health?
   a. I currently experience (or have previously experienced) physical pain daily.
   b. I do not and have never experienced physical pain daily.

46. How permanent is your pain?
   a. My pain is here to stay.
   b. My pain might be here to stay.
   c. My pain is probably not here to stay.
   d. My pain is not here to stay.

47. Which statement best reflects your feelings?
   a. There is no cure for my pain.
   b. There is probably no cure for my pain.
   c. There might be a cure for my pain.
   d. There is a cure for my pain.

48. Which statement best reflects your feelings?
   a. I always want to know more about my pain.
   b. I frequently want to know more about my pain.
   c. I sometimes want to know more about my pain.
   d. I never want to know more about my pain.

49. Which statement best reflects your feelings?
   a. My pain is incredibly confusing.
   b. My pain is confusing.
   c. My pain is not confusing.
   d. My pain is not at all confusing.

50. Which statement best reflects your feelings?
   a. I always blame myself if I am in pain.
   b. I sometimes blame myself if I am in pain.
   c. I do not blame myself if I am in pain.
   d. I never blame myself if I am in pain.
Appendix B: Recruitment Flyer

Attention Hawaii resident:

My name is Lauren Kagami and I am a graduate psychology student at the School of Professional Psychology at Pacific University with a special interest in enhancing communication and collaboration between patients and physicians. I am inviting your participation in a research study examining patients’ attitudes about communication and interaction with physicians in Hawaii. It is hoped that the knowledge gained from this short survey can be used to enhance the understanding of patient care in Hawaii.

In this online survey, you will be asked to complete questions about your knowledge, communication skills, and attitudes about interacting with physicians. The survey is estimated to take about 15 minutes to complete.

If you would like to participate, please take a tear-away below and visit the website listed.

Thank you in advance for your time and participation!

Lauren Kagami
Graduate Student
School of Professional Psychology
Pacific University
Appendix C: Online Recruiting Message

Dear Hawaii resident,

My name is Lauren Kagami and I am a graduate psychology student at the School of Professional Psychology at Pacific University with a special interest in enhancing communication and collaboration between patients and physicians. I am writing to invite your participation in a research study examining patients' attitudes about communication and interaction with physicians in Hawaii. It is hoped that the knowledge gained from this short survey can be used to enhance the understanding of patient care in Hawaii.

In this online survey, you will be asked to complete questions about your knowledge, communication skills, and attitudes about interacting with physicians. The survey is estimated to take about 15 minutes to complete.

If you would like to participate, click on the following link to begin:

https://www.surveymonkey.com/s/physician_communication

Thank you in advance for your time and participation.

Lauren Kagami
Graduate Student
School of Professional Psychology
Pacific University