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The Convergence of Mind, Body, and Culture: Cultural Competency Training Outcomes in the Health Professions and the Case Study of the Hmong

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The Convergence of Mind, Body, and Culture: Cultural Competency Training Outcomes

in the Health Professions and the Case Study of the Hmong

by

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Dedication:

This thesis is dedicated to the Fresno and Sacramento Hmong communities who participated in this study. This project was one that facilitated both personal and professional growth and I am thankful to these communities for the contributions they have made to my life.

Table of Contents

List of Tables

Preface

Cultural competency is a critical aspect of training health professionals. Although it is a standard that should presently exist in the health professions, this thesis illustrates that it does not. The following thesis is composed of two papers that discuss cultural competency in two different contexts: training health professionals and a case study that illustrates the importance of using culturally competent research methods.

There are several common threads which weave these two papers together. However, I believe the most important is the use of proper methodology. The first paper of this thesis is entitled, "Cultural Competency Training Outcomes in the Health Professions: A Review of the Literature", and reviews how cultural competency is taught to health professionals at the student and practitioner levels. The central focus is that systematic outcome measures of curriculum efficacy are needed to facilitate comparisons between different cultural competency training regimens. The second paper entitled, "How Coping Styles and Hopelessness Influence Adherence to Medical Management of Hypertension and Blood Pressure Control in Hmong Who are Hypertensive," at the outset, does not address cultural competency directly, but is a clear illustration of why cultural competency needs to be part of the training of health care professionals. Additionally, great care was taken to chose items for inclusion into the survey instrument used to collect data in this particular study that would facilitate comparisons to the results of other studies. However, the Hmong are unique in their cultural and demographic composition, such that in order to produce valid and culturally relevant research, judiciousness must be exercised in choosing items which capture issues that are important and relevant to their community. The key to designing a survey instrument is not

iv

choosing items that worked in other populations, but choosing items that facilitate the collection of valid data in Hmong populations. This is not to say that important and meaningful results did not emerge from this study, but in reality, not everything worked as planned. This second paper also feeds back into the first paper on a more basic level, by illustrating why cultural competency training of health professionals is important for producing better health outcomes in populations such as the Hmong.

Therefore, in the end, I believe that the generation of meaningful and valid research is very much dependent upon how concepts are measured. It is incumbent upon researchers to produce data that is useful, accurate, and which takes into account the nuances of the populations being studied.

Cultural Competency Training Outcomes in the Health Professions: A Review of the Literature

Introduction

The United States is a pluralistic society. As such, health professionals should recognize that different cultural, racial, ethnic, and socioeconomic groups face unique challenges and that these challenges impact both health care providers' care-giving and patients' need for care. However, I believe the Unites States health care system has a long way to go towards reaching this level of consciousness. This is made evident by the presence of grave health disparities between people of different racial, ethnic, and socioeconomic backgrounds.

In a study performed by Hu, Hmong children had a significantly higher incidence of appendiceal perforation compared to white children in the same hospital [1]. Another study found that compared to non-Hispanic whites, Latinos and African Americans have higher probabilities of being both uninsured and in poor health [2]. Sheifer and colleagues, in their review, reported that African Americans were less likely than whites to receive standard treatments for coronary artery disease [3]. Moreover, Hispanics with fractured long bones were two times more likely than non-Hispanic whites to receive no analgesia in a Los Angeles Emergency Medicine Center [4].

How can these disparities be ameliorated? It seems rather unrealistic to address this question by dissecting, and instituting massive structural changes in our already challenged health care system. However, health professionals, by investing time and effort in cultural competency training, may help mitigate these health disparities.

1

With such health disparities well documented, why do most medical schools in the United States devote little or no time to cultural competency training? Only eight percent of the 118 U.S. medical schools have separate courses devoted to teaching cultural issues, according to Flores and colleagues [5]. Moreover, these authors concluded that most U.S. and Canadian medical schools are deficient in addressing the concept of culture in their curricula.

In order to enter into a discussion of cultural competency training, it is important to present a few definitions. For this paper, I will use Cross et al's definition of culture, which is the "integrated pattern of human behavior that includes thoughts, communications, actions, customs, beliefs, values and institutions of a racial, ethnic, religious or social group" [6]. There are a number of different definitions of cultural competence presented in the literature, but Brach and Fraser noted that "most" of these definitions are "variants" of the following one formulated by Cross and colleagues [7], " a set of congruent behaviors, attitudes, and policies that come together in a system, agency or amongst professionals and enables that system, agency or those professionals to work effectively in cross-cultural situations" [6].

Cultural competence differs from cultural sensitivity (or awareness) in that it not only requires that the practitioner respect and know different cultures, but demands that he or she integrate these beliefs and knowledge into providing care to their patients [6]. Cultural competency is a broad term and is not only applied to race and ethnicity, but also to gays and lesbians, some religious groups, as well as to other marginalized social groups. However, my discussion of cultural competency is limited to the contexts of race and ethnicity.

2

In this paper I will review the current research pertaining to cultural competency training in the health professions,[1] and propose that a more systematic measure of cultural competency training outcomes is necessary in order to assess the quality of various training programs. If such outcomes are standardized, various institutions such as medical schools and residency training programs will be better able to select and modify their cultural competency training regimens with the end result being the provision of more effective training programs.

Teaching Methods

There are two basic methods for teaching cultural competency, didactic instruction and experiential learning. In the didactic method, material is disseminated via a lecture format. In contrast, experiential learning[2] allows for the learner to participate and even model behaviors. Examples of experiential learning are role-playing and conducting interviews with simulated patients. Experiential learning is found more effective at changing study participants' attitudes about cultural diversity compared to didactic instruction [8]. Pruegger and Rogers state:

It appears that experiential programs that use role-play and novel instructional approaches are more successful in the promotion of positive intraethnic attitudes as they evoke a personal response, providing instant feedback, and thus are more generalizable to real-life situations (p. 370) [8].

Some of the studies reviewed in this paper suggest or employ the use of experiential learning and they include: (1) Sachdev, 1997 [9]; (2) Farnhill et al, 1997 [10]; (3) Napholz, 1999 [11]; and (4) Majumdar et al, 1999 [12]. Additionally, the

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[1] Health professions are defined as medicine, nursing, psychology/psychiatry, dietetics, social work, and public health. [2] Experiential learning includes any type of learning where the participant takes an active role such as occurs in group discussions and role-playing

3

following studies I reviewed promote the use of a combination of didactic instruction and experiential learning: (1) Copeman, 1989 [13]; (2) Wade and Bernstein, 1991 [14]; (3) Rankin and Kappy, 1993 [15]; (4) Marvel et al, 1993 [16]; (5) Ronnau, 1994 [17]; (6) Kim, 1995 [18]; (7) Gany and de Bocanegra, 1996 [19]; (8) Culhane-Pera et al, 1997 [20]; (9) Carrillo et al, 1999 [21]; (10) Haq et al, 2000 [22]. A major area of debate in the health care field concerns how to teach professionals and staff to become more culturally competent. Further research is needed to address this issue, but I believe that much can be accomplished through standardizing outcomes, which measure the results of cultural competency training, due to the fact that the efficacy of different training regimens may then be directly compared. It must be acknowledged that two questions are of concern: (1) how can cultural competency be taught effectively, and (2) do there exist outcome measures that assess the effectiveness of such training. However, I believe that the provision of more objective and systematic outcomes can beget an answer to the first question.

Cultural Competency Training in the Mental Health Professions

The mental health field started much of the research on cultural sensitivity and cultural competency in the health professions[3]. The first stage of this work initiated by mental health professionals focused upon the issue of cultural sensitivity. As their research progressed, cultural competency training seemed the next logical area of inquiry due to the fact that it is the application of cultural sensitivity.

Lopez et al defined four stages through which psychotherapists-in-training pass in the process of developing cultural sensitivity. The logic behind these stages, which will

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[3] Defined as psychology, social work, and counseling.

4

not be discussed individually, is that a therapist advances from looking through the lens of universal (etic) norms to primarily culture-specific (emic) norms and, finally, to a "balanced etic-emic" outlook. Lopez and colleagues defined a culturally sensitive therapist as one with the ability to consider both etic and emic perspectives. They proposed that these stages be used to monitor trainee progress [23].

Research in the mental health field not only addresses cultural sensitivity, but also how racial congruity between professional and client influences the clients' rating of the therapists' competency. Wade and Bernstein examined how a counselor's race and a brief cultural sensitivity training session affected their professional evaluation by black female clients. They found that more clients returned to see counselors of their own race. However, Wade and Bernstein also discovered that the clients' evaluation of the counselors' skills was influenced more by the brief cultural sensitivity training provided to them than by racial congruity. Those counselors who had undergone the four-hour cultural sensitivity training were rated higher in terms of their expertness, trustworthiness, attractiveness, unconditional regard, and empathy compared to the control group. Additionally, clients were more satisfied with the trained counselors and attended more counseling sessions. Wade and Bernstein also reported that while racial congruity between counselor and client decreased the rate of client attrition, the clients' perception and professional evaluation of the counselors was not altered [14].

As cultural competency training began to be explored, the issues of how and what to teach became important research topics. Peter Manoleas, in discussing cultural competency training in the social work field, defined four knowledge objectives, five skill objectives, and four value objectives that he felt were important to cultivate in

5

students seeking a master's degree in social work (M.S.W.). Manoleas's knowledge objectives consisted of the following: (1) how culture affects basic developmental events; (2) cultural care giving patterns; (3) knowledge and sensitivity to non-European ways of relating to such concepts as nature and time; and (4) patterns of interdependency, mutuality, and obligation. The five skill objectives were: (1) client assessment in the context of cultural relativity; (2) culturally appropriate interview techniques; (3) evaluation of client/family's world view and level of acculturation; (4) cultural self-assessment and the ability to assess how the student's "cultural amalgam" compares to the client's "mode of expression;" (5) construction of professional relationships across cultures using the proper level of intimacy and timing [24].

However, Manoleas argued that it is more important to attain the four value objectives. These value objectives consisted of: (1) realization and acceptance of cultural differences and their impact upon "service delivery and utilization;" (2) development of the belief that intra-cultural heterogeneity is weighted equally with intercultural diversity; (3) belief in cultural relativism; and (4) realization that values unique to the social work profession may both complement or oppose a client's cultural values. Manoleas proposed that these objectives be realized at the completion of the M.S.W. curriculum; however, he suggested that the development of these objectives be monitored throughout the educational process to ensure that students attain these goals [24]. It seems that attempting to integrate such a detailed curriculum may prove almost prohibitively time consuming. Additionally, Manoleas did not propose a methodology which students may use to work towards such defined objectives.

Like Manoleas, Ronnau focused upon instilling cultural competence in social work students. However, he takes it one step further by proposing an actual strategy for teaching cultural competence. Ronnau presented five strategies to accomplish this end: (1) students are presented with definitions of cultural awareness, the "culturally competent professional," and related topics; (2) dissemination of information in the form of "resource papers" about cultural groups relevant to organized discussions; (3) use of "cultural guides," who are class members willing to share their culture with other students; (4) encouragement to attend local cultural events; and (5) integration of cultural competency training into course work. Ronnau, in his paper, presented evidence indicating the efficacy of his five strategies. Students exposed to Ronnau's strategies for teaching cultural competence rated the cultural guides as the most valuable teaching technique, followed by the resource papers, when compared to the other three strategies he proposed [17]. One must question whether student feedback is an adequate measure of program efficacy. Additionally, care must be taken to avoid providing materials such as "resource papers" that might have the potential for stereotyping ethnic and cultural groups.

Experiential learning was employed by Sachdev in the form of an eight-week trip to New Deli, India in order to help four Canadian female social work students develop greater knowledge and sensitivity about cultural diversity. Before the students setout for India and during their first week in India, they participated in orientations introducing them to various aspects of Indian society. An array of teaching methods were used in these orientations including role playing, guest speakers, and the presentation of films and slides. During their seven subsequent weeks in India, the students visited, and

7

participated in the work of a number of local agencies, worked with graduate students from two universities, visited the homes of local students and professors, and attended weekly "feedback" sessions focusing upon their experiences and reflections. The results of this study indicated that three of the four subjects returned from India with more favorable attitudes towards cultural groups. Additionally, subjects learned about the many issues and challenges facing members of Indian society, as well as their own resources, rights, and privileges. Finally, they were better able to appreciate the challenges faced by Indian immigrants to Canada and community health workers in India [9]. One must consider whether the expense and time involved in running such a program make it an unrealistic method for teaching cultural competency to large numbers of health professionals and trainees. This program also focuses upon one cultural group, such that other groups are excluded from these students' training. Thus, can cultural competency really be achieved through such methods?

In contrast to focusing upon one ethnic or cultural group, Allison et al proposed that working with a diverse patient base during training seems to be another important process for developing culturally competent health professionals. Allison and colleagues examined the perceived cultural competence of professionals with doctoral degrees in counseling and psychology. They found, through regression analysis, that the most important predictor of self-rated competence in working with the different client groups and cultures identified in this study was the number of training cases the respondents had with members of that particular group during their education[3]. Allison et al, therefore, recommended that trainees be exposed to a diverse patient base during their education so

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[3] Defined as practicums and internships.

8

as to augment their cultural competency [25]. Again, the question of whether student self-evaluation is an adequate measure of program effectiveness must be presented. Additionally, such a program may prove unrealistic for training programs located in more culturally homogeneous areas.

While Allison et al focused upon training issues, Sue discussed cultural competency on a more theoretical level. In focusing upon practicing psychotherapists, Stanley Sue defined three characteristics that are essential for their cultural competency. The first of these characteristics was termed scientific mindedness and demands that therapists form and test hypotheses about the "status" of clients from different cultures, rather than forming immediate conclusions based upon a "myth of sameness." The second component of Sue's model was dynamic sizing, which refers to the ability of the therapist to generalize and individualize where and when appropriate. Sue believed that dynamic sizing "allows one to avoid stereotypes of members of a group while still appreciating the importance of culture," which is similar to the etic-emic balance discussed by Lopez et al [23]. The final and most broad-based component of Sue's triad was the characteristic of culture-specific expertise. This characteristic is embodied in the professional who knows and understands how he or she looks at the world, has knowledge of the cultural groups with which he or she works, is grounded in the social and political sphere, and has the skills that are required to work with different cultural groups. Sue believed that the characteristics, which composed his triad, were independent of one another; however, he acknowledged that it is best for a therapist to possess all three characteristics in order to achieve the optimum level of cultural competency [26]. Sue seemingly presents a "gold standard" for the end points of successful cultural

9

competency training. However, one must question how such concepts might be successfully taught and evaluated.

In summary, this section of the paper has presented the early studies on cultural competency and cultural sensitivity training, which were initiated by the mental health field. This early work consisted primarily of conceptual models that focus upon what end points should be achieved through such training. A key theme that emerged is that exposure to various cultural groups is an important component to the development of the culturally sensitive and competent health professional.

Beyond the Mental Health Field

The field of family practice medicine initiated the dialogue regarding the need for cultural sensitivity and cultural competency training in medicine. Pediatrics has since recognized both the importance of integrating culture into the patient-physician encounter and of augmenting the training devoted towards this end [27]. The question of why other medical specialties are not following suit, since patients from different cultural backgrounds access all levels of the health care system and not just primary care, must be put forth.

Berlin and Fowkes, in one of the first works to address cultural issues in family medicine, prioritized communication as fundamental to providing effective health care to patients from different cultural backgrounds. They proposed a model to help facilitate effective cross-cultural health care. This model was presented as the LEARN mnemonic [28].

The first component entails "listening" to the patient with empathy, while paying attention to how he or she conceptualizes his or her presenting problem. The "E" in their

10

model allows for the health care provider to "explain" his or her conceptualization of the patient's problem, which they suggested, was usually grounded in 'Western medicine' ideals. The third component of the model entails "acknowledgement" by the practitioner of the patient's conceptualization of their problem and resolution of this perspective with the provider's own perception of the problem. The "R" in their model stands for "recommend" and stresses that the perspectives of both the provider and client influence the treatment plan. Berlin and Fowkes identified "negotiation" as the "key concept" in their model, and it occurs when the final treatment plan is based upon a "partnership in decision making" between the provider and the client [28]. The benefits of this mnemonic are that it is easy to remember such that it may be more readily integrated into a physicians' practice. Additionally, Berlin and Fowkes provided examples of the application of this model through the presentation of clinical vignettes which heightens the accessibility of this model to health care providers, while illustrating its effectiveness. However, no attempt was made to evaluate the effectiveness of the methodology through more objective means.

As more research in the field of family practice medicine became dedicated towards integrating cultural issues into training modules, more conceptual models were proposed. One such model developed by Borkan and Neher attempted to foster ethnosensitivity and its integration into the family practice clinical setting. They based much of their model on the previously discussed work by Lopez et al [23]. In their model, there exist seven attitudes through which one moves on their journey from enthnocentricity to ethnosensitivity. These attitudes in sequential order are: fear, denial, superiority, minimization, relativism, empathy, and integration. Borkan and Neher

11

proposed methods, which seek not only to foster these attitudes in family practice trainees, but also promote advancement to the next stage of the model. The final stage is called cultural integration and describes the physician as being multicultural, "meshed" with several cultures, and having achieved the etic-emic balance discussed by Lopez and colleagues [23]. This final stage is portrayed as one that the practitioner seeks to augment and refine for the rest of their career [29]. Admittedly, Borkan and Neher acknowledge that the "utility of this model … remains to be determined (p. 217)" [29].

A conceptual model, similar to those already discussed, was proposed by Campinha-Bacote, except that she places her model of cultural competence in the context of mental health nursing. In her model, cultural competence was composed of the following elements: (1) cultural awareness, (2) cultural knowledge, (3) cultural skill, and (4) the cultural encounter. Campinha-Bacote discussed how Borkan and Neher's Developmental Model of Ethnosensitivity echoes the component of cultural awareness in her model. She also suggested Berlin and Fowkes's LEARN model as a means of developing the ability to perform a culturologic assessment (i.e. cultural skill). Like Borkan and Neher, she saw the development of cultural competence as a life-long process [30] [29]. Additionally, similar to my criticism of Berlin and Fowkes's work, Campinha-Bacote provided no objective assessment of this model's validity.

Moving beyond models, Kim proposed a detailed curriculum guideline to be used in training both culturally sensitive and culturally competent child and adolescent psychiatrists. Kim's guideline was composed of the following two components: educational objectives and learning experiences. The educational objectives set out specific knowledge, skill, and attitude goals for the trainees. Moreover, Kim proposed

12

seven different learning experiences. The first of these learning experiences was to take place in groups where trainees explore their own ethnic backgrounds and the attitudes and stereotypes they may hold towards others; it was hoped that this process would minimize stereotyping and provide better care to a culturally diverse patient base. Kim also proposed a didactic component to the learning experience, which was designed to reinforce the educational objectives as well as other related issues. The additional learning experiences included in Kim's guideline consisted of clinical experiences, case supervision and faculty resources, field experiences, case conferences and grand rounds, and literature and films [18]. Similar to other works discussed in this section, Kim does not evaluate whether those physicians trained in his proposed curriculum are providing more culturally competent health care to their patients due to the training.

Langer, rather than focusing upon the institutional level, explored the provision of culturally competent care by medical professionals on the level of the provider-patient interaction. This approach seems similar to the LEARN model proposed by Berlin and Fowkes [28]. Langer stressed the development of a cultural alliance between provider and patient and believed this relationship to be strengthened by a high level of provider cultural competency. Langer conceptualized the benefits of a strong therapeutic alliance as being associated with increased patient compliance with medical management [31]. In contrast to most of the studies discussed in this section of the paper, Langer did not explore how health care providers are to achieve cultural competence.

Another practical model of cultural competency for health professionals was proposed by Flores and consisted of the following five components: normative cultural values, language issues, folk illnesses, patient/parent beliefs, and provider practices. This

model was meant to serve as a guide for health care providers when providing care to different cultural groups. Flores encouraged clinicians to have knowledge of the normative cultural values held by their patients and encouraged the use of published, as well as community resources to augment ones' knowledge of these values. This model also promoted the appropriate use of interpreters to overcome language barriers when present. Moreover, he encouraged the acquisition of foreign language skills by providers and that efforts be made to increase the English proficiency of patients as well. It was also important for the provider to learn how to identify folk illness beliefs and practices, in addition to patient/parent beliefs. The provider must then integrate these beliefs and practices, when possible, into the care and treatment of the patient. Flores identified provider explanations as a key factor in the success of the interaction. The final component of his model entailed provider identification and amelioration of ethnic disparities present in screening, treatment, and health outcomes [32]. No attempt, however, was made by Flores to show that health care providers' who implemented this model into their practice would provide more culturally competent care to their patients.

In summary, this section of the paper has presented the works which formed the foundation for exploring cultural competency at the provider-patient level in the medical field. A key theme that runs through most of the studies presented is the necessity to facilitate open and honest communication between the health care provider and the patient. Conceptual models were also presented in this section, in addition to guidelines for training culturally competent professionals. Exposure to individuals from different cultural groups also emerged as a key theme in this section, just as it did in the previous section.

Outcomes Research

Thus far I have discussed theories and models pertaining to the provision of culturally competent health care. However, what is missing from most of these papers is an evaluation of the programs' efficacy as exhibited by the following studies: (1) Sue, 1998 [26]; (2) Berlin and Fowkes, 1983 [28]; (3) Borkan and Neher, 1991 [29]; (4) Campinha-Bacote, 1994 [30]; (5) Kim, 1995 [18]; and (6) Flores, 2000 [32]. How are institutions of learning such as graduate psychology programs and medical schools to judge which cultural competency training regimens are best to integrate into their already demanding curricula? How are these programs to judge whether the cultural competency training they have instituted is effective? This type of outcomes research is necessary because as Tervalon and Murray-Garcia comment, "the equating of cultural competence with simply having competed a past series of training is inadequate and potentially harmful..." (p. 119) [33].

In my review of the literature on cultural competency training, I found a variety of methods used to evaluate cultural sensitivity and cultural competency training programs. With this variation, however, comes a lack of uniformity (Table 1). How, then, is it possible to compare different cultural competency training programs to one another? How are educational and professional institutions to choose the most effective cultural competency training programs for their students and employees? In the next section of this paper, I present various methods used to evaluate cultural sensitivity and cultural competency training programs and propose that a more uniform method of evaluation be formulated. The thrust of this section is the outcome measures used by these programs. As such, the results of most studies will not be presented.

A number of methods have been used to assess the effectiveness of cultural competency training and can be organized into those that are quantitative (i.e. close-ended survey instruments) and those that are qualitative (i.e. review of journal entries). Additionally, researchers also employ either post-training or both pre- and post-training assessment. The use of both assessments has the obvious advantage of examining change effected by the training, which, however, can be confounded by many concurrent events. Another important question concerns who is the most qualified to assess the effectiveness of a particular training program. Is it the trainee? Is it the training coordinator or teacher? Is it the client who may assist in the training and who is really the ultimate arbiter in the clinical setting? Is it the health of a patient population? The following section of this paper examines salient studies that illustrate how different researchers address the issue of measuring cultural competency training outcomes.

Copeman studied the effectiveness of a program designed to augment fourth year Australian medical students' "knowledge and attitudes" towards Aboriginal and migrant patients. The training program included both a didactic and an experiential learning component. The experiential learning experience consisted of taking case histories, writing them up, and then presenting them in a group tutorial session. Copeman used both pre- and post-training evaluation, while employing a quantitative method of evaluation. A control group was not used in this study. A close-ended survey instrument was used and responses were coded on a Likert scale. Nine items in the survey instrument assessed attitudes towards Aborigines and migrants, while two items assessed the students' knowledge regarding Aboriginal and migrant health. Following the training, two items were added to the survey instrument to assess the students' perceived competence in two

clinical scenarios. Four of the survey instrument items were adapted from a previous study in the late 1960s that focused upon Australians' attitudes towards Aborigines, while the remaining items were developed specifically for this study [13].

In the study conducted by Wade and Bernstein, which has already been discussed, the clients themselves evaluated counselors' attitudes and skills. The experimental group of counselors in this study received four hours of cultural sensitivity training, while the control group did not receive this training. The clients completed three established survey instruments. Two of these instruments elicited clients' perceptions of the "counseling process" and they are the Revised Barrett-Lennard Relationship Inventory (BLRI) and the Counselor Effectiveness Scale (CEI). The BLRI contains twenty-four statements to which the client agrees with or disagrees with on a seven-point rating scale; this study used only the portion of the BLRI that rates counselor empathy and unconditional regard. The CEI is an instrument composed of twenty-four items scored on a five-point Likert scale; Wade and Bernstein used only the part of the CEI that measures client satisfaction. The final survey instrument used in this study was the Counselor Rating Form-Short Form (CRF) that examines how clients perceive a counselor's credibility and attractiveness. Specifically, the counselor's expertness, trustworthiness, and attractiveness are measured by the close-ended items contained in the CRF. Another outcome used in this study was client attrition [14]. The advantage of using pre-existing survey instruments, as did Wade and Bernstein, is that the results of such a study are easily compared to those of other studies which use the same instruments. Additionally, it is important to point out that clients were chosen to be the arbiters of training efficacy.

A very different approach to program evaluation was employed by Rankin and Kappy. In their training program at the Children's Health Center of St. Joseph's Hospital and Medical Center in Phoenix, Arizona, they sought to: (1) improve the awareness of alternative health care "strategies;" (2) examine the "healer's" role among different ethnic groups; and (3) put the health care provider's role and contribution in a multicultural context. Three types of learning experiences were available to the voluntary participant: (1) didactic, (2) workshops, and (3) resident rotations. Rankin and Kappy presented high attendance at pediatrics noon conferences as evidence that their program proved effective in "producing an understanding of other cultures." This type of evaluation seems inadequate because it does not address whether the training altered attitudes and/or behaviors to effect the provision of better health care. However, they see the "success" (i.e. attendance) of the program as promoting the establishment of policies and practices at the Children's Health Center that will improve the health care provided to patients from different cultures [15].

Marvel and colleagues described the addition of a four-week block rotation into the family medicine residency program as a means of focusing resident learning upon family and cultural issues. Daily meetings formed the heart of their curriculum. In these meetings, residents and a multi-disciplinary faculty explored a myriad of family and cultural issues with minimal use of didactic presentations, but extensive use of experiential learning techniques such as role-playing and videotape review. Throughout the block rotation, residents were evaluated by faculty members and their fellow residents. One method of this evaluation consisted of the presentation and review of videotapes of family conferences conducted by the residents. The success and eventual

18

requirement of this block rotation into the family medicine residency program was based upon an evaluation of the program's usefulness by practicing physicians who had participated in this block rotation during their training [16]. Is self-evaluation an adequate way to assess the success and future directions of a particular program? I believe that the task oriented evaluation of resident performance such as through videotape review was a valuable method of assessing the efficacy of the curriculum because it focuses upon the skill that is being cultivated. However, no overall or systematized method of evaluation was used by Marvel and colleagues to evaluate whether the use of a residency block is as effective or more effective compared to the more conventional approach of integrating family and cultural issues throughout the entire family medicine residency program.

Ronnau, in order to assess the efficacy of his curriculum for teaching cultural competency to social work students, designed most of his own outcome measures that employed student evaluation of the curriculum itself. A portion of the student evaluation consisted of ranking eight possible benefits of integrating cultural competency training into the social work curriculum; Ronnau derived these benefits from a review of the literature. Ronnau also used the fact that discussions about cultural competency took place during classes as an indication that students were more aware of the importance of cultural competency. Students were also asked open-ended questions regarding both the usefulness of the description of the culturally competent professional and the concepts they learned about cultures from the curriculum. Additionally, students were asked close-ended questions regarding their comfort level in asking questions about cultures different from their own after exposure to the curriculum, as well as questions regarding the utility of Ronnau's curriculum. Lastly, students were asked to rank the teaching methods that

19

they found most useful [17]. A control group was not a part of this study's research design. Ronnau designed his outcome measures to assess whether students learned more about the concepts of culture and cultural competency. However, he did not try to measure from a more objective standpoint whether they were, in fact, more culturally competent after being exposed to his new curriculum.

Allison and colleagues, in a study also previously discussed in this paper, designed a forty-eight item questionnaire to be self-administered by individuals with doctoral degrees in clinical, counseling, or school psychology. The first part of this questionnaire contained sections pertaining to demographics, professional training, current employment, client demographics, and treatment strategies. Another portion of this survey asked respondents to rate their professional competence in providing clinical or counseling services to members of various ethnic groups, sexual orientations, genders, to individuals with physical or sensory impairments, and to people who are economically disadvantaged. Other parts of this survey addressed the level of diversity of their client populations during training, in faculty members, and whether diversity issues were explored in their coursework and clinical learning experiences. Allison and colleagues did not use a control group in their study [25]. Again, no objective or systematic measurement processes were used to determine the cultural competency of these practitioners.

In New York City, a Maternal Child Immigrant Health Training Program, which consisted of a five session course, was designed to augment cross-cultural sensitivity and communication skills among all levels of staff in Maternal Infant Care Family Planning Centers. Gany and de Bocanegra used a "learner-centered" approach as their teaching

20

philosophy in which participant experiences were "emphasized" and explored through discussions, dramatizations, role-plays, and the like. The five sessions explored the following: (1) cross-cultural medical interviewing and interpreter issues; (2) epidemiologic issues in immigrant and refugee communities; (3) cultural attitudes and practices in maternal child health; (4) family issues; and (5) reinforcement of learning objectives during a follow-up session. Gany and de Bocanegra developed a self-administered survey instrument consisting of close-ended questions to assess the Maternal Child Immigrant Health Training Program's effectiveness; it was the only method of evaluation employed. This survey instrument was administered both pre- and post-training. Twelve items were devoted to attitude evaluation and were scored on a four-point Likert scale. Additionally, twenty-one true/false questions in the survey instrument were designed to assess knowledge about immigrant health. No control group was used in this study [19]. The evaluation methods used in this study seem a bit more objective in that subjects were not expected to rate their own performance.

Another study, by Farnhill and colleagues, examined the influence of conducting medical interviews with people of non-English speaking backgrounds on English-speaking second year medical students' medical interviewing skills. The goals of this study were to improve students' medical interviewing skills, provide supervised interview experiences with people of non-English speaking backgrounds, and increase the students' awareness of multicultural issues by observing interviews with people from different cultural backgrounds. To accomplish these goals, the students were organized into groups of seven or eight. Supervised by two instructors, these groups met for sixteen sessions. During each session, a volunteer who was of non-English speaking background,

21

but proficient in English, was interviewed by a student for fifteen minutes. Interviews were videotaped, while being observed by the other students and teachers in the group [10].

Following the interview, Farnhill et al elicited volunteer and interviewer feedback. The instructors also used the videotape, class discussion, and presentations in their teachings to help augment the students' interview skills. Each student was able to conduct two interviews during the course, one early and one later. Farnhill and colleagues used a few different methods to evaluate the program's effectiveness in addition to the instructor, volunteer, and student feedback previously discussed, which were primarily used as teaching tools. One method of evaluation used was student assessment by volunteers taking part in the students' second round interviews. The volunteers were asked to evaluate their experience by responding to nine close-ended questions developed by the researchers and were also provided with an open-ended question that asked how doctors could better communicate with their patients [10].

The second method of evaluation used by Farnhill and colleagues consisted of asking students at the conclusion of the course to compare their skills present at the beginning to those present at the end of the course using ten close-ended questions. Students were also asked open-ended questions concerning their learning priorities and how the course could be improved. Farnhill and colleagues developed all of the questions addressed to the students themselves. The last method of evaluation used consisted of evaluation of the videotaped interviews by a psychologist. The psychologist was charged with assessing skill improvement over the length of the course. Farnhill and colleagues attempted to use established instruments for the videotape evaluations, but could not find

any that suited their purposes. They, therefore, developed 23 close-ended questions so that the psychologist could assess student behaviors and volunteers' language skills and expressiveness. No control group was used in this study [10]. One of the primary strengths concerning the outcome measures used in this study was that a variety of methods and evaluators were employed to help determine the program's effectiveness. Thus, no one group served as the arbiter of its success or failure.

Culhane-Pera et al designed a program for family practice residents with three primary goals: (1) learn the roles played by culture in their personal and professional lives; (2) "appreciate" how a patient's culture influences their ideas of health, disease, and healing; and (3) cultivate multicultural communication skills. A variety of teaching techniques were used to attain these goals over the program's three-year life span. Interactive seminars were organized around pertinent topics using such teaching methods as didactic presentations, discussion, role-playing, videotaping, and poetry. Videotapes of patient-resident interactions were also reviewed by faculty members and used to augment the residents' learning experiences. Finally, residents were "encouraged to integrate cultural information" into their already required community medicine projects [20].

Culhane-Pera and colleagues evaluated the effectiveness of their curriculum using several different methods. In order to assist in this process, they developed five levels of cultural competence, with each level having its own knowledge, skill, and attitudinal objectives. Level five was considered the highest level of cultural competence and the goal of this program was for residents to reach level three or higher. Culhane-Pera adapted their levels of cultural competence from a model of intercultural sensitivity developed by Bennett [34]. A control group was not used. A survey instrument consisting

23

of close-ended questions scored on a five-point Likert scale asked residents to assess whether they had achieved the objectives that comprised the third level of cultural competence. Residents were also asked to evaluate their "current and desired level" of cultural competence. Residents provided evaluations at the beginning of the second year of this curriculum and again at their graduation or at the end of the curriculum's third year. Additionally, faculty members evaluated resident performance, using the same methods previously described for resident self-evaluation. Faculty members' evaluations took place at the beginning of the curriculum's second year and again at the end of the course. Finally, residents and faculty evaluated the quality and importance of components of the curriculum itself using a five-point Likert scale and free responses as the answer formats [20].

Another method of curriculum evaluation used by Culhane-Pera and colleagues consisted of interviews with graduating residents conducted by an anthropologist. In this set of interviews, the anthropologist elicited resident reactions to both the curriculum and working with patients from different cultures [20]. Culhane-Pera and colleagues used a more rigorous method of program evaluation because they based their cultural competence objectives upon work by Bennet. Additionally, like Farnhill et al [10], a variety of methods and perspectives were used to evaluate the program's efficacy. However, no established survey instruments were used such that the successes of this program might be compared to those of others.

In a study already discussed in this paper, Sachdev employed both quantitative and qualitative methods to analyze whether spending eight weeks in India made four social work students more culturally sensitive. A control group was not employed in this

24

study. The quantitative component of his analysis consisted of a self-administered survey instrument with twenty-five close-ended questions scored on a Likert scale that assessed the students' attitudes towards cultural groups. Students completed this survey instrument both before they went to India, and after their return. Sachdev also collected qualitative data consisting of student comments and discussions during the weekly feedback sessions that took place in India, logbooks and observations compiled by Sachdev of the students' behavior, and a post-trip report completed by the students themselves [9]. As with other studies, no systematic study of the efficacy of this program was presented.

Both an established quantitative survey instrument and a control group were used in a study of second-semester junior-level undergraduate nursing students conducted by Napholz. In this study, the experimental group of nursing students received two three hour "consultations" on the subject of cultural sensitivity conducted by an expert in cultural nursing. These consultations were added to a pre-existing clinical course. In these additional cultural sensitivity training sessions, the expert worked with the group of students during both clinical and non-clinical interactions. In these sessions, topics such as racial and ethnic differences, different "ethnic minority realities," adaptation to different languages and "interactive styles," appropriate application of "change strategies," and formulation of culturally relevant care plans were addressed. The goal of Napholz's study was to discern whether there existed a difference in self-reported scores of skills relating to cultural competency between the control and experimental groups. Napholz used the Ethnic Competency Skills Assessment (ECSA) instrument to measure both pre- and post-consultation self-reported cultural competency skills. The ECSA is a self-report survey instrument consisting of twenty-three close-ended items with a five

25

point Likert response scale [11]. One of the primary advantages of this study was the use of a pre-existing assessment tool, so as to facilitate comparisons with other programs.

Majumdar and colleagues studied the influence of cultural sensitivity training on graduates from non-Canadian medical schools licensed to practice medicine in Ontario, Canada. Like Napholz's study [11], both a control group and an established survey instrument were used. The control group consisted of foreign medical school graduates who were given no cultural sensitivity training and had finished ten months of their first year of residency. In contrast, the experimental group was composed of foreign medical school graduates about to enter the residency program, who were given fifteen additional hours of cultural sensitivity training. These cultural sensitivity training sessions used experiential learning to help the trainees develop the following attitudes and skills: (1) greater awareness of their own ethnicity and culture; (2) increased sensitivity towards their patients' ethnicity and culture; and (3) enhance skills that will allow the trainees to apply their self-awareness and cultural sensitivity. The methods used in the training process included such exercises as interviewing a simulated patient followed by a discussion of the experience, in addition to discussions of videos containing different health care provider-patient interactions. A training manual was also provided to the experimental group. The Cross-Cultural Adaptability Inventory (CCAI) was used to measure the effect of the cultural sensitivity training. It consisted of fifty close-ended items scored on a six-point Likert scale. The CCAI measured the following four qualities: emotional resilience, flexibility/openness, perceptual acuity, and personal autonomy. Majumdar et al administered the CCAI to both the control and experimental groups before and after the training took place [12]. Like Napholz et al [11], a pre-existing

26

survey instrument was used, thus, providing an avenue for comparison to other studies that may also use the CCAI.

The impact of an international health experience on medical students' attitudes, knowledge, and clinical skills was explored in a study conducted by Haq and colleagues. This study's subjects consisted of fifty-nine medical students and one individual beginning residency training. Subjects were provided with a two-week preparatory course, followed by clinical and health education experiences in a country other than the United States for six to eight weeks. Haq and colleagues used a variety of teaching methods in the preparatory course including didactic teaching, discussions, role-playing, case studies, and clinical skills training [22].

The outcomes of Haq et al's study touched upon many different subjects including cultural sensitivity and competency. A survey instrument was administered to subjects on the first day of the preparatory course, after the preparatory course, and again following the international health experience. This survey instrument focused upon the subject of international health and contained both sixty-four statements scored on a five-point Likert scale, as well as open-ended questions. Additionally, one to two years after the international health experience, subjects were asked to respond to yet another set of open-ended questions concerning the program. At this time, subjects were also given a ten-item survey instrument containing statements scored on a five-point scale pertaining to the program's effect on their clinical skills and career plans [22]. In this study, no previously published outcome measures were used, nor was a control group part of the research design.

Limitations of Existing Outcomes Research

There is a distinct lack of uniformity of the outcome measures employed by the studies discussed in this paper. No two studies use the same outcome measure. Most researchers probably designed their own outcome measures due to the fact that cultural competency training is a relatively new field of inquiry and, as such, few standardized survey instruments exist.

The unfortunate consequence of this lack of uniformity is that comparing the results of these studies to one another in a systematic way is impossible. However, more research is being performed in this field everyday and at some point instrument standardization must become a reality. As cultural competency training programs continue to be developed, how are institutions that train health professionals to judge which curricula are best for their students and/or employees? The Society of Teachers of Family Medicine echo this sentiment in the following statement "systematic quantitative and qualitative evaluations of the impact of these educational programs need to be carefully designed and carried out..." (p. 295) [35].

Another research design issue concerning the studies just reviewed is the use of control groups. Most studies reviewed in this paper did not use a control group and they include: (1) Copeman, 1989 [13]; (2) Rankin and Kappy, 1993 [15]; (3) Marvel et al, 1993 [16]; (4) Ronnau, 1994 [17]; (5) Allison, 1996 [25]; (6) Gany and de Bocanegra, 1996 [19]; (7) Farnhill et al, 1997 [10]; (8) Culhane-Pera et al, 1997 [20]; (9) Sachdev, 1997 [9]; and (10) Haq et al, 2000 [22]. The disadvantage of not using a control group is the inability to attribute change to the cultural competency training alone. This state of

affairs, therefore, necessitates the need to consider confounding factors that may also alter the results of these studies.

Discussion: Towards a More Systematized Method of Evaluation

What is the best way to evaluate the effects of cultural competency training? As already discussed above, a more uniform set of outcome measures needs to be used by researchers so as to facilitate the comparison of the efficacy of different training regimens. But what should these outcome measures be? On a very basic level, the literature reports that a combination of quantitative and qualitative evaluation methods, a process called triangulation, may promote internal validity and produce more detailed findings compared to using one method alone [8, 36, 37]. Therefore, my recommendation is that both quantitative and qualitative methods be used in the evaluation of cultural competency training programs.

Who should be evaluating whether cultural competency training programs are effective: (1) The clients/patients, (2) The students, or (3) The instructors? It is unrealistic to suggest that educational institutions launch large research studies to evaluate cultural competency curricula because of the time consuming nature of this process. However, this evaluation process may be streamlined by making already validated and published methods and instruments available for their use.

As discussed concerning Ronnau's evaluation methods, having students simply describe and regurgitate what they learned in a course does not make them more culturally competent. If students are to be evaluated, I suggest that their knowledge, attitudes, and beliefs regarding different cultural groups be measured quantitatively. Additionally, students should also demonstrate that they are able to apply their cultural

29

competency skills, such as through performing client interviews under appropriate supervision.

Clients' well being and experience in the health care system are the reasons why cultural competency training is important. Shouldn't the client be the one to evaluate whether their health care provider is culturally competent? Evaluations by the client can be performed through the administration of a survey instrument [10, 14], through a measure of their attrition [14], or through their adherence with medical management [31].

In the interest of time and practicality, I suggest that a short, standardized survey instrument be formulated which contains close-ended questions that allow clients to assess their provider's cultural competency. This survey instrument may be either self-administered or administered by a trained staff person depending upon the literacy level and other limitations of the client. Additionally, this survey instrument should be made available in multiple languages. An instrument such as this may be especially effective for clinics and organizations that wish to assess their employees' cultural competency.

Should instructors of cultural competency training programs or outside evaluators be used to judge whether a cultural competency curriculum is successful? One possible issue with using instructor evaluations is that they might feel that poor student performance may reflect negatively upon their teaching skills and may, therefore, result in a non-objective evaluation of student performance. However, one could argue that teachers should be the evaluators because, they are experts in teaching cultural competency. One possible solution to this debate is that outside evaluators, who are also experts in cultural competency training, be used to examine student performance as was exhibited in the studies conducted by Farnhill and colleagues [10] and by Sachdev [9].

30

However, an ultimate solution to the evaluator debate may be that just as there should be triangulation of evaluation methods, maybe there should also be triangulation of evaluators.

Consideration must be give to the fact that the desired goal of cultural competency training in the health professions is to improve patient health outcomes. Thus, the question arises whether health outcomes such as hypertension, coronary artery disease, and smoking cessation should serve as outcome measures. Using such measures would require rigorously controlled and randomized studies, but then if the results of such studies show improved health outcomes, then it would be hard to debate the necessity and utility of cultural competency training. Additionally, such a process might provide the ultimate gold standard against which the efficacy of various programs could be measured.

By the year 2030, it is projected that people of color will comprise more than half of the United States population under the age of eighteen [38]. Therefore, the importance of cultural competency training in the present pluralistic society can no longer be ignored. A primary goal of the health care system in the United States should be the provision of high quality health care to all and this is a state of affairs that does not currently exist. I believe that training health professionals to be culturally competent can help us to meet this goal.

It, therefore, seems clear that training programs and institutions need to have easy access to effective cultural competency training curricula. Moreover, the key to discovering whether a cultural competency curriculum is effective is through research on outcome measures. Having standardized and easily accessible methods to evaluate the

efficacy of cultural competency training may augment the number of institutions which train their students or professionals to be culturally competent, resulting in an improvement in the overall standard of health care in the United States.

Table 1. Summary of Outcome Studies

Study	Subjects	Sample Size	Assessment Tool(s)	Use of Pre-Existing Survey Instrument	Evaluators	Control Group
Copeman (1989) [13]	4th year Australian medical students	196	Quantitative survey instrument	4 items from 1960s survey on attitudes toward Aborigines	Instrument	No
Wade & Bernstein (1991)[14]	Counselors with master's degrees in counseling	8	BLRI CEI CRF Client attrition	BLRI CEI CRF	Clients	Yes
Rankin and Kappy (1993) [15]	Staff at children's health center in Phoenix, AZ	N/A	Attendance at pediatrics noon conferences	No	N/A	No
Marvel et al (1993) [16]	Family medicine resident physicians	Not specified	Videotape review of family conferences; Evaluation of usefulness by past program participants	No	Faculty, Fellow Residents, Participants, Past participants	No

33

Study	Subjects	Sample Size	Assessment Tool(s)	Use of Pre-Existing Survey Instrument	Evaluators	Control Group
Ronnau (1994) [17]	Undergraduates in social work practice classes	42	Survey instrument with open and close-ended questions	No	Students	No
Allison et al (1996) [25]	Individuals with doctoral degrees in clinical, counseling, or school psychology	292	48-item self administered questionnaire	No	Respondents	No
Gany and de Bocanegra (1996) [19]	Participants in a Maternal Child Immigrant Health Training Program	Staff in Maternal Infant Care Family Planning Centers in New York City	Self-administered survey instrument with close-ended questions to assess training program's efficacy	No	Pre- and post-training evaluation of program participants' attitudes and knowledge of immigrant health	No

Study	Subjects	Sample Size	Assessment Tool(s)	Use of Pre-Existing Survey Instrument	Evaluators	Control Group
Farnhill et all (1997) [10]	Second year Australian medical students	60	Interviewee, instructor, and classmate feedback; Survey instrument provided to interviewees with close- and open-ended questions; Self-performance evaluation by close- and open-ended questions; Evaluation of videotaped interviews by psychologist using 23-item close-ended survey instrument	No	Self-assessment, Instructors, Classmates, Interviewees, Psychologist	No
Culhane-Pera et al (1997) [20]	Family medicine resident physicians	55	Videotape evaluation of interactions with patients by faculty; Evaluation of level of CC by close-ended survey instruments; Self evaluation of current and desired level of CC; Faculty assessment of level of CC; Resident and faculty evaluation of CC curriculum with close- and open-ended questions; Resident interviews by anthropologist assessing curriculum and working with patients from different cultures.	No	Faculty, self-assessment, colleagues, anthropologist, evaluation of resident of CC	No

35

Study	Subjects	Sample Size	Assessment Tool(s)	Use of Pre-Existing Survey Instrument	Evaluators	Control Group
Sachdev (1997) [9]	Undergraduate social work students	4	Pre- and post trip survey instrument with close-ended items assessing attitudes towards cultural groups; Qualitative assessments: student comments, student feedback sessions, student post-trip report, Sachdev's behavioral observations of students.	No	Student attitude evaluation pre- and post-trip, students, instructor (Sachdev)	No
Napholz (1999) [11]	Second-semester junior-level undergraduate nursing students	17 in experimental group & 49 in control group	ECSA: close-ended items assessing self-perceived cultural competency skills	ECSA	Self-administered survey instrument	Yes

Study	Subjects	Sample Size	Assessment Tool(s)	Use of Pre-Existing Survey Instrument	Evaluators	Control Group
Majumdar et al (1999) [12]	Foreign medical school graduates about to enter residency in Canada (experimental group) & who completed 10 months of residency in Canada	24 in experimenta l group and 24 in control group	CCAI: 50 close-ended items assessing emotional resilience, flexibility/openness, perceptual acuity, and personal autonomy	CCAI	Self-administered survey instrument	Yes
Haq et al (2000) [22]	Medical students and one resident	59 medical students and one about to start residency	Survey instrument with open and close-ended questions focused upon subjects of international health administered pre- and post-preparatory course and post-international health experience; One to two years after international health experience open-ended questions asking about the international health experience and close-ended questions assessing effects of experience upon career plans and clinical skills.	No	Self-administered survey instruments	No

"CC" refers to cultural competency.

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How Coping Styles and Hopelessness Influence Adherence to Medical Management of Hypertension and Blood Pressure Control in Hmong Who are Hypertensive

Introduction

Numerous studies have documented the connection between one's state of mind and either the development of, or increased severity of, hypertension. As early as 1920, O'Hare investigated how stress induced in a laboratory setting was associated with changes in subjects' blood pressures [1]. More recently, Jonas and colleagues found that anxiety and depression were risk factors for incident hypertension [2, 3]. Davidson et al reported similar findings, when they discovered that depression predicts future development of hypertension in young adults [4].

How one responds to, or copes with, a stressor has also been explored as a predictor of hypertension. Coping is defined by Dressler as, "cognitive and behavioral attempts to change, tolerate, or avoid problematic situations (stressors), including attempts to change, tolerate, or avoid emotional responses to stressors" [5]. Two basic types of coping are commonly distinguished from one another. The first is problem-focused coping, which entails "problem solving or doing something to alter the source of the stress." Examples of problem-focused coping include planning, taking direct action, and seeking assistance. The second type of coping is emotion-focused coping in which the individual sees as their goal, "reducing or managing the emotional distress that is associated with (or cued by) the situation [6]." An example of emotion-focused coping is positive reinterpretation and growth. However, it has been found that both types of coping strategies are used when an individual confronts a stressor [7].

43

Only more recently, in the evolution of the coping literature, have cultural and ethnic differences with respect to coping styles been investigated. As Bjorck and colleagues commented, "coping researchers… have focused primarily on Caucasian Americans" (p. 422) [8]. A study conducted by Noh and colleagues found that in a sample of Southeast Asian refugees, the use of acceptance and avoidance decreased the level of depression associated with experienced racial discrimination. The researchers in this study noted that these findings contradict the published "assertion" that such coping styles are less adaptive compared to problem-focused coping [9]. In a comparative study, Bjorck et al found that both Korean Americans and Filipino Americans engage in more passive coping styles compared to the Caucasian Americans sampled in their study [8].

Examining how particular coping styles are associated with cardiovascular functioning may allow for identifying at risk individuals and populations [10]. For instance, in a population from the Netherlands, Nyklícek et al found that defensiveness positively predicted resting systolic blood pressure, while repression positively predicted resting diastolic blood pressure, even when certain demographic and "biomedical" (i.e. total cholesterol) variables were controlled for in employed individuals [11]. Moreover, Theorell and colleagues showed that a significant association exists between how middle aged (45 – 54) Swedish men cope with unfair treatment at work and prevalence rates of hypertension. More specifically, they found that men who engaged in covert coping, which entails not dealing actively or openly with the unfair work situation, have significantly higher prevalence rates of hypertension [12].

The two studies described above focused upon rather homogenous sample populations. They raise the question of whether individuals of different ethnic and

cultural backgrounds cope with stressors differently and how these coping styles influence respondents' blood pressure. Krieger found that black women who did not discuss and accepted unfair treatment based upon their race and/or sex were significantly more likely to report having high blood pressure [13]. Similarly, Clark and Anderson, in their study of undergraduate and graduate female African-American students, determined that passive coping (i.e. distancing and wishful thinking) with racism was associated with greater changes in both systolic and diastolic blood pressure, as well as heart rate, compared to more active coping styles (i.e. speaking up and trying to change things) [10]. Additionally, a study conduced by Steffen and colleagues found that African Americans used religion as a means of coping with stressors more often than whites in their sample population. These higher levels of religious coping were significantly associated with lower blood pressure measurements [14]. A critical review of the literature reveals the existence of a paucity of studies examining how coping styles used by certain Asian ethnic subgroups, such as the Hmong, impact their cardiovascular health.

Hopelessness has also been investigated as a predictor of cardiovascular dysfunction. Hopelessness is defined by Everson et al as "negative expectancies about oneself and the future [15]." A study by Anda et al, reported that both the incidence and relative risk of fatal and non-fatal ischemic heart disease (IHD) increased with increasing levels of hopelessness in a cohort of individuals from the National Health Examination Follow-up Study, even when controlling for IHD risk factors, socioeconomic status, and preexisting diseases [16]. Similarly, Everson and colleagues found that hopelessness increased the risk of death from both cardiovascular and non-cardiovascular causes [15]. In a later study, they found that hopelessness augmented men's risk of both incident hypertension

45

and of overall increases in blood pressure, irrespective of baseline blood pressure, over a four-year time period [17].

This study sought to investigate the connections between coping, hopelessness, and hypertension in a sample of Hmong individuals from both Fresno and Sacramento, California. The research question I set out to answer was the following: Are the use of particular coping strategies and/or is hopelessness associated with less adherence to medical management of hypertension and higher blood pressure measurements?

I hypothesized that the use of acceptance and denial, as well as the coping styles of not seeking social support for emotional reasons, not actively coping, or not using planning, in addition to hopelessness- would both decrease adherence to medical management of hypertension and negatively affect blood pressure control.

Methods

Survey Instrument Development and Administration

A 95-item, quantitative survey instrument was developed using a participatory research paradigm. The creation of a culturally and linguistically appropriate survey instrument to be used to study Hmong communities in both Fresno and Sacramento was the overarching goal of the QoHC (Quality of Hypertension Care) project and it was the source of data used in this study.

A first-phase qualitative research process set the stage for the development of the quantitative survey instrument. Consultation and in-depth interviews with members of the Fresno Hmong community, as well as focus groups with 12 Fresno Hmong community members, who were hypertensive, guided the development of the survey instrument. Data from this qualitative phase of the QoHC project was used to develop items for inclusion

46

into the quantitative survey instrument. The survey instrument gathered basic demographic data from respondents. However, the majority of items were adapted from four already existing instruments which include: (1) the Consumer Assessment of Health Plans Survey 2.0 (Adult Medicaid Managed Care Core and Supplemental questionnaire) [18], (2) the Group Health Association of America Consumer Satisfaction Survey [19], (3) the Interpersonal Processes of Care Survey [20], and (4) the COPE inventory [6].

The survey instrument was verbally administered in both Green and White Hmong, two dialects of the Hmong language, to respondents by five bilingual (English and Hmong) Hmong field surveyors. Each field surveyor received four to six hours of preparatory training. Moreover, all of their initial interviews were observed and commented upon by more senior members of the research team.

Subjects

A convenience sampling technique was employed in the QoHC project. Respondents were recruited from a variety of sources. In order to be a part of the study, respondents had to be Hmong, be at least 18-years of age, have a diagnosis of hypertension, and be under the care of a primary care provider. Two hundred and five hypertensive Hmong adults were recruited and volunteered to be surveyed in Fresno between November 2000 and July 2001. Additionally, 118 respondents were recruited and surveyed in Sacramento between June 2001 and August 2001.

Coping, Hopelessness, and Adherence Measures

Items assessing coping strategies were adapted from the COPE inventory developed by Carver and colleagues [6]. Five statements, each eliciting engagement in a particular coping strategy were chosen for inclusion into the survey instrument from the

47

53 statements that compose the entire COPE inventory. Due to space constraints within the survey instrument itself, it was impossible to include as many items as desired. These five items were chosen based upon consultation with a Hmong psychologist who works with the Fresno Hmong community. The inclusion criteria applied were the item's strength of loading, cultural and community relevance, and translatability. It was also felt that specificity of wording was important. Therefore, the items were changed such that they focus upon coping with hypertension.

The survey instrument included statements assessing the following five coping strategies: active coping, planning, seeking social support for emotional reasons, acceptance, and denial. It is important to point out that multiple statements are included in the COPE inventory to assess each coping strategy and, for this study, only one of these statements was chosen based upon the strategy discussed in the previous paragraph. The statement chosen to assess active coping was the following: "I take action to try and lower my blood pressure." Planning was assessed using the statement, "I think about how I might best take control of my blood pressure." The statement, "I talk about how I feel about my high blood pressure" was used to examine whether respondents seek social support for emotional reasons. Acceptance was assessed using the following statement "I learn to live with my high blood pressure." Engagement in denial was assessed using the statement, "I refuse to believe that I have high blood pressure."

The response categories for the coping strategy items were altered from those recommended by Carver and colleagues because of translation issues and the perceived need to maintain as much internal consistency among the answer categories within the quantitative survey instrument as possible. Like Carver and colleagues, a four-point

48

answer scale was used, but the following answer options were provided: all of the time, most of the time, some of the time, and never. See appendix A for the inter-item correlation coefficients for the coping styles, which are also compared to the correlation coefficients published by Carver and colleagues [6].

The two statements used to assess respondents' level of hopelessness were adapted from studies conducted by Everson and colleagues [15, 17]. Through discussion and pilot testing, the necessity arose to make these two statements more situationally specific and this was accomplished by relating them to respondents' diagnosis of hypertension. The two statements included in the quantitative survey instrument were the following: (1) "When my blood pressure is high, I feel that it is impossible to lower my blood pressure." (changed from: "I feel that it is impossible to reach the goals that I would like to strive for."), which is henceforth referred to as "Hopelessness 1" and, (2) "The future seems to be hopeless and I can't believe that my blood pressure will change for the better" (altered from: "The future seems to me to be hopeless, and I can't believe that things are changing for the better"), which is henceforth referred to as "Hopelessness 2." These two items were scored on the same four-point response scale used to assess respondents' coping strategies. This scale differs from the five-point response scale employed by Everson and colleagues. The correlation coefficient for these two items was 0.32 (p< 0.01) compared to a correlation of 0.53 reported by Everson and colleagues [15].

Four questions were employed in this study to measure adherence with medical management. The first two questions elicit this information from a more general perspective and are scored on the same 4-point scale as previously discussed. These two questions are: (1) "How often did you not take your blood pressure medicine as

49

prescribed by your doctor or nurse?" and, (2) "How often did you not keep the appointment to see your doctor or nurse for your high blood pressure?" The second pair of questions, focusing upon adherence to medical management, hinge upon respondents reporting they have psychological distress. These two questions were scored as yes or no and were asked as follows: (1) "If yes [have psychological distress], do you sometimes feel so depressed that you fail to take your blood pressure medicines?" and, (2) "If yes [have psychological distress], does it interfere with your seeking care for your high blood pressure from your doctor?"

Blood Pressure Measurements

Surveyors asked participants to obtain their two most recent blood pressure measurements from their health care providers. In some cases, respondents gave consent to the research staff to obtain the blood pressure measurements directly from their health care providers.

Methods of Analysis

The statistical program SPSS (version 10.0) was used to analyze the data. Responses to the statements eliciting active coping, planning, and seeking social support for emotional reasons were reverse coded to facilitate data analysis. In order to assess adherence with medical management in the linear regression modeling, a composite adherence score was developed using the responses to the two general questions eliciting adherence with medical management discussed above. These two questions were moderately correlated ($r = 0.45$, $p < 0.01$). The maximum achievable adherence score was eight.

Bivariate and multiple linear regression were employed as tools to explore the associations between coping styles, hopelessness, and respondents' mean blood pressure and adherence with medical management. The bivariate analyses used the five coping strategy statements and the two hopelessness statements as predictor variables in separate analyses. The multiple linear regression model used the same predictor variables as described for the bivariate analyses, with the addition of age and sex. The outcome variables used in the regression analyses were the average systolic and the average diastolic blood pressure, as well as the composite adherence score. Cases with missing values were deleted from the regression analyses.

Results

Demographics

Table 2 summarizes the demographic composition of the sample. A sample size of 323 was attained in this study, with 205 (64%) from Fresno, CA and 118 (36%) from Sacramento, CA. Women comprised 60% (194) of the total sample. The average age of respondents was 58. Additionally, respondents have been living in the United States for an average of 17 years; those in the Sacramento sample have been living in the U.S. longer than those that comprise the Fresno sample. Ninety-one percent of respondents had no formal education and 86% spoke English poorly or not at all. The Sacramento sample has significantly higher educational attainment compared to the Fresno sample. Only 7% were employed in a full time job. Seven was the average number of persons living in each household, with 72% of these households reporting annual incomes of less than $20,000.

Table 2. Demographic Composition of Sample Population

Variable	Total Sample	Fresno	Sacramento
N	323	205	118
Number (%) of Women	194 (60)	126 (62)	68 (58)
Average Age	58	58	59
Average Number of Years Living in U.S.	17	17[*]	18
Number (%) Without Formal Education	294 (91)	190 (93)[**]	104 (88)
Number (%) Working Full Time	22 (7)	10 (5)	12 (10)
Number (%) who Speak English Poorly or Not at All	279 (86)	177 (86)	102 (87)
Average Number of Persons per Household	7	7	7
Number (%) with Household Incomes Less than $20,000 per Year	231 (72)[a]	141 (69)[b]	90 (76)

[*]Fresno and Sacramento differ, $p < 0.05$
[**]Fresno and Sacramento differ, $p < 0.01$
[a]13% of cases missing, [b]16% of cases missing

Health Status (Table 3)

When respondents were asked to rate their health status compared to someone

their own age, with one being in excellent health and three being in poor health, a mean

of 2.38 was obtained. Additionally, 46% reported that they had a bad physical or medical

condition. Ninety percent of those sampled reported that they have psychological distress.

Table 3. Health Status of Sample Population

Variable	Total Sample
Mean Health Rating Compared to Someone Their Own Age (1 = excellent, 2 = good, 3 = poor)	2.38
Number (%) with a Bad Physical or Medical Condition	147 (46)
Number (%) with Psychological Distress	292 (90)

Coping Styles & Hopelessness (Tables 4 & 5)

Table 4 summarizes the proportion of respondents using a particular coping style

all or most of the time. Eighty-one percent of those sampled reported using active coping,

while 56% used planning as a strategy for coping with their high blood pressure all or

most of the time. Forty-nine percent were found to seek social support for emotional

reasons as a means of coping with their hypertension, while 78% accepted that they have

high blood pressure all or most of the time. Lastly, 60% reported using denial as a means

of coping with their high blood pressure all or most of the time.

Table 4. Number (%) Reporting They Use a Coping Style All or Most of the Time

Coping Strategy Engaged in All or Most of the Time	Total Sample Number (%)
Active Coping	261 (81)
Planning	182 (56)[a]
Seeking Social Support for Emotional Reasons	158 (49)
Acceptance	251 (78)
Denial	193 (60)

[a]33% answered "don't know"

Table 5 summarizes the proportion of respondents who agreed with a particular hopelessness statement all or most of the time. Forty-nine percent of those surveyed answered that the following statement reflects how they feel all or most of the time: "When my blood pressure is high, I feel that it is impossible to lower my blood pressure" (Hopelessness 1). Additionally, 62% agreed with the following statement all or most of the time: "The future seems to be hopeless and I can't believe that my blood pressure will change for the better" (Hopelessness 2).

Table 5. Number (%) Reporting They Agree with a Hopelessness Statement All or Most of the Time

Hopelessness Statement	Total Sample
Number (%) who Agree with the Hopelessness 1 Statement All or Most of the Time.	158 (49)[a]
Number (%) who Agree with the Hopelessness 2 Statement All or Most of the Time.	201 (62)

[a]23% answered "don't know,"

Blood Pressure Status (Table 6)

Respondents have been diagnosed with hypertension for an average of 6.32 years and 95% were prescribed medication to help manage it. Ninety-seven percent reported they had had their blood pressure checked within the last six months. Respondents' mean systolic blood pressure was 149 mm Hg (range $= 109 - 213$) and their mean diastolic blood pressure was 91 mm Hg (range $= 65 - 125$).

Table 6. Blood Pressure Diagnosis, Care, and Means

Variable	Total Sample
Mean Number of Years Diagnosed with Hypertension	6.32
Number (%) Prescribed Medication to Lower Blood Pressure	306 (95)
Number (%) Who Have Had Their Blood Pressure Checked Within the Last Six Months	314 (97)
Mean (range) Systolic Blood Pressure Measured in mm Hg	149 (109 – 213)
Mean (range) Diastolic Blood Pressure Measured in mm Hg	91 (65 – 125)

Adherence with Medical Management (Table 7)

Fifty-four percent reported that they do not take their blood pressure medication all or most of the time. Fifty-three percent reported that they do not keep their appointments, focused upon care for their hypertension, with their health care providers. Moreover, 83% of those with psychological distress reported that they sometimes feel so depressed that they fail to take their high blood pressure medication, while 80% agreed that their psychological distress interferes with their seeking care for their hypertension from their health care provider.

Table 7. Adherence with Medical Management

Variable	Total Sample Number (%)
Do Not Take Their Blood Pressure Medication All or Most of the Time	174 (54)
Do Not Keep Their Appointment with Their Health Care Provider for Their High Blood Pressure	171 (53)
Those with Psychological Distress who Sometimes Feel So Depressed That They Fail to Take Their Blood Pressure Medicines	268 (83)
Those Whose Psychological Distress Interferes with Their Seeking Care for Their High Blood Pressure From Their Doctor	258 (80)

Linear Regression

Both bivariate and multiple linear regression models using average systolic blood pressure and average diastolic blood pressure as outcome variables yielded insignificant results (Tables 8 and 9). Additionally, significant results were not realized in either the bivariate (Tables 8 and 10) or multiple linear regression models with the two hopelessness measures included as predictor variables, while the mean systolic or diastolic blood pressure or the composite adherence score served as the outcome variables.

Table 8. Bivariate Linear Regression Analyses for Blood Pressure

Predictor Variable	Outcome Variable: Mean Systolic Blood Pressure		Outcome Variable: Mean Diastolic Blood Pressure	
	Linear Regression Coefficient (B)	Standard Error, R^2	Linear Regression Coefficient (B)	Standard Error, R^2
Action	-0.61	1.61, 0.001	-0.39	0.68, 0.001
Planning	-0.52	1.40, 0.001	-0.44	0.84, 0.001
Seeking Social Support for Emotional Reasons	-1.03	0.76, 0.006	-0.44	0.45, 0.003
Acceptance	0.80	1.21, 0.002	0.31	0.71, 0.001
Denial	-1.37	0.92, 0.008	-0.38	0.54, 0.002
Hopelessness 1	1.07	1.14, 0.004	0.40	0.67, 0.002
Hopelessness 2	-0.19	1.04, 0.00	-0.27	0.61, 0.001

Table 9. Multiple Linear Regression Model for Blood Pressure

Predictor Variable	Outcome Variable: Mean Systolic Blood Pressure		Outcome Variable: Mean Diastolic Blood Pressure	
	Linear Regression Coefficient (B)	Standard Error	Linear Regression Coefficient (B)	Standard Error
Action	0.098	1.76	-0.56	1.06
Planning	-0.55	1.89	-0.83	1.14
Seeking Social Support for Emotional Reasons	-0.15	1.42	0.82	0.86
Acceptance	-0.01	1.60	0.09	0.97
Denial	-0.90	1.14	-0.08	0.69
Age	-0.01	0.10	-0.09	0.58
Sex (1 = female, 2 = male)	1.38	2.70	2.47	1.63
R^2	0.031		0.007	

In the linear regression models in which the composite adherence score served as the outcome variable, significant results were yielded in both the bivariate and multiple linear regression models. Table 10 details the bivariate linear regression modeling. This modeling revealed that each 1-point increase in the planning variable was significantly associated with a 0.49 point increase in the composite adherence score. Additionally, each 1-point increase in the variable, seeking social support for emotional reasons, was significantly associated with a 0.19 point increase in the composite adherence score. Moreover, a 1-point increase in the denial variable significantly increased the adherence score by 0.32 of a point. Statistically insignificant results in these bivariate linear regression analyses were obtained for the following variables: action, acceptance, hopelessness 1, and hopelessness 2.

Table 10. Bivariate Linear Regression Analyses for the Composite Adherence Score

Predictor Variable	Linear Regression Coefficient (B)	Standard Error	R^2
Action	0.07	0.11	0.001
Planning	0.49**	0.14	0.054
Seeking Social Support for Emotional Reasons	0.19*	0.08	0.021
Acceptance	0.06	0.11	0.001
Denial	0.32**	0.08	0.045
Hopelessness 1	-0.05	0.11	0.001
Hopelessness 2	0.00	0.00	0.00

*$p<0.05$, **$p<0.01$

A multiple linear regression model was constructed, in which the five coping styles, along with age and sex, were included as predictor variables, and the composite adherence score served as the outcome variable (Table 11). In this model, the value of the linear regression coefficient increased to 0.66 for planning, while remaining statistically significant. In contrast, the significant linear regression coefficient obtained in the bivariate linear regression analysis for the coping style, seeking social support for emotional reasons, became statistically insignificant. However, the linear regression coefficient for denial decreased slightly to 0.31 compared to the bivariate model, while remaining statistically significant.

Table 11. Multiple Linear Regression Model for the Composite Adherence Score

Predictor Variable	Linear Regression Coefficient (B)	Standard Error
Action	0.14	0.16
Planning	0.66**	0.17
Seeking Social Support for Emotional Reasons	-0.19	0.13
Acceptance	0.08	0.15
Denial	0.31**	0.10
Age	-0.01	0.01
Sex (1 = female, 2 = male)	-0.32	0.25

$R^2 = 0.14$
*$p<0.05$, **$p<0.01$

Discussion

The results of this study describe a population in need of meaningful public health interventions. However, it must also be kept in mind that all respondents were under the care of a health care provider, which paints a potentially more daunting picture of members of these two Hmong communities who are not accessing primary medical care.

The sample population, overall, did not report themselves as being in good physical health and most reported experiencing psychological distress. Additionally, the mean blood pressure for a population in which most members are receiving both medical care and pharmaceutical treatment for that condition is extremely high. This average blood pressure is in the range of stage one hypertension; stage one hypertension is defined as a systolic blood pressure between 140 and 159 mm Hg and a diastolic blood pressure between 90 and 99 mm Hg [21].

Adherence with medical management was poor. Additionally, depending upon how adherence with medical management was assessed, different results were obtained. Less adherence was found when respondents with psychological distress were asked whether depression or their psychological distress interfered with taking their blood pressure medications or with seeking medical care for their high blood pressure. A higher estimate of adherence resulted from the answers to the two general adherence questions. Since over 90% of the total sample reported experiencing psychological distress, estimates of adherence from these two sets of questions seem to be at odds. It is possible that by framing such questions more specifically (i.e. psychological distress), a context was created which permitted or sanctioned such an admission.

Over 50% of respondents reported using all of the coping styles, except for seeking social support for emotional reasons (49%). This finding is similar to that observed in the study by Noh and colleagues in which the Korean American and Filipino American respondents used more of all the coping styles compared to the Caucasian Americans. They suggested that this finding may indicate that these two ethnic groups "felt the need to expand more coping efforts in general" possibly because of their minority status in the U.S. [9]. Additionally, Nyklícek et al suggested that if one is aware that he or she has a condition such as hypertension, they may be more likely to report increased "distress" as well as "stressor exposure rates" [11]. Since respondents in this study were included only if they had hypertension, consideration must be given to this potential source of bias.

Linear regression analyses yielded a mixed set of results. The composite adherence score, which was composed of the two more general questions eliciting adherence with medical management, was the only outcome variable that yielded statistically significant results. The use of the mean systolic and diastolic blood pressures as separate outcome variables might not have provided significant results because these data were very much skewed in the direction of high measures of both.

In the bivariate linear regression analyses, one point increases in planning, seeking social support for emotional reasons, and denial were variably related to statistically significant incremental increases in the composite adherence score. The fact that denial was not inversely related to the adherence score is somewhat curious, since I hypothesized the opposite result. It is possible that asking someone directly whether they have denial might not be the most effective method for assessing such a concept. In fact, a study of San Francisco Municipal Railway System drivers by Winkleby et al, found that

62

those drivers with lower self-reported job-stressor indexes had a greater prevalence of hypertension [22]. Additionally, Krieger observed that black female respondents who reported a lack of racism or sexism, compared to those who reported higher levels of both, had higher blood pressures [13]. Thus, these studies highlight the fact that there might exist more adequate methods for assessing denial. It is also possible that those who did not report denial might actually have denial but, in effect, may be denying denial. If such were the case, one would expect low or absent levels of denial to be associated with a lower composite adherence score, which was the finding in this study.

The multivariate linear regression model that included all five coping styles, age, and sex as predictor variables, and the composite adherence score as the outcome variable yielded statistically significant results. In this model, a minimal amount of confounding was discovered for denial. Additionally, the association between planning and adherence became stronger, while the association between seeking social support for emotional reasons and the composite adherence score became statistically insignificant. A likely explanation for this result is that planning accounted for part, if not all, of the significant association seen in the bivariate analysis between seeking social support for emotional reasons and the composite adherence score. This hypothesis is supported by the fact that planning and seeking social support for emotional reasons have the highest inter-item correlation among all of the coping items employed in this study (see Appendix A). This finding also indicates that planning is a more important predictor of the composite adherence score than is seeking social support for emotional reasons.

The lack of significant associations found with the two hopelessness items are somewhat puzzling because these questions have yielded significant results in two large

63

population based studies conducted by Everson et al as discussed in the introduction section of this paper [15, 17]. Everson and colleagues did, however, conduct their studies in middle-aged men from Finland and had much larger sample sizes; my study had neither of these components. Insignificant results for these questions might also have been obtained in this study because these two questions, more specifically, hopelessness 1, might not be culturally appropriate for the Hmong, as indicated by the fact that 23% of the sample provided an answer of "don't know" for this item.

There exist several limitations of this study that must be considered. Since a convenience sampling technique was used, consideration must be given to the existence of selection bias. Additionally, missing data presented a challenge. Approximately, 9% of the blood pressure data was missing and so when combined with questions which also had a significant proportion of missing cases (i.e. hopelessness and planning), the composite amount of missing data significantly reduced the sample size. I speculate that this was one of the reasons why significant results were not obtained when mean systolic and diastolic blood pressure were used as outcome variables in the linear regression analyses.

Since the survey instrument was translated into two Hmong dialects and was then verbally administered in these two dialects, consideration must be given to the possibility of mistranslation and/or miscommunication of items by the research team. Consideration must also be given to the possibility of subjects misunderstanding and/or misinterpreting individual items. It is also possible that certain concepts that existed in the English version of the survey instrument did not translate as they were intended in the Hmong version.

Moreover, because the survey instrument was administered face-to-face, some respondents might have felt embarrassed about their honest answers and/or felt unable to trust the field surveyors such that invalid responses were provided. Thirty-three percent of respondents provided an answer of "don't know" to the statement assessing whether planning was used as a method of coping with their high blood pressure. Such responses might be explained by the fact that planning is a rather sophisticated coping style and that respondents were either unable to grasp the concept or that they did not understand the statement as it was phrased. It is also possible that this statement was not culturally appropriate for the Hmong. Moreover, 23% provided an answer of "don't know" to the hopelessness 1 statement. It is possible that some respondents might have felt that by agreeing with the statement "it is impossible to lower my blood pressure," a curse might be placed upon them. Thus, answering "don't know" might serve to avoid casting such a curse. Moreover, it is possible that acknowledging to one's self that they feel hopeless about lowering their blood pressure might be too difficult and/or frightening of a concept to consciously accept.

Since this is a cross-sectional and not a longitudinal study, causality cannot be assessed. This highlights the need for future longitudinal studies in Hmong populations. This study is also not a population-based study. All subjects were Hmong, have been diagnosed with hypertension, and 95% have been prescribed medications to treat their high blood pressure. Thus, the argument might arise that using blood pressure as an outcome variable was not an acceptable practice because of the rather homogeneous nature of this sample population. However, I justify this practice with the fact that there

was quite a high prevalence of non-adherence with medical management of hypertension reported and thus there was quite a bit more heterogeneity than one might expect.

In the multiple linear regression analysis, certain known hypertension risk factors such as smoking, alcohol use, physical inactivity, body mass index, diabetes mellitus, and family history of hypertension were not controlled for because such data were not collected in this study. Future studies in Hmong populations using hypertension as an outcome variable should consider collecting such data.

As noted in the methods section of this paper, only a few coping styles were selected from the COPE inventory and of those selected, only one item from each scale assessing a particular coping style was used. Thus, the limitations of such a methodology must be acknowledged. However, I defend this methodology because this study was meant to be the start to further research of its kind. Future studies, which focus upon coping styles in the Hmong, should use an entire coping inventory, such as the COPE.

The sample population in this study was hypertensive even with access to medical care and treatment. They report experiencing an overwhelming amount of psychological distress. They also appear to be using most of the coping styles investigated in this study and, generally, seem hopeless about lowering their blood pressure. Thus, it appears that the medical community and the public health community at large are not adequately addressing the needs of these two Hmong communities.

The Hmong have struggled with war, torture, death, and a transition from an isolated mountain farming existence to living in modern Western society. Many Hmong, especially those who are of a more advanced age, are now poor, uneducated, in many ways culturally and linguistically misunderstood and isolated, as well as marginalized in

66

this society to which they have been relocated. This study and the work of others discussed throughout this paper have shown that cardiovascular functioning is very much dependent upon one's mental state. I, therefore, recommend that mental health services be made available to Hmong patients while they are receiving medical care for their hypertension. Such a link between these services will allow for a nexus to be made between these two fields and for a dialogue to take place among providers, as well as between providers and patients such that a holistic approach to health care is fostered. It also provides for more of a "one stop shopping" approach such that clients do not have to seek out both services separately.

Additionally, the educational and cultural background of health care providers and their Hmong patients are often quite disparate. Thus, health care provider education and cultural competency training that focus upon the provision of care to the Hmong might better serve this population. It is hoped that such training will increase the trust and dialogue between providers and patients, which may increase adherence with medical management, as well as mental well being. Thus, improving overall health outcomes.

This study was unsuccessful in finding an association between blood pressure and how respondents cope with their hypertension and whether they feel hopeless about their high blood pressure. Rigorous methodology was employed in setting-up and conducting this study. Thus, I do not believe that poor methodology is to blame for the lack of significant results. I believe, however, that the right questions regarding coping styles and hopelessness were not posed to this particular sample population to capture these associations.

At the inception of this study, I believed it important to use pre-existing survey instruments which is why I chose to use the COPE inventory and Everson et al's hopelessness statements. I wanted to compare the Hmong to results of published studies. However, as the study progressed it became clear that this methodology was incorrect. I was asking the Hmong study population to fit into questions and statements that were never designed, nor validated for them. The Hmong who participated in this study have very different backgrounds and experiences compared to middle-aged Finnish men and American college students, in which Everson et al's hopelessness scale and the COPE inventory were validated, respectively. Focus groups were conducted as a part of the QOHC project and the information gleaned from these focus groups should have been used to construct culturally appropriate questions and statements regarding coping styles and hopelessness for this Hmong sample population, but they were not. Thus, in many ways this study is a case study in why culturally competent research methods should be employed. Future studies which attempt to address these issues in the Hmong should use qualitative methods judiciously to identify coping styles and questions regarding hopelessness that are meaningful and culturally appropriate for the Hmong.

It also follows from this study that another step in performing research in this community involves conducting intervention studies. Determining whether suggestions such as cultural competency training and health services integration will make a meaningful difference and improve the health and well being of the Hmong community is also a crucial next step.

Appendix A

Table 1. Correlation Matrix for Coping Styles

Correlations	Action	Planning	Support	Acceptance	Denial
Action		0.365** (0.64)	0.415** (0.17)	0.189** (-0.09)	0.205** (-0.21)
Planning			0.473** (0.25)	0.181** (0.12)	0.055 (-0.30)
Support				0.380** (0.10)	0.060 (0.08)
Acceptance					0.172** (0.07)

* $p<0.05$, ** $p<0.01$
* all correlations are 2-tailed
Correlation coefficients published by Carver et al in parentheses [6]

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Conclusion:

Two separate approaches to the concept of cultural competency converge in this thesis, which leads one to conclude that there is substantial evidence of the value and necessity of cultural competency training for health professionals. The first paper of this thesis illustrated that cultural competency training can improve the cultural competency of practitioners from the perspective of clients, teachers, and the practitioners themselves. However, there does not presently exist a method for comparing the effectiveness of different training regimens. If each program uses a different method of evaluation, how can assessments be made regarding the efficacy of the different training regimens for improving the provision of culturally competent care to populations such as the Hmong? In the second paper of this thesis, the Hmong included in the study did not appear to be receiving medical care that was adequately facilitating the control of their blood pressure or adherence with the medical management of their hypertension. One important reason may be that health care providers serving this community are not well versed in the cultural and historical context of the Hmong, such that an invisible cultural divide exists between the practitioners and their Hmong patients. Thus, the recommendations from the first paper feed directly back into those from the second paper: cultural competency training has great potential for improving health outcomes. However, further details regarding these programs must be refined.

Caution should be taken about making too many, or even incorrect comparisons. As discussed in the concluding section of the second paper, my drive at the outset of the project to compare the results obtained from studying the Hmong to those of other studies, caused me to choose questions that might not have been the most culturally

appropriate for the Hmong. The most valuable lesson learned over the course of completing my work on this Master's thesis was that qualitative methods should be used to inform the quantitative methods ultimately used in a study when different and not often studied populations are the focus. This is the most responsible and valid method for collecting data. Just as culturally responsible and competent care should be provided to populations such as the Hmong by health care professionals, so should culturally competent research methods be employed by researchers studying the same populations.